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Growth Management
Comprehensive Planning
Zoning & Land Use Regulations
Land Development Applications
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Zoning Administration

MEMORANDUM

TO: Honorable Mayor and City Council, City of Hoschton

FROM: Jerry Weitz, Consulting Planner

DATE: May 1, 2024

RE: City Council May 9th Work Session Agenda Item: **Preliminary Plat for "Tribute" Planned Unit Development:** Rocklyn Homes by Tim Jenkins and PEC+, Applicant, Mary Ann Kenerly, and Trustees of New Hope African, Methodist, and Episcopal Church, property owners, 284.634 acres (287.14 acres PUD) fronting on the north side of State Route 53 (1688 Highway 53) (Map/Parcels 114/001A, 114/002A, 114/001B and 114/001B1); Address of Record: 1688 Highway 53; 1,051 Lots (400 fee-simple townhouses/lots, 651 detached single-family dwellings/lots, 40,000 square feet of retail/restaurant/office; and 23.65+ acres of public land dedication; Planned Unit Development (PUD) Conditional zoning, Ordinance Z-23-03; (Development of Regional Impact #3960)

MEMO SECTION OUTLINE

APPLICATION REVIEW HISTORY

After planning staff review for completeness on October 18, 2023, the preliminary plat application was determined to be incomplete and additions and corrections were required. The applicant's civil engineer subsequently attended a pre-application conference with planning and engineering staff and then resubmitted the preliminary plat based on comments received. Upon resubmission consulting planner provided an interim memo dated 2/20/24 on this application to

Mayor and City Council showing the application required revisions before it would be scheduled for consideration by City Council.

The applicant's resubmitted application for final plat approval was reviewed by the consulting planner. There were a total of 84 comments made, which were articulated in the February 20th memo from Weitz to Council. The applicant worked to address these comments and resubmitted the preliminary plat with changes. The 84 comments, the engineer's reply as to how they were addressed, and consulting planner's re-check notes are all attached (8 pages) to this memorandum. In addition, consulting planner participated in a 1.5-hour long "Zoom" meeting to discuss and clarify the comments and to indicate how the engineer was to address them. All in all, virtually all if not all of the comments have been satisfactorily addressed (that statement does not necessarily apply to the city engineer's comments which are to be provided under separate cover). Those matters that may still be an issue or require reconciliation are noted in recommended conditions of preliminary plat approval.

The actual preliminary plat under consideration is dated April 10, 2024. A hard copy of the entire preliminary plat is being provided to each City Council member.

SUMMARY OF PRELIMINARY PLAT PROCESS

The Zoning Administrator is responsible for administering the review and approval process for preliminary subdivision plats (Sec. 405 subdivision ordinance). The consulting planner serves as the city's zoning administrator. The Hoschton City Council shall review and have decision making authority on applications for preliminary plat approval and final plat approval for major subdivisions (Sec. 303 subdivision ordinance).

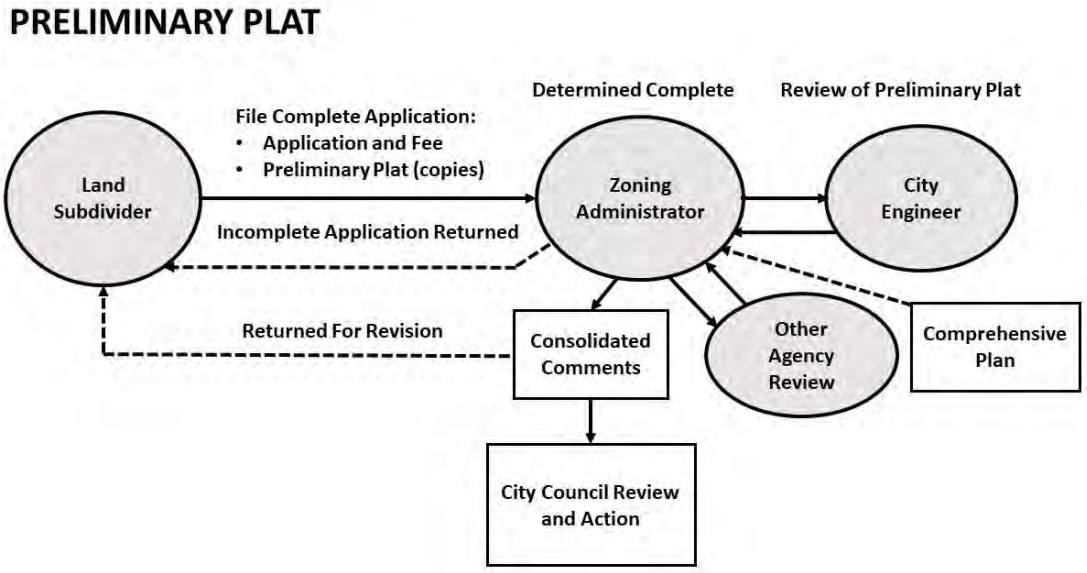
Whenever a person proposes the subdivision of a tract of land, he is encouraged (but not required) to consult early and informally with the Zoning Administrator in the form of a pre-application conference (Section. 402 subdivision ordinance). In the subject case, no pre-application conference was held on the preliminary plat application, though many in-person meetings were held during the zoning process, and the initial application submitted was found to be incomplete. A pre-application conference is intended to permit an early evaluation of the subdivider's or land developer's intentions, ***to ensure coordination with the comprehensive plan***, and to provide the subdivider or land developer with the necessary laws, rules, and regulations in order to properly accomplish the proposed project (Sec. 402 subdivision ordinance) (emphasis added).

Agency review is a part of the process. In Hoschton, the only local review agents are the city engineer and the zoning administrator, although input from city public works and utilities staff is also possible. The fire district will also review plans for compliance with fire suppression access requirements. In the case of a subdivision abutting a state route, state and local regulations require opportunity for the Georgia Department of Transportation (GDOT) to review and comment on a subdivision plat. The applicant has been advised to ensure that that GDOT is aware of the proposal and that the proposal can incorporate requirements imposed by GDOT for access onto Pendergrass Road (SR 332). Currently there is no record of review or recommendation or action by GDOT made a part of the application file. However, planning consultant is confident the applicant is pursuing those permissions and designing the project with GDOT requirements in mind.

Upon completion of the agency review of a preliminary plat application, the Zoning Administrator shall schedule the application for the next regularly scheduled meeting of the Hoschton City

Council and forward all pertinent materials in the application to the Hoschton City Council for review and action.

The applicant or his or her authorized representative shall attend the Hoschton City Council meeting at which preliminary plat approval is sought. The Hoschton City Council may elect to take no action on a preliminary plat application unless the subdivider or his or her authorized representative is present. Below is a flow chart of the preliminary plat process. This flow chart will change once the city integrates a newly appointed planning commission, which will be charged with providing recommendations on preliminary plats.



Current Process Chart for Preliminary Plat
(Excludes Planning Commission Pending)

Meetings of the Hoschton City Council during which a preliminary plat is considered shall be open to the public, but the Hoschton City Council shall not be required to provide notice to adjacent or nearby property owners of the application and shall not be required to convene a public hearing on the matter. This shall not preclude the Hoschton City Council from recognizing and hearing from any member of the public, when in its judgment it may be advantageous to do so.

The Hoschton City Council shall approve, conditionally approve, or deny the preliminary plat application within thirty-five (35) calendar days from the date it first considers a preliminary plat application at one of its public meetings (Sec. 409 Subdivision Ordinance).

CRITERIA FOR ACTION ON A PRELIMINARY PLAT

In Hoschton, with respect to preliminary plats, the subdivision and land development ordinance is clear on what the criteria are for approval of a preliminary plat:

"The basis of the Hoschton City Council's action on a preliminary plat shall be whether the preliminary plat meets the purposes and requirements of this Ordinance and other applicable laws and is consistent with the comprehensive plan" (Sec. 409(e) subdivision ordinance).

In order to fully evaluate these criteria, in this report the consulting planner cites provisions of the subdivision ordinance and comprehensive plan and makes findings.

PLANNED UNIT DEVELOPMENT (PUD) ZONING GENERALLY

One of the intended purposes of the PUD zoning district is to "provide development with greater benefits to the City than a development developed under a conventional zoning district."

A minimum of 20 percent of the total site area of the district development shall be open space, greenspace, passive recreation, community recreation, or pervious landscaped areas or combination thereof. No more than one-half of open waterway and delineated wetlands shall count as the minimum required open space. Rights-of-way for streets, drainage easements, and detention ponds shall be excluded from land considered for open space. When the PUD is phased, the provision of open space should also be phased proportional to the phased development. (Sec. 408 zoning ordinance).

The PUD application included a zoning plan or a site development plan. The Hoschton zoning ordinance requires that the development plan submitted with the application, unless specifically stated otherwise, shall be a condition of PUD zoning approval and must be followed (Sec. 408 zoning ordinance).

PUD zoning applications are required to include some additional submissions such as comparisons of improvement requirements, a community benefit statement, a list of land uses to be allowed in the PUD, and all dimensional requirements to be followed. Except for these unique requirements, the rezoning application is treated with the same sort of procedures as applicable to rezoning applications for other zoning districts.

Site plans submitted with a rezoning application are not, as a matter of routine, exhaustively reviewed for compliance with all applicable regulations. The submission of a site plan with a zoning application, even in the case of a PUD application where the site plan is binding, is not required to be exhaustively reviewed for conformity with all applicable regulations, nor is a concept plan submitted with a rezoning application required or expected to demonstrate compliance with all applicable regulations, but only that the project is feasible under the proposed zoning district.

The fact that a site plan is included in a PUD zoning district and approved by City Council and required to be followed, does not substitute for subsequent steps in the process such as and specifically including a preliminary plat. *It is only at the time of a preliminary plat that detailed review for compliance with applicable regulations is completed.*

Any lack of comment by the city's reviewers does not constitute approval to deviate from a particular regulation. To the contrary, there is nothing in the codes that says a zoning plan for a PUD zoning district is approved and allowed to deviate from code requirements *unless* they are specifically otherwise authorized during the applicable process. To the contrary, local government approval of a rezoning site plan cannot be construed as constituting a waiver of compliance with code requirements to the extent the plan doesn't demonstrate compliance

therewith. Any permit issued or permission granted is null and void if it fails to follow applicable regulations.

Although not specified in the Hoschton zoning ordinance, it is instructive to consider what might be considered legally binding on the city as a result of approving a PUD zoning application. In consulting planner's viewpoint, the approval by the city of a PUD application should give the property owner rights to the permitted uses specified. Further, one would expect the project should be able to maintain without further restriction any maximum density or number of units authorized by the zoning approval such as lot size and units per acre (unless changed by the City Council through applicable procedures).

However, such an approval of a PUD site plan does not entitle an applicant to develop according to the rezoning site plan with specific regard to the physical layout of the development proposal, especially when there are subsequent steps in the process (i.e., preliminary plat and development plan approval) that must be completed.

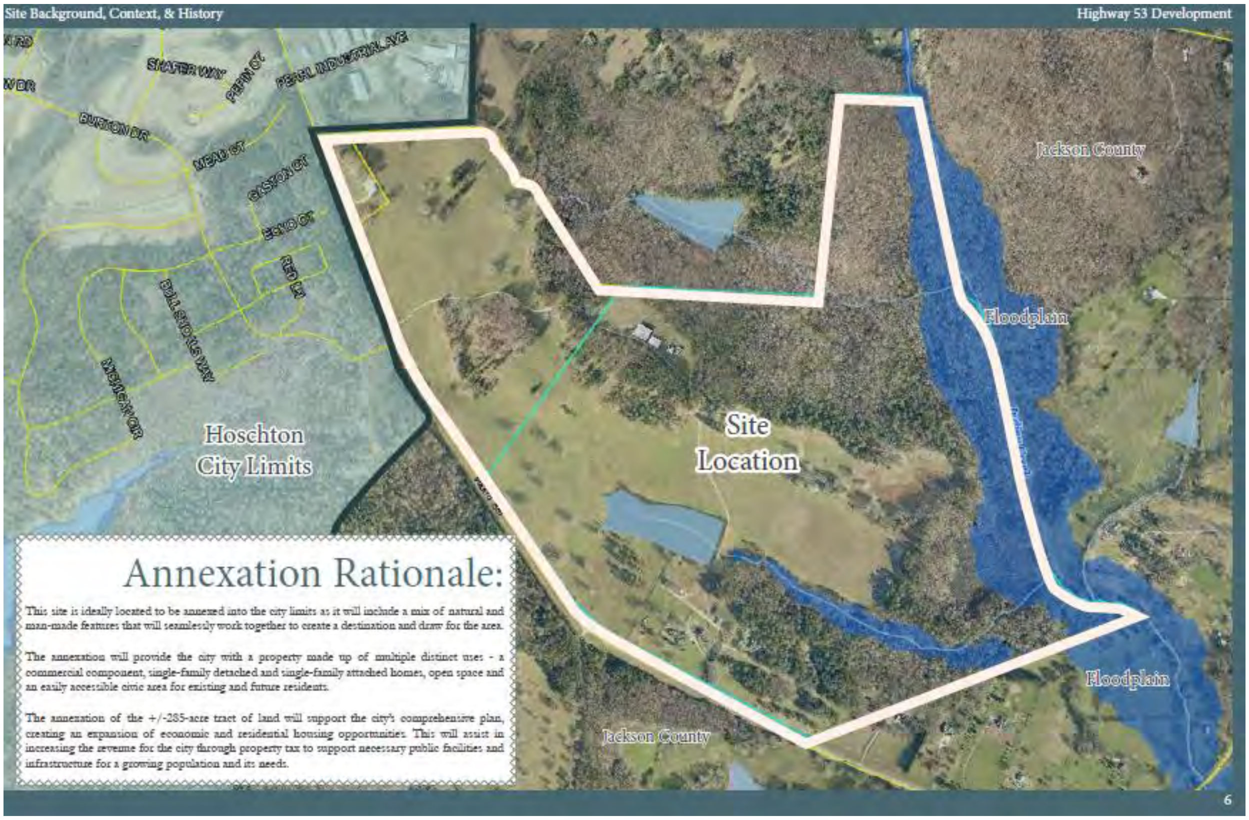
PROPERTY DESCRIPTION

The project site does not have frontage on any other street except SR 53. Indian Creek forms the eastern boundary of the property. The northern part of the property is developed as a church and cemetery. The improvements on the Kenerly property are all or mostly contained within proposed Tract 3 (24.90 acres). On that tract, which has been confirmed to be a lot of record, there are four single-family detached homes plus a wood/ concrete block building and wood/metal shed along with a pool house. All of these structures are marked for demolition. However, they are still usable in the interim, although this is a condition of nonconformity in that multiple dwellings exists on a single lot which is not in accordance with the "one house one lot" regulation of the zoning ordinance. There are three driveways serving Tract 3, and it is unknown the length of time they will remain to serve the existing homes. This is not a point of immediate concern, so long as these structures are eventually demolished and the property integrated into the PUD as proposed.

The subject property (four tracts) was annexed into the city of Hoschton per Ordinance Z-23-03 on September 18, 2023, subject to 21 conditions of approval. Planning staff's recommendation was to deny the annexation and PUD zoning. Prior to annexation, Jackson County formally objected to the annexation and zoning, and an annexation arbitration panel was appointed and deliberated with regard to the county's objection. A condition of approval was imposed by the annexation panel requiring the payment of county development impact fees (in addition to city impact fees which will apply).[1] The project also underwent a development of regional impact review (#3960) by the Northeast Georgia Regional Commission.

The PUD was approved for 1,055 dwelling units (404 townhome units and 651 detached, single-family lots), as well as the existing church and cemetery, 5.5 acres of church expansion, commercial outparcels, and the proposed dedication of parcels to the city, as well as open spaces.

[1] Arbitration Panel for Jackson County v City of Hoschton Annexation Dispute, "Hwy 53" Appointed May 24, 2023.


Site Background, Context, & History
Highway 53 Development
SHAFER WAY
PERRY CT
PEARL INDUSTRIAL AVE
BURTON DR
MEAD CT
GASTON CT
ESNO CT
BULLOCK'S WAY
Jackson County
Floodplain
Site
Location
Hoschton
City Limits
Floodplain
Jackson County
Annexation Rationale:
This site is ideally located to be annexed into the city limits as it will include a mix of natural and man-made features that will seamlessly work together to create a destination and draw for the area.
The annexation will provide the city with a property made up of multiple distinct uses - a commercial component, single-family detached and single-family attached homes, open space and an easily accessible civic area for existing and future residents.
The annexation of the +/-285-acre tract of land will support the city's comprehensive plan, creating an expansion of economic and residential housing opportunities. This will assist in increasing the revenue for the city through property tax to support necessary public facilities and infrastructure for a growing population and its needs.
6

ANALYSIS OF PRELIMINARY PLAT AND REVIEW FOR COMPLIANCE WITH CONDITIONS OF ZONING

Maximum number of units. The PUD zoning established a maximum number of units of 1,055. The preliminary plat shows 1,051 units (four less than permitted).

Units by type of unit. Conditions of zoning approval cap the townhouse portion of the PUD at 422. The preliminary plat shows 400 units, or 22 less than the maximum. The number of single-family detached units is increased from the PUD approval of 651 to 655; that increase is authorized because the maximum of 1,055 units is not exceeded and the proposal does not exceed the overall requirement that no more than 40 percent of the homes be townhomes. The PUD application initially proposed 40-, 50- and 60-foot wide lots ranging in size from 4,400 square feet (0.10 acre) to 6,600 square feet (0.15 acre). These were subsequently revised slightly prior to approval.

Townhouse lot size and width. The plan book shows that lots for fee-simple townhouses are required to be 22 feet x 50 feet, for a minimum lot size of 1,300 square feet and a minimum lot width of 22 feet. It appears that the smallest townhouse lot is 1,650 square feet. The minimum lot size for townhouses of 1,300 square feet

The fee simple townhouse pod is laid out in fairly large rectangular blocks and is well connected but with two cul-de-sacs. The bulk of the proposed single-family residential lots are also laid out in fairly large rectangular blocks, but there are five cul-de-sacs serving the residential area. Staff made recommendations for the addition of pedestrian right of way strips or pedestrian easements about mid-block in several locations to increase pedestrian interconnectivity. The applicant's revised preliminary plat incorporates these recommendations and shows pedestrian easements in multiple place to access the open space along Indian Creek.

Access and interconnectivity.

The applicant has been working with Georgia Department of Transportation and is expected to provide a letter from GDOT regarding conditions of approval (not available at the time of this writing). All six access points would connect to SR 53. During the annexation and zoning review, planning staff indicated that the project should be required to provide a connection to Jackson Trail Road with a through street at an arterial functional classification, but such a condition was not included in the adopted ordinance. A condition of zoning (#21) was imposed to require that one of the streets stub to the abutting property, and the preliminary plat shows this street.

Another option for access and interconnectivity raised by planning staff during the zoning process was a potential connection to Bill Watkins Road. However, no such recommendation was made, because that road is very rural in character, and the PUD would unload unacceptable amounts of traffic on that road if connected to it, which would further exacerbate the failing LOS at Bill Watkins Road and SR 53.[2]

[2] The traffic impact study submitted with the development of regional impact application evaluated two intersections of SR 53 (i.e., with Jackson Trail Road and Bill Watkins Road). SR 53 south of Jackson Trail Road had a 2021 traffic count of 9,240 vehicles per day. In terms of existing level of service the westbound approach (Bill Watkins Road) at SR 53 already operates at an unacceptable level of service (LOS) of "F" in the p.m. peak hour. A LOS "F" for unsignalized intersections means a vehicle delay of greater than 50 seconds (Table 1, p. 5 of traffic study). The westbound approach of SR 53 at Bill Watkins Road will remain LOS "F" with the building of the PUD. Delays for the westbound approach will exceed 300 seconds during a.m. and p.m. peak hours. Further, four of the PUD's

Even with the possibility of a future local or collector or arterial public street connection to the northeast, once that property is developed, staff remains concerned that the subject property only has one principal means of access, i.e., to/from State Route 53. As noted in the planning staff's report on the annexation and PUD zoning, the Twin Lakes Planned Unit Development (2,600 units) has Peachtree Road in addition to SR 53 and is therefore better able to distribute the traffic, whereas all trips for the Tribute PUD will be to and from SR 53.

Mobility study; potential SR 53 bypass. A mobility study is still underway for SR 53 and SR 60 (with an approved interchange at I-85) by the Georgia Department of Transportation (GDOT). The $1,000,000 study will evaluate potential alternatives, including but not limited to, a SR 53 bypass and road widening alternatives. The subject property is quite possibly a "path of least resistance" in terms of a SR 53 bypass route, if it is decided a bypass will be pursued as state policy.

PURPOSES AND INTENTIONS OF THE SUBDIVISION ORDINANCE

The consulting planner's recommendations in this report serve the following purposes and intentions, among others (Section 102, Purpose and Intent, subdivision ordinance):

- To assure the provision of required roads, utilities, and other facilities and services to new land developments in conformance with public improvement standards of the City;
- To assure adequate provision of safe and convenient traffic access and circulation, both vehicular and pedestrian, in new land developments.
- To assure, in general, the wise development of new land areas, in harmony with the comprehensive plan of the community.
- To help eliminate the costly maintenance problems which develop when roads and lots are laid out without proper consideration given to various public purposes.

"Convenience" of the public in terms of vehicular access is clearly within the purposes and intentions of regulation. "Circulation" of traffic also is an important consideration and goes beyond considerations of merely reviewing the adequacy of the road proposals within the subdivision. "Wise" development of new land areas should include consideration of whether the subdivision proposal helps or hinders overall vehicular circulation within the community. A purpose of the subdivision ordinance is to "eliminate costly maintenance problems which develop when roads are laid out without proper consideration to various public purposes."

PROJECT PHASING

The first submission did not include any information on phasing of development in the PUD. The revised application provided a proposed project phasing plan Staff had several substantial concerns about the first proposed phasing plan. The applicant proposes to construct all of the fee-simple townhouse components, as well as the civic spaces (public use dedications), plus an access road leading to the sewage pump station near the southeast property line and the pump station itself, as a part of phase 1.

A project of this magnitude (1,051 units plus other development) is likely to take many years to build, and the city council must consider what might happen if the economy goes into a

intersections will operate at unacceptable LOS of "E" or "F" if the PUD is constructed. A traffic signal is recommended by the traffic study for the intersection of Bill Watkins Road and SR 53.

recession and/or the project development schedule sputters or stalls. Project phasing is also critically important in the subject case, because sanitary sewer capacity is being planned per an approved water and sewer agreement. Facility expansion is required to progress along with the development.

Consulting planner remains concerned that the townhouse portion could get developed in its entirety, and then the detached single-family homes get delayed or do not even get developed and constructed at all in the case of an economic downturn (if that were to occur). Also of concern is the potential for the owner/developer to sell off the entire townhouse portion of the Tribute PUD to a build-to-rent institutional investor.[3]

Consulting planner initially raised concern that the townhouse portion of the PUD would be developed without access whatsoever to the central civic space and passive recreation (riparian bottomland) the makes up the open space and amenities for the whole PUD. However, the conditions of zoning approval require that there be an amenity area developed for the townhouse portion of the PUD, plus the applicant proposes to include the central civic space in Phase 1. Therefore, those initial concerns regarding access to amenities are remedied with conditions pertaining to phasing.

City Council should consider whether it is comfortable with the proposal to develop all the detached units in a second phase. If there is concern the phasing strategy that allows for all of the townhouse units to be constructed before any detached units, a condition of plat approval could be imposed such that a certain number of single-family detached dwellings would have to be included in the phase 1 mix.

COMPREHENSIVE PLAN

“Comprehensive plan” is defined in the subdivision ordinance as “Those coordinated plans or portions thereof which have been prepared by or for the Hoschton City Council for the physical development of the jurisdiction; or any plans that designate plans or programs to encourage the most appropriate use of the land in the interest of public health, safety and welfare.” This includes the city’s own comprehensive plan, but also, the county’s 2019 transportation plan. Further, to some extent the Jackson County comprehensive plan and unified development code come into play in Hoschton, because of the references to county level of service standards in the comprehensive plan and references to county standard drawings in the city subdivision ordinance. In addition, the Metropolitan Planning Organization’s (MPO’s) regional transportation plan is relevant to the discussion. A thorough review can and should consider all policies and findings in all of these documents.

When a local subdivision ordinance requires subdivision plats to comply with the local comprehensive plan, as does Hoschton’s regulations (see citation above), it is appropriate to deny approval if the proposed preliminary plat fails to conform to recommendations of the comprehensive plan. A local comprehensive plan is not normally considered to be a legally binding document in Georgia. In the context of references to implementation of the comprehensive plan in the city’s subdivision ordinance, however, the comprehensive plan holds

[3] The issue of the sale of a subdivision or part thereof to one or more institutional investors for purposes of 100% rental, as opposed to allowing some homeownership opportunities, has been raised as a concern on the part of the city council and has been discussed in public meetings. Indeed, a sizable share of the Twin Lakes PUD dwellings have reportedly been sold by Kolter to an investor of this type, for the purpose of 100% rental units rather than homeownership.

considerable sway. The fact that the comprehensive plan is to be considered in the plat approval process is suggestive enough of the need to evaluate the plat's consistency with the comprehensive plan. It is also reasonable and acceptable to deny a preliminary plat that is found to be inconsistent with the comprehensive plan.

Incidentally, the evaluation of the proposal's consistency with the comprehensive plan could also include weighing the consistency of proposed uses in the PUD with the recommendations of the future land use plan. That type of evaluation is not done here, because the subject property has been approved for residential and other development through the rezoning process.

Finding: A primary purpose of subdivision regulations is to assure that subdivision streets will be adequate, appropriate, and well designed. Also, a purpose of requiring subdivision approval is to prevent a subdivider from laying out streets to his or her own liking without official approval.

Finding: The comprehensive plan is highly supportive of the city playing a leadership role in helping to solve problems of congestion along SR 53. The comprehensive plan, under the needs and opportunities element, has this to say about transportation and the SR 53 corridor:

> "State Route 53 as the main corridor through the city is expected to need widening, improvement, or an alternative route. State and regional solutions proposed to solve problems of congestion on SR 53 have shifted over time, from widening the existing route, to providing a bypass route, to providing roundabouts. *A locally supported solution should be made* with Hoschton taking a leadership role (with the Town of Braselton) as opposed to regional and state solutions dictating final design outcomes." (emphasis added)

A recommendation that the preliminary plat incorporate a public through route is highly consistent with this identified need of the comprehensive plan. To the contrary, the absence of a public through street in the project is considered inconsistent with the comprehensive plan.

Finding: The comprehensive plan, under community facilities and services, articulates the following policy:

> "**Level of service standards.** Establish and maintain level-of-service and/or performance standards for the major community facilities and services provided by the county. Unless specified by facility-specific master plans and adopted as superseding policy, such as a capital improvements element for impact fees, the city should strive to maintain the minimum level of service standards adopted by Jackson County in its 2015 Comprehensive Plan, adopted and as may be amended."

Finding: The comprehensive plan has a "connectivity" policy which reads as follows:

> **"Connectivity.** Promote regional and countywide connectivity in the local road network, including intercity travel. All new roadways except low volume, local residential subdivision streets, should connect at both termini with the existing road network. Local streets should be planned where possible with more than one connection to the existing public road network. Street stubs should be provided to ensure connectivity with future subdivisions on abutting lands."

Approval of the proposed preliminary plat without a public, interconnecting street as recommended by the consulting planner, would be inconsistent with this plan policy and would

be a basis for denial of the preliminary plat. The proposed plat provides for a road which can be extended onto the abutting site if proposed for development. This road facilitates a future road with higher than just a local street functional classification, with an 80 foot wide right of way recommended by the consulting planner.

Finding: The comprehensive plan also includes the following transportation policy:

> **"Context Sensitivity.** Design planned roadway improvements in a way that is context sensitive, preserves, or creates a sense of place for the areas in vicinity of the improvements, and that enhances community aesthetics."

Finding: The comprehensive plan also includes the following policy:

> **"Adequate Public Facilities.** Development should not occur or be approved which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, public safety facilities, parks and recreation facilities, libraries, schools, or other publicly-provided facilities and services. As a condition of approval, major subdivisions (6 or more lots) and major land developments should be required to demonstrate availability of public water, fire protection, law enforcement, roads, stormwater management, parks and recreation, and public school facilities. Major subdivisions and major land developments that cannot demonstrate all such facilities are available or planned at the time of development or within a reasonable period of time thereafter may gain approval only if they mitigate the lack of such facilities, through the dedication of land in the subdivision or off-site, on-site and/or off-site improvements, payment of impact fees if imposed by the city, or payment of in-lieu fees or other acceptable arrangements via development agreements."

There will be burdensome impacts on the road system as a result of this subdivision. A public through road, advocated by the consulting planner, is one way of partially mitigate the traffic impacts with an on-site improvement. Any inconsistency with the city's level of service standards would be a basis for denial of the preliminary plat application.

Finding: The regional transportation plan is a document that is interpreted as being within the definition of "comprehensive plan" in the city's subdivision ordinance. Therefore, it is appropriate to consider the plat application's consistency with that document. The regional transportation plan includes among others the following policies:

- "Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight" and
- "Emphasize the preservation of the existing transportation system" and
- "Improve the resiliency and reliability of the transportation system…" and
- "Improve the efficiency of the surface transportation system" (p. 11)

"Integration" and "connectivity" are interpreted here to support requirement of a road hierarchy and system within a private development that enhances integration with the surrounding road network and connects to it with the appropriate functional classification. Emphasizing preservation of the existing transportation system suggests that road proposals in subdivisions should be evaluated for the extent to which they help preserve the capacity of the system or would tend to overburden it.

Finding: The regional transportation plan includes the following goal:

> ”Identify and implement appropriate programs intended to reduce or shift vehicular travel patterns, and the need to expand roadway capacity” (p. 13, Table 4).

Having a public through street in the proposed PUD would potentially allow for some shift of vehicle travel patterns away from SR 53 through Hoschton (that use SR 53) and would be a step toward expanding roadway system capacity and providing for alternative routes. Any requirement to provide a public interconnecting road through the project is therefore consistent with this regional plan goal. Excluding a requirement for a public road would be inconsistent with this regional plan policy and would serve as a basis for denial of the proposal for private streets.

Facilities and Services Generally

The most pressing concerns with annexation and PUD zoning proposal raised by the planning staff at the time the PUD and annexation applications were considered were the project’s impacts on public facilities and services. The project will add 1,055 (1,051 with the revised preliminary plat) housing units and an estimated 2,650 persons, plus a sizable employment increase. Specific impacts are described further in the following sections. These are required to be evaluated by the city because the preliminary plat application needs to be evaluated with regard to consistency with comprehensive plan policies.

Water and Sewer

At the time of consideration for annexation and PUD zoning, the subject properties were not adequately served by water and sewer facilities. Water and sewer capacity is still not available, and has only recently begun to be programmed after negotiation and acceptance of a water and sewer agreement between the city and the PUD project developer. The city does not have capacity to serve the development, but has agreed in exchange for payment of $6.3 million to program improvements to the city’s sewage treatment plant for the PUD.

The city engineer’s recommendations have not yet been integrated into this staff report. However, a number of facts are provided based on prior correspondence.

On April 12, 2023, the City Engineer provided a written opinion regarding water and sewer availability for the proposed project and others that were proposed at that time. The estimated sewage flow from the Rocklyn Home proposed development was 251,000 gallons.[4]

Currently there is no major water main in the area to serve the PUD. The only water line currently existing in the area is a 2-inch water main serving the church that crosses SR 53 and runs south to serve the Hudgens residence. Substantial upgrades to the water system will be needed to serve the development (reference: per 4/12/23 city engineer).

On November 14, 2023, the City Engineer and Public Utilities Director indicated by memo that they did not foresee sewage treatment capacity being available until the project expansion to 2.0 MGD was completed (2028-2029 projected). See also the separate water and sewer agreement approved by City Council.

[4] This estimate may not be accurate given the applicant subsequently changed the PUD site plan to remove some 200,000 square feet of commercial space and adding a school site.

On December 1, 2023, in response to a request to review the first submission of this preliminary plat, the City Engineer indicated that the proposed water and sewer lines should be located within private easements rather than public right of way (SR 53). The first draft showed the sewer force main and trunk water line proposed to be constructed in the SR 53 right of way. In the resubmission, the applicant has proposed a path for a force-main sewer along private properties. However, the preliminary plat application proposes still to utilize the SR 53 right of way for the water line extension. Consulting planner defers to the city engineer on this issue. Further, use of the SR 53 right of way as a location for water lines may be permitted under the water and sewer agreement, provided that the applicant provide a method of bonding for relocation of the water line in the event it must be moved for road construction.

It was subsequently determined that there are the following problems with locating any public utilities in the state route right of way:

- It precludes other uses in the right of way.
- The city would be responsible for the costs, perhaps in the millions of dollars, if the utilities had to be relocated.[5]
- Permitting for utilities in a state right of way has to be done by the city rather than the applicant. This produces an additional burden on the city.

See also the water and sewer agreement approved by City Council on January 4, 2024, which has language about this issue.

Water and Sewer Agreement

- Via condition of zoning approval Rocklyn Homes will pay a sewer connection fee in the amount of $6,330,000 at the rate of $6,000 per home for 1,055 homes.
- The amount of $6,330,000 is due prior to issuance of the first residential permit for the project.
- The city agrees to reserve 250,000 gallons per day of sewage capacity (the necessary capacity to serve the 1055-home development) within the phase one expansion to 0.95 mgd expansion and 805 connections within the second phase expansion to 2.0 mgd.

School Impacts

The school impact policy in the Hoschton comprehensive plan reads as follows: “Evaluate impacts of residential development on the public school systems. Where impacts are evident, seek a development agreement to provide school site(s) or otherwise mitigate the impact of residential development on the public school system.” At the time of annexation and zoning, staff found that the impact on county public schools would be approximately 558 additional students, and with an average desirable class size of 20 students, this would mean an impact of 28 additional classrooms (28,000 square feet of school building space). Further, the planning staff report indicated that the estimated cost impact on the county school system is $7,000,000 (just for additional facility space and not including land, and not including operational and maintenance costs for staffing, etc.). The applicant consented to the dedication of land,

[5] At this point in time, the city should not rule out the possibility that SR 53 could be widened at this location.

including a 16.5-acre site that is for dedicated for whatever use the city determines is appropriate, but which was proposed by the applicant with the intent that the site be used for a public school.

Traffic Impacts

Traffic from existing development, without even considering the impact of the Tribute PUD (preliminary plat), already results in unacceptable delays in terms of level of service. SR 53 and its intersections with Bill Watkins Road and Jackson Trail Road will be further degraded in terms of capacity, causing the need for intersection improvements that may or may not be attributed entirely to the subject project.

Street Connectivity

Though well interconnected in many respects, as proposed, the project is inconsistent with the comprehensive plan policy for interconnectivity which provides: “All new roadways except low volume, local residential subdivision streets, should connect at both termini with the existing road network, and local streets should be planned where possible with more than one connection to the existing public road network.” The proposal for streets in the PUD does not meet the intent of this plan policy, in staff’s view, because it does not provide any collector or arterial through-street from SR 53 to another major arterial such as Jackson Trail Road. Staff had previously recommended consideration of denial of the annexation and PUD zoning, unless it was expanded to provide an arterial through street connection to Jackson Trail Road.

Land Development and Transportation Policy

A comprehensive plan policy provides as follows: “When development occurs it should be the responsibility of developer to improve facilities along the public street frontages and internal to the development.” The traffic study recommends intersection improvements including two traffic signals, but these impacts are not mitigated outright by the project. Conditions of zoning approval require the owner/developer to improve intersections of the proposed development with SR 53, which will partially satisfy this plan policy. Another condition of zoning approval requires the owner/developer to install a multi-use trail along the property frontage.[6] The PUD application may be inconsistent with this overall policy, however, to the extent that it is not required to provide curb and gutter along the SR 53 street frontages.

It is noteworthy that the applicant’s required payment of county road impact fees should also be considered partial mitigation for traffic impacts. However, the city should ensure that the intergovernmental agreement regarding the collection and disposition of county development impact fees by Tribute Planned Unit Development is earmarked for traffic improvements that will benefit the project and the city of Hoschton, namely, contributions toward traffic signals at SR 53 and its intersections with Jackson Trail Road and Bill Watkins Road.

[6] The city is currently considering a grant for multi-use trails within the right of way of SR 53 further north on SR 53. The proposal for a multi-use path in the right of way of SR 53 along the subject PUD’s frontage, is made a condition of zoning approval. However, as planning staff noted at the time of annexation and PUD zoning consideration, the multi-use path if constructed will not connect to other multi-use paths that may be planned or provided north of the PUD. In particular, on the east side of SR 53, there would be a sizable “gap” in the trail connection through the light industrial area of the city around Jackson Trail Road and north.

Public Safety (Fire, EMS, Law Enforcement)

From a public safety perspective, and considering just the residential development, the project will result in the need for a small fire station and one fire vehicle, along with additional space to house 1 or 2 EMS vehicles. The proposed development at buildout (now 1,051 units) would have a population of about 889 people in the townhouse component and about 1,758 people in the detached subdivision, creating an additional population of 2,647 people and hence a demand for more than five additional police officers.

Park and Open Space Land

A per residential unit impact fee (city) will be required and assessed for park and open space land. In addition, the project is proposed to include on site open spaces and active and passive recreation. All open spaces (except for public dedications) will be controlled by the homeowner's association (there is significant land proposed to be dedicated to the city for parks and recreation). Further, county impact fees for park and open space land also apply via conditions of PUD zoning approval.[7] Thus, the impact of the Tribute PUD on park and open space land and recreational facilities is expected to be mostly if not entirely mitigated.

LAND DEDICATIONS

The dedication of open and civic space to the city, proposed in the Tribute Preliminary Plat, appears appropriate, but the city also needs to consider its plans and intentions for these tracts (i.e., future land use). The conditions of zoning approval require the dedications to take place no later than one year after issuance of any land disturbance permit. The largest of these sites, 16.05 acres, has been offered to the city (and is required to be dedicated to the city via conditions of zoning approval) but was proposed to be dedicated on the basis of trying to mitigate some of the PUD's impact on the county school system. The expectation is that the city council will elect to deed this property to the Jackson County Board of Education (or the most likely use being an elementary school), with or without conditions, though that is not a requirement. The future use of the 16.05-acre parcel should be carefully considered and the future use determined, since the use may have a bearing on what land uses are compatible around it and what the immediate street network should be. It is not essential that the City Council know the exact use of this parcel at the time of preliminary plat approval. However, access, boundaries and tract configuration, lot size, easements, utilities, and other considerations must reasonably be anticipated and planned for regardless of the ultimate land use or owner.

It is important to underscore the extensive city time involved in the processes of these land dedications over time. The transfers of ownership from private property owner to the city, and any subsequent transfers by the city to another agency, take time and involve legal review, passage of resolutions of acceptance by city council, preparation and administrative approval of combination plats or minor final plats, and the review and recording of deeds. The city has not as a matter of routine required title reports or title insurance for land dedications, but there is certainly an argument to be made to do so.

[7] Another important issue to be resolved is the condition of zoning approval which requires the city and county to adopt an intergovernmental agreement for the collection and disposition of impact fee funds required by the city to be collected for the county made a condition of zoning approval and made a deed restriction by the annexation arbitration panel. While the particulars of such an intergovernmental agreement do not necessarily have to be fully negotiated and approved prior to preliminary plat approval for Tribute, the complexity of such a negotiation task suggests that the city will need to begin those negotiations sooner than later.

CONCLUSIONS

Consulting planner recommends approval, subject to conditions.

Note: This review is completed for compliance with city zoning and subdivision and land development regulations only. All other requirements for other review agents (GDOT, fire district, city engineer, etc.) are the responsibility of the developer. While every effort has been made to be comprehensive in this conformance/ compliance review, any omission or other failure of this reviewer to articulate a lack of compliance with a given code requirement does not exonerate in any way the responsibility of the designer/ design engineer from complying with all development standards. Issues of noncompliance after this review, if discovered, must still be addressed by the designer or design engineer because administrative personnel are not authorized to sign plats and issue land disturbance and development permits that do not comply with applicable regulations.

Reference Documents:

- Ordinance Z-23-03 annexation and conditional PUD zoning.
- Water and sewer service agreement between Rocklyn Homes and City of Hoschton.
- Development of Regional Impact (DRI) #3960 final report.
- Traffic impact study, April 28, 2023, by A & R Engineering, Inc.
- Aquatic Resource Delineation by PEC+ received April 11, 2024.
- United States Department of Interior, Fish and Wildlife Service, Georgia Ecological Field Services Office, List of Threatened and Endangered Species that may occur in the project, October 31, 2023

RECOMMENDED CONDITIONS OF PRELIMINARY PLAT APPROVAL:

1. Satisfy all requirements and recommendations of the city engineer (anticipated to be provided under separate cover).

2. Preliminary plat approval is conditioned upon the applicant paying $6,330,000 to the City of Hoschton as required by condition of zoning approval #18(a), prior to preliminary plat approval.

3. Sheet P0.00 (Cover Sheet): Remove block titled “Development Services Permitting Disclaimer.” This does not pertain directly to the preliminary plat.

4. Sheet P0.00 (Cover Sheet): Preliminary Plat Note 1: Correct this statement since the 24.90 acre tract (tract 3 shown on survey) is indeed a lot of record.

5. Sheet P0.50 Zoning Conditions. Split page content into two pages to increase font size and enhance readability.

6. Sheet P2.00 Master Preliminary Plat: The block of text titled “Site Access Notes” which contains recommendations of the DRI traffic study, shall be conditions of preliminary plat approval and must be followed.

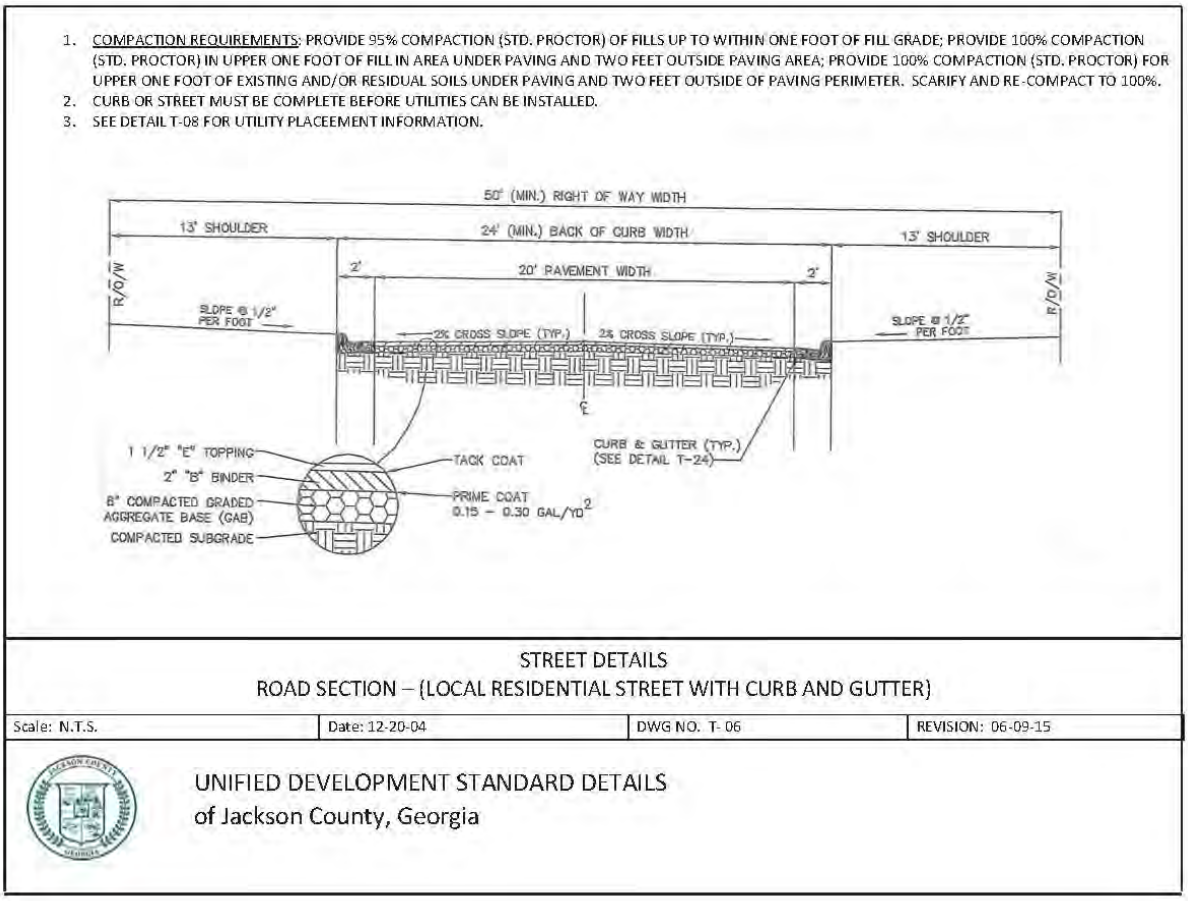
7. Sheet P2.00 Master Preliminary Plat: The block of text titled “Street Tree Plan, Tree Protection, and Landscaping Notes,” item “e” delete “~~not required where deemed infeasible for townhouse lots.~~” Zoning conditions require 1 street tree per lot. Insert the following statement in its place: “The applicant may propose and the zoning administrator may approve a modification of street tree plans such that one tree is not required to be planted on every townhouse lot, so long as the total number of street trees required (i.e., one per lot) for the townhouse portion of the PUD is not reduced. Alternative locations may be approved, or an escrow of funds may be established for planting of street trees at other locations in the Tribute PUD, subject to the zoning administrator’s approval.

8. Sheet P2.00 Master Preliminary Plat: Under “Townhouse Residential Standards,” add the following (required condition of zoning): “Minimum separation between townhouse buildings: 20 feet.”

9. Sheet P2.00 Master Preliminary Plat: Under “Commercial & Civic Standards,” add the following (required conditions of zoning): Frontage landscape strip width: 10 feet; Minimum tree canopy and minimum landscaped open space (% of lot): 20 percent.”

10. Sheet P2.00 Master Preliminary Plat: For townhome residential standards, it indicates that there will be 73 “rear loaded” townhomes, but there are no alleys. Clarify or amend or delete this statement as appropriate.

11. Sheet (new): Add sheet with all Internal subdivision street standards as required by Condition #12 of Ordinance Z-23-03. In addition, incorporate Jackson County Standard Detail “Street Details: Road Section—Local Residential Street with Curb and Gutter” and other details that pertain to streets. Add note that pavement width is 26 feet from back of curb to back of curb, as required by Condition of zoning approval #12(b), rather than the 24 foot shown in the standard detail. Also on this page, prepare and show a detail indicating curb radii for curbed medians within Road “A” and for any other locations where landscaped median/island appears.



12. Sheet P2.01 Detail Preliminary Plat: For lots 912 through 939, please reposition the square footage / acreage labels for each lot so they are fully outside the shaded water line easement along front of lots.

13. Sheet P2.01 Detail Preliminary Plat: For the parking lot shown on Open Space #4 north of Road “DD,” (i.e., on the master amenity area), incorporate parking lot landscaping islands as required by Hoschton subdivision ordinance Sec. 817(a) which provides: “No more than 10 contiguous parking spaces shall be allowed without a minimum of one landscape island or peninsula containing trees.”

14. Sheet P2.01 Detail Preliminary Plat: The water line shown within the right of way of SR 53 may or may not be approved (defer to city engineer final recommendations and determinations).

15. Sheet P2.01 Detail Preliminary Plat: add pedestrian crosswalk marking crossing Road “DD” at Road “GG.”

16. Sheet P2.02 Detail Preliminary Plat: For that portion of Road “AA” east of Road “BB,” change the right of way from 50 feet to 80 feet, and remove note that refers to a 50-foot right of way. This change will affect the area of lots 1013 and 1014. Also remove same note as it appears on Sheet P2.08, top left.

17. Sheet P2.02 Detail Preliminary Plat: for the pocket park (Open Space 7), repeat the note found on Sheet P2.08 pertaining to Homeowner's association responsibility for maintenance of pocket park and on-street parallel parking.

18. Sheet P2.02 Detail Preliminary Plat: Label road pavement lane widths around pocket park.

19. Sheet P2.02 Detail Preliminary Plat: add pedestrian crosswalk marking crossing Road "BB" at Road "AA."

20. Sheet P2.02 Detail Preliminary Plat: show sidewalk along the entire south side of Road "KK" (sidewalk required along both sides of all streets).

21. Sheet P2.02 Detail Preliminary Plat: estimate and show the anticipated finished pad elevation for Civic Donation Area #3 and Civic Donation Area #1.

22. Sheet P2.02 Detail Preliminary Plat: on Outparcel #1, change "10 foot landscape buffer" to "10 foot landscape strip."

23. Sheet P2.02 Detail Preliminary Plat: For the note pertaining to the 50-foot wide access easement serving outparcel and Civic Donation Area #1, change language "to be finalized once outparcel uses have been finalized and designed" to "to be finalized prior to approval of a dedication plat or minor final plat for outparcel #1, Civic Donation Area #1, and Civic Donation Are #3."

24. Sheet P2.03 Detail Preliminary Plat: Label pavement width of entering and exiting lanes on Road "A" at or near its intersection with SR 53.

25. Sheet P2.03 and P2.06. Remove the 5 foot high vinyl coated chain link fence proposed to surround the lake. The lake was previously referred to as part of the amenity feature, and a fence would prohibit that. Ideally slopes will be 3:1 and the lake designed as an amenity feature even if it is used as a stormwater facility. See the excerpts from the pattern book below:

Master Amenity Area Concept

A portion of the site (to the east of the civic area, depicted above) would be developed to create a master amenity area made up of a pool and clubhouse, pickleball courts, a dog park, fire pit and trail pathways. The pathways will create a more internal walking network to connect the provided amenities and give access to natural features, in this case, the existing lake. A dock will allow residents to access for the lake for kayaking and paddleboarding.

26. Sheet P2.03 Detail Preliminary Plat: Clarify location of proposed property line for Open Space #10 at Roads “A” and “H.” It is not self-evident.

27. Sheet P2.10. For the inset photograph showing walking trail connection to Sell’s Mill Park, please add property lines as appropriate to better identify proposed location.

28. All detail preliminary plat sheets as appropriate: show 20 foot wide drainage easement surrounding all stormwater facilities (in addition to pipe easements entering each).

29. A comprehensive flood study will be prepared and submitted to the city prior to issuance of a land disturbance permit as noted on Sheet P2.07.

30. Sheet P2.50. This sheet shows a rear load townhouse lot detail. However, there are not lots shown that will have alley access. Therefore, this lot detail should be removed.

31. Sheet P2.50. Revise as necessary the typical lot details to be consistent with the minimum street standard of 26 feet from back of curb to back of curb. It is acceptable to exceed the minimum but it should be noted in multiple places if that is the intent.

32. Applicant will be required to notify the City of Hoschton zoning administrator of any written correspondence after preliminary plat approval and prior to final plat approval to or from the U.S. Fish and Wildlife Service, if it occurs, as it pertains to federally listed species and impacts of the development on such protected, threatened or endangered species.

PLANNING REVIEW / COMMENTS
ENGINEER'S RESPONSE TO COMMENTS
PLANNING CHECK OF REVISED PRELIM PLAT

Preliminary Plat for Tribute

8 PAGES

Additional comments:

✓ 1. Change 1 inch = 80 feet scale to show 1 inch = 60 feet (several pages) *Scale has been updated*

✓ 2. Cover Sheet (P0.00): change zoning from "PUD" to PUD Conditional (Ord. Z-23-03). *Zoning has been corrected*

✓ 3. Cover Sheet: show revision date on the plat set resubmitted. *Revision date added to title block*

✓ 4. Cover Sheet: add note: "Inclusion of tract 3 in the boundary survey of this preliminary plat does not imply acceptance of the tract and it is ~~not a lot of record~~ at the time this preliminary plat is filed." (note also the requirement of a variance to the one house, one lot rule of the zoning ordinance to allow for the division of this parcel. *Note not added. Lot 3 is a lot of record PB 60 PG 168*

✓ 5. Cover Sheet: Add note re: Street lighting: "New subdivisions in the City of Hoschton shall require street lights be installed by the subdivider. Street lights shall be provided in accordance with specifications of the electricity provider by the subdivider in the subdivision and shall be installed prior to the approval of a final plat." Reference: Sec. 619 subdivision regulations. *Note added to Cover Sheet*

OK 6. Boundary survey pages: add church-owned land to boundary survey.
urch owned land shown on boundary with appropriate meets and bounds. shown as adjacent tract, however, since it is not owned by the developer even though s is in the same PUD.

OK 7. Boundary survey pages: Remove "retracement" statement dated March 27, 2023 from the boundary survey; that is not accurate for the survey because it proposes a tract 3 which is ~~not a lot of record~~. *"Retracement" rremoved. Tract 3 is lot of record PB 60 PG 168*

✓ 8. Submit wetland delineation report dated October 31, 2023 (referenced in application and also referenced on the boundary survey but not submitted with the application). *Wetland delineation report included with resubmittal*

✓ 9. Plat detail sheets generally. These need to show the approximate acreage, approximate lot width, and approximate lot depth of each lot in the subdivision. The reference to all such information in a separate lot table (see Sheet P6.00) is not sufficient for staff to complete the review. *Lot area, width, and depth was added to all lots. See P2.01 - P2.10*

✓ 10. Sheet P2.00: The preliminary plat sheet key has incorrect numbers for page references and needs to be corrected to match page numbers provided (it appears to be correct on other pages). *Page numbers have been corrected on the Sheet Key Map.*

✓ 11. Sheet P2.01 and successive pages. Each lot has a building envelope outlined. These should include some labels for dimension of the minimum front building line (15 feet for detached dwellings). *Additional setback labels were added, and typical lot details were provided. See P2.01 - P2.10 & P2.50*

✓ 12. Sheet P2.01. The proposed cul-de-sac encroaches slightly on the required 25 foot wide landscaped buffer; the right of way of the cul-de-sac needs to be pushed back out of the required buffer. *Roadway and ROW has been shifted so that it stays out of the landscape buffer*

OK 13. Sheet P2.01. Open space corridors in between rows of townhouse dwellings need to be identified (labeled) as open space and provide open space tract number that matches the Open Space Table on Sheet P5.00. *open space between townhome rows have been removed since the site meets minimum open space requirementsand open space calcs updated.*

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negotiated and approved prior to preliminary plat approval for Tribute, the complexity of such a negotiation task suggests that the city will need to begin those negotiations sooner than later.

1 OF 8

14. Sheet P2.01. The proposed sewer force main is drawn as following a path that is in between a proposed residential access street and townhouse dwellings (see lots 943 through 951). This appears to be highly problematic, because that area would need to be reserved for water lines. In any event, *staff does not recommend that the force main be allowed to traverse in the front yards of townhouse units* given the relative disruption possible if maintenance is needed and because water lines need to go in that space. It is also not clear why the force main has to take such a circuitous route rather than a direct path to its off-site location (at or about where a detention pond is proposed).

OK per CITY ENGINEER

Force main allowed along roadway after discussions with EMI. Waterline to be placed on opposite side of roadway than force main. Exact location for water main and sewer force main to be determined during LDP.

15. Sheet P2.01. Label fence and indicate type of fence proposed around the detention pond (vinyl coated chain link or decorative aluminum fence recommended). *Fence type note added to site plan blowups*

OK

16. Sheet P2.01 (and successive sheets as applicable). The plan shows 90 degree parking within the right of way of proposed streets (see Roads "DD" and "GG" as well as other places). Staff recommends against any 90-degree parking spaces within the right of way of streets, because ultimately the city will be required to maintain the pavement. The 90-degree parking spaces serving the master amenity area are fine but need to be pushed out of the right of way and onto the master amenity area itself. The same should be done anywhere else that 90-degree parking is proposed within or partially within a public street right of way. *90 degree parking has been removed and master amenity parking lot has been added. Parallel spots remain in areas that will be maintained by the HOA / Developer*

✓

17. Sheet P2.01. Add required minimum front yard building setback for all lots (applies to other sheets also). *Front yard setback labels were added, and typical lot details were provided on pages P2.01 - P2.10 & P2.50*

✓

18. Sheet P2.01. Add utility easement of 10' wide for water lines in front of all lots. Reconcile conflicts with the provision of a water line in the front yard of all lots (applies to other sheets also). As noted elsewhere, the placement of a force main in the front yard of townhouse lots is considered unacceptable to the extent that it conflicts with the requirement to place a 10-foot-wide water line easement in the front yard. In any event, lots will not be able to have both a force main and a water line in the front yard.

After discussions with EMI enigeers, water main is only required on one side of the street and will be in 10' easement. Force main is located on other side of the street and is also located in 10' easement. Utility services located in 10' easement as well.

✓

19. Sheet P2.01. For Road AA which will have a concrete median, please provide a detail sheet showing radii and dimensions of the median (this may result in additional comments). Because the median proposed does not match any existing standard detail, the design may be subject to revision with regard to curb radii and the like.

Radii and dimensions have been added to median. Final design and landscaping will be provided at time of LDP

✓

20. Sheet P2.01 or cover sheet. Add notes regarding pavement and right of way radii at intersections. *"Site Notes" have been added to page P2.00 & typical intersection detail added to page P2.50*

✓

21. Sheet P2.01. A typical lot diagram for both townhouses and detached single-family lots is highly recommended, which would show pavement edge, curb, 2-foot wide landscape strip between curb and sidewalk, sidewalk, 10' utility easement, minimum building setback, building footprint, and street tree placement. *Typical Lot Details have been added to P2.50*

22. Sheet P2.01. The city engineer has recommended against the provision of the trunk water line within the right of way of SR 53. This calls for a redesign, unless the city engineer and the city come to some agreement with the owner for this arrangement. See also Sheet P4.00 (water line extension). See also water and sewer agreement.

*

CITY ENGINEER

Water line location is shown in GDOT ROW for now but efforts are being made to put it in the HOA land along Twin Lakes subdivision. Notes have been added which explain that final location and efforts to put the main in private easements is to be done during LDP stage but if at all possible, the water main will be in private easements and outside of GDOT ROW. Water / Sewer agreement allows for water main to be in GDOT ROW but will require developer to bond / pay for relocation if GDOT necessitates.

2 OF 8

15

23. Sheet P2.01. There is a note that the intersection and roadway plans will be designed and permitted by A & R Engineering, whereas the rest of the plans are done by Planners and Engineers Collaborative+. While it is acceptable that two engineers work on the project, the two respective plans must be coordinated and submitted as one land disturbance permit application and one development permit application. Any approval of the preliminary plat should make this an explicit condition. *All proposed roadway improvements will be shown a part of the LDP submittal with A&R's plans included*

24. Sheet P2.01. For all double frontage lots (i.e., fronting on SR 53 and a proposed subdivision street), show a no-access, planting screen easement of at least 10 feet, across which there shall be no right of access, along the line of lots abutting SR 53 (reference: Sec. 505 subdivision regulations; and Sec. 607 subdivision regulations). *No-access easement has been added to all lots along SR 53 with internal access.*

25. Sheet P2.01. On-street parking is proposed along Road AA. As noted already, this is not recommended, because this road is a through route required by condition of zoning approval to connect to property off-site (it is also recommended to be upgraded to a collector street function). Planning staff recommends that this road have an 80 foot right of way rather than a 50 foot right of way, to facilitate its intended function as a collector street (see Sec. 613 subdivision regulations). *On-street parking has been removed on road AA. Right of way has been adjusted to be 80' for Road AA.*

26. Sheet P2.02. For the area labeled "civic donation area #3 16.05 acres school," please relabel as "civic donation area #3 16.05 acres for school or other use determined by city." *Label has been changed. See P2.02*

27. Sheet P2.02. It is recommended that the 16.05-acre site (civic donation area #3 be provided with a strip of frontage on Road "BB" of at least 20 feet that provides a pedestrian access right of way or easement. The 20' wide pedestrian easement should be directly across from, and connect with, the proposed "pocket park" (i.e., at or near lot 683). *20' access easement provided. See P2.02*

28. Sheet P2.02. The way the proposed "pocket park" is configured is not recommended for acceptance. It shows on-street parking combined with green space within an overall right of way dedicated to the city. The loop road right of way needs to be shown, the park needs to be shown as a private open space tract, and on-street parking pushed out of the proposed road right of ways and into the boundaries of the proposed private open space (pocket park). *Right of way around pocket park is now called out. A note has been added which mentions that the pocket parking and parallel parking spots will be maintained by the HOA*

29. Sheet P2.02. Planning staff recommends the elimination of the dead-end for Road DD near the intersection of Road AA and SR 53. This means that three lots (886, 887, and 888) are proposed to be removed/relocated.[14] *Site has been evaluated and there is not a reasonable area to relocate the lots that the dead end services without causing other site issues. Per conversation with Jerry, the dead end can remain in this one area but is not preferred. If the site changes for whatever reason in the future, we will try to remove it at that time.*

30. Sheet P2.02. Add 10' wide no access easement along both sides of Road AA except for curb cut shown and road intersection shown. *10' easement has been added on Road AA and infront of all lots*

31. Sheet P2.02. On-street parking on Road AA is not recommended and should be removed or relocated. This needs to be preserved as a through route as recommended

[14] The approved PUD provides that a dead end street meeting fire code requirements may be approved. However, in the subject location, planning staff recommends against it because the design will result in three townhouse units close to the intersection of the subdivision and to SR 53. These three lots should be relocated elsewhere in staff's view.

elsewhere in these comments. On-street parking proposed on Road DD needs to be pushed back out of the right of way and onto the master amenity area.
On street parking on Road AA has been removed. On street parking on DD has been relocated to off street parking lot

OK 32. Sheet P2.02. Label strips of open space between rows of lots (for instance, between lots 746 and 793, etc.). *Open space between TH's have been removed since the development meets open space requirements without them adjustments of lots and open space location during LDP could be needed*

✓ 33. Sheet P2.02. Consider adding an access easement on Civic Donation Area #3 to outparcel #1 so that it might access the curb cut shown for Civic Donation Area #3).
50' access easement has been added to outparcels. Easement is called out as subject to change following full design of outparcels, but access to remain.

✓ 34. Sheet P2.02. Change graphic scale which now shows f 1" = 80' to 1" = 60' (applies to successive pages also). *Graphic scale has been changed to 1" = 60'*

OK per CITY ENGINEER 35. Sheet P2.02. As noted elsewhere, there is a need for a 10' wide water utility easement outside rights of ways and in front of each dwelling lot. There is a label to that effect on lot 1027 which is accurate and which needs to be shown for all lots (add frequent labels). The designer must consider the conflicts between the need for a 10 foot wide water line easement along lot frontages and the proposals to put the sewer force main and 8" water line in the front yard of lots. This applies to additional successive pages.
After discussions with EMI engeers, water main is only required on one side of the street and will be in 10' easement. Force main is located on other side of the street and is also located in 10' easement. Utility services located in 10' easement as well

OK 36. Sheet P2.02 (and successive sheets if applicable). It is suggested that the ribbon of green space proposed to separate lots 660-689 from the Civic Donation Area #3 be removed from the plat. The project exceeds the open space minimum, and since this parcel is proposed to be dedicated to the city a buffer width of appropriate width can be established by the city later, depending on the specific use. *Open space between lots 660-689 was kept as is in order to keep Civic Donation Area #1 and #3 acreage the same as what was approved in the zoning conditions.*

✓ 37. Sheet P2.02: A private road is proposed to serve lots 689-697. This would be the only private street in the development. Planning staff recommends that it be made public. Also, the on-street parking in front of lots 689-697 is not recommended for approval because Road AA needs to be designed as at least a collector street right of way width (through street). *Road KK has been made a public road with a 50' ROW*

✓ 38. Sheet P2.02: Planning staff recommends that the preliminary plat include access and utility easements along the common property lines for Outparcel #1, Civic Donation Area #1, and Civic Donation Area #3 (width of easements to be determined).
50' access easement has been added to outparcels. Easement is called out as subject to change following full design of outparcels, but access to remain.

✓ 39. Sheet P2.03: Planning staff recommends that the preliminary plat include access and utility easements along the common property lines for Outparcel #2 and Civic Donation Area #1 (width of easements to be determined).
same as previous comment

✓ 40. Sheet P2.03: This sheet shows graphically the design for Civic Donation Area #2. The information appears to be consistent with the zoning application. That information is not required to be shown on the plat. The preliminary plat application is not in itself a route to decide specifics of development inside the lot. Therefore, it is best to delete the details of improvements proposed for public spaces. Some consideration should also be given to the proposed timing of development of Civic Donation Area #2. As noted elsewhere, the major amenity of the development is required by conditions of zoning approval to be provided concurrent with the first phase of residential development.
Proposed details of improvements on Civic Donation Area #2 have been removed

✓ 41. Sheet P2.03: It will be helpful to label all structures proposed and develop a list of the buildings and structures proposed for Civic Donation Area #2 (public space, 4.00 acres).
Proposed details of improvements on Civic Donation Area #2 have been removed per comment #40

4 OF 8

OK- Condition

42. Sheet P2.03: There is a note describing the intersection of Road A and SR 53 as receiving roadway upgrades per GDOT and DRI requirements. Please add a clarifying note identifying the specific requirements for roadway upgrades called for in the DRI final report, and/or GDOT review. *Site Access Notes added to P2.00 describing driveway recommendations from DRI Report.*

✓ 43. Sheet P2.03: Lake as a stormwater facility. The lake is identified as stormwater facility "H." This deserves more discussion. Clarify proposal for fence. There is a label "barbwire fence" beside Lot 1. Is this just a stray label? If so it should be removed. This also raises the question, can there be a list developed of all stormwater facilities? (i.e., A through G as well as H). *Existing lake to be used as stormwater facility and hydrology report during LDP will prove its hydraulic capacity. Fence type added, stray barbwire fence label removed, list of stormwater facilities added. See P2.00*

✓ 44. Sheet P2.03: The land block with parking around it at the intersections of Road A and Road H is not identified. Please indicate the purpose of this tract and identify the acreage. If it is a green/ open space, mark it with acreage and if so include it in the open space inventory. Also, show a sidewalk along Road "A" and Road "H" frontages with crosswalks. *Area has been annotated as open space. Right of way has been revised in area to show Amenity area and this open space to be private area. Further design to be provided during LDP*

✓ 45. Sheet P2:03 and successive sheets. As noted elsewhere, it is necessary that the detail preliminary plat sheets include the lot widths and total lot areas shown within the boundaries of each lot rather than in a consolidated table at the end (as noted). *Lot areas and widths have been added to every lot. See sheets P2.01 - P2.10*

✓ 46. Sheet P2:03 and successive sheets. The detail sheets have shading, including for sidewalks, easements, and others that are not labeled. There should be a legend created that appears on the same page (repetitive) identifying the meaning of all shaded or hatched regions. *A legend has been added to identify the different hatches. See P2.00 - P2.10*

✓ 47. Sheet P2.03. The intersection of Roads "A" and "H" is not at a 90 degree angle. It is less and there should be no reason why this intersection cannot be designed with the required 90 degree angle. The code provides: "Under normal conditions, roads shall be laid out so as to intersect as nearly as possible at right angles (90 degrees)" (Reference: Sec. 606(b) subdivision regulations). Deviations should be justified. *Intersection was re-designed to be at 90 degree angle.*

✓ 48. Sheet P2.03. At the intersection of Roads "A" and "B" there needs to be two striped crosswalks for pedestrians shown, along with a break in the proposed center median for pedestrian crossing at same grade (i.e., both sides of Road "B" crossing Road "A"). These crosswalks are shown on other sheets but not here. *Crosswalks have been added at intersection of Road "A" & "B"*

OK

49. Sheet P2.03. Outparcel #2 does not have any access identified. It will not be feasible for that proposed lot to have its own driveway/curb cut onto SR 53, it would seem (this is another point that should be addressed in GDOT review). Nor is it desirable to have Outparcel #2 served with a curb cut on Road "A," because it would be either too close to Road "A"'s intersection with SR 53 or too close to Road "A"'s intersection with Road B. It is recommended that the proposed curb cut shown as serving only Civic Space #3 also be repurposed to provide access to Outparcel #2. This might mean a reconfiguration of the shape of Outparcel #2 (i.e., increase its depth from SR 53 to the proposed curb cut). *50' access easement has been added to outparcels. Easement is called out as subject to change following full design of outparcels, but access to remain.*

✓ 50. Sheet P2.03 and successive sheets. Between lots 85 and 86, crossing Road D, a striping is shown for pedestrian sidewalk crossing of a street. This should be repeated at all street intersections/ road crossings (it is shown in many other places but not this one). *Crosswalk striping was added to all intersections.*

✓ 51. Sheet P2.04. Add a 10-foot-wide "no access" easement along all lots along SR 53. *No-access easement has been added to all lots along SR 53 with internal access.*

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✓ 52. Sheet P2.04 or other sheet as appropriate. Consider whether the location of entrance monuments to the development can be identified. This issue may be important, depending on whether it is placed on a private lot with easement, or on common area, or within a right of way. *Appproximate locations for entrance monument signs have been added at all entrances. The signs are to be located outside of the right of way in private easements.*

✓ 53. Sheet P2.04. Repeat the comment made previously for language about the DRI final report's recommendations for road improvements at SR 53 intersections and GDOT requirements. Same comment also about the road improvement plans being consolidated with project plans when submitting for land disturbance and development permits. *Site Access Notes added to P2.00 describing driveway recommendations from DRI Report.*

✓ 54. Sheet P2.04: The block between Road "B" and Road "C" (from Road "D" to Road "E" is more than 700 feet, maybe almost 800 feet, in length. Section 502 of the subdivision regulations provides that in blocks longer than eight hundred (800) feet, pedestrian ways and/or easements through the block may be required near the center of blocks." Accordingly, although it may not be 800 feet in length, planning staff recommends the plat be revised to show a minimum 10 foot wide pedestrian dedicated right of way strip at or about lots 83 and 94, so as to provide pedestrian access mid-block, between Roads "B" and "C." *Pedestrian access easement was added*

✓ 55. Sheet P2.04: Is there a special design reason why the intersection angle at SR 53 and Road "F" cannot be 90.00 degrees? Deviation from the 90 degree standard should be justified, however small. *Roadways and angle of intersections have been revised to meet at 90 degrees.*

✓ 56. Sheet P2.04 and P2.05. Identify the tract that is not labeled, between lots 56 and 57 along Road "E." Is this open space? If so include in the open space tract listing and label as such with number. *Tract has been Identified and labeled as open space #18 on page P5.00 open space sheet.*

OK 57. Sheet P2.04. Repeat comment regarding water line in SR 53 right of way, city engineer recommends against it. *Water line location will be coordinated with the city engineer during LDP but it has been requested by EMI to show the waterline along SR 53 stubbing to the south end of the development for future tie in*

ATTACH WATER/SEWER AGREEMENT – MAY NEED CONDITION

✓ 58. Sheet P2.05. Sewage Lift Station Lot. Demonstrate compliance with condition regarding size of this tract. It needs to be a minimum of 10,000 square feet (see condition 14 of ordinance Z-23-03). Add this tract to the dedication inventory (table on other page). *Lift Station parcel area has been added*

✓ 59. Sheet P2.05. Repeat comment regarding fencing of stormwater detention pond. Provide label of type of fence (vinyl coating if chain link). *Fence type note has been added*

✓ 60. Sheet P2.05: Label the pocket park on Road "F" as an open space with number. The Tract 3 label should be removed (see prior comments regarding that proposed lot division to create Tract 3 on the boundary survey). *Pocket Park was labeled as open space with number and Tract 3 label was removed*

✓ OK 61. Sheet P2.06 and all detail plat sheets: The building envelope for lots appears to be drawn with five-foot setbacks. Confirm that these are drawn at 7.5 feet per the conditions of zoning approval. *Side setbacks were drawn per conditions of zoning: Side 5 ft, Major Side/Corner 7.5 ft. Labels were added for clarification. See P2.01 - P2.10*

✓ 62. Sheet P2.06. Planning staff recommends including a minimum 10 foot wide pedestrian right of way strip that connects Road "H" and Road "I," at or about lots 290 and 265. This will in essence be a straight line projection of Road "F." This pedestrian right of way will

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allow for more direct access of dozens of lots to the community green space shown north of Road "I." *10' Pedestrian access easement was added to connect Road H and Road I at Lots 290 and 265*

✓ 63. Sheet P2.06. Repeat comment about labeling and numbering open spaces. This applies to the "community open space" north of Road "I". *Open space has been labeled and added to open space calcs*

✓ 64. Sheet P2.06. Label narrow strip between lots 377 and 404. Is this open space. If so, label and give number. *Open space was labeled and given number. See page C2.08*

✓ 65. Sheet P2.07. The long blocks created have no pedestrian access to the proposed walking trail in the flood plain area along Indian Creek. Similar to comments above, the designer should break up these long blocks with minimum 10-foot-wide (2 or 3 between each street) right of way strips to increase direct access of dozens of lots to the greenspace area. *Pedestrian access easements have been added.*

✓ 66. Sheet P2.08. Similar to comments above, the designer should introduce more pedestrian interconnectivity and shorten walking distances by including blocks with 10-foot-wide right of way strips to increase direct access of dozens of lots to the greenspace areas. Specifically, it is suggested that one of the pedestrian access right of way strips be an extension of Road M westbound to Road "L" and then crossing at or about Lot 138 to connect the open space. *Pedestrian access easements have been added.*

✓ 67. Sheet P2.08. The block of lots formed by Roads "M," "O," "L" and "J" also needs a pedestrian right of way mid-block. Staff recommends it extend from Road "N" north to Road "L." *Pedestrian access easements have been added.*

✓ 68. Sheet P2.08. The green space south of lots 388-391 is accessible only from Road "I" but abuts many lots surrounding it. Pedestrian access rights of ways of 10 feet in width or more should be provided to make the open space a functional part of the subdivision as opposed to being a cut-off remnant with a drainage ditch. *Pedestrian access easements have been added.*

OK PER PRIOR 69. Sheet P2.08. Repeat comment above regarding pocket park and surrounding right of way redesign. *Pedestrian access easements have been added.*

✓ 70. Sheet P2.09. Pedestrian right of way/access recommended at or about lots 526, 580, and 182 to connect Roads "M" and "L" to regional floodplain/green space walking trail. *Pedestrian access easements have been added.*

✓ 71. Sheet P2.09: Stormwater facility "G" shows its boundary/fence directly abutting some residential lots (Lots 648 through 655). This is not desirable practice, as it may mean a chain link fence defines the rear property line of some of the lots. Consideration should be given to redesigning the stormwater pond footprint so that it has better separation or at least a five-foot setback from residential lots.
Stormwater facility was redesigned to provide five-foot setback from residential lots

✓ 72. Street P2.09 and successive sheets: Repeat comment regarding giving pocket parks and open spaces labels with numbers and shown in a table with totals.
Open spaces have been numbered and labeled. Open space calcs updated on page P5.00

NOT LABELED 73. Street P2.09 and successive sheets: 20-foot-wide drainage easements should be providing surrounding all detention facilities. Show them on all sheets.
20-foot-wide drainage easements has been added to all stormwater facilities.

✓ 74. Street P2.09: Add missing property owner identifier east of Indian Creek (it is county parkland). *Property owner identifier has been added*

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✓ CONDITION (CONSIDERED)

75. Sheet P2.10: provide an estimate of the elevation of the 100-year flood plain and show on this sheet. Compliance with flood ordinance of the city will be required, as applicable. Certain lots may require flood plain elevation certificates. The designer is encouraged to identify and incorporate notes regarding how the flood management ordinance applies and will be complied with. Reference the flood damage prevention ordinance provisions as may be applicable. *Labels have added showing approximate 100-year floodplain elevations on P2.01 - P2.10*

OK

76. Sheet P2.10. The cul-de-sac at the north needs to have the island identified as a tract (open space with number) and the street network needs to be drawn clearly with right of way line meeting city street standards. *Cul-de-sac area has been redesigned so that there is no longer an open space area at its center. Street network revised to meet city standards.*

OK- Condition

77. Sheet P2.10. it is recommended that the applicant seek and secure and submit letter from Jackson County Parks and Recreation agreeing to the trail connection proposed. There may need to be an agreement drafted between the applicant/homeowner's association, perhaps the city, and Jackson County with regard to use and enjoyment of the trails (i.e., the nature of public access as well as any other restrictions). It is best to sort out these management issues now rather than later. *A note has been added at the trail connection point on P2.10 that mentions the need for Jackson County Parks and Rec approval prior to connection.*

OK- CONDITION

78. Sheet P4.09. Copy planning department on all correspondence regarding application for and receipt of nationwide permit for the proposed stream crossing. *Acknowledged. Application for NWP will be filed once LDP moves forward after preliminary plat approval.*

DEFER TO CITY ENGINEER

79. Sheet P4.00. Repeat comments about city engineer's recommendation against having the water line run inside the right of way of SR 53. At this point, the designer should plan to move the water line out of the SR 53 right of way and onto private property controlled by the applicant. *Water line location is shown in GDOT ROW for now but efforts are being made to put it in the HOA land along Twin Lakes subdivision Notes have been added which explain that final location and efforts to put the main in private easements is to be done during LDP sta but if at all possible, the water main will be in private easements and outside of GDOT ROW. Water / Sewer agreement allows for wat main to be in GDOT ROW but will require developer to bond / pay for relocation if GDOT necessitates.*

✓

80. Sheet P4.01. Defer to city engineer for review of the route for sewer. *Force Main Sewer Route is currently shown through private easements to it's tie in point. All efforts will be made to keep the force main outside of the GDOT ROW.*

✓

81. Sheet P5.00: Revise dedication table to include sewage lift station site and exclude two commercial outparcels. *Table has been revised on P5.00*

✓

82. Additional sheet and/or modification of existing sheets: Street tree planting/tree canopy. Tree protection areas are required to be delineated on the preliminary plat as tree protection areas but these are not shown (please add or add separate sheet). The current submission is incomplete in this regard. *Typical tree Note from Jerry added to P2.00 stating tree requirements during LDP. Street trees have been added to typical lot layout as well on sheet P2.50.*

✓

83. A separate street tree plan is required to be submitted with the preliminary plat but has not been submitted (Reference: Sec. 813(b) subdivision regulations). The current submission is incomplete in this regard. The street tree plan needs to indicate species to be planted, location requirements and guidelines, spacing and intervals, and responsibility for planting including street trees required along common area frontages. Include root barriers where required by code. *Typical tree Note from Jerry added to P2.00 stating tree requirements during LDP. Street trees have been added to typical lot layout as well on sheet P2.50.*

OK

84. Per the pre-application meeting, the planning staff expects the applicant to go through an analysis of better site practices and methods of stormwater infiltration for runoff reduction. That analysis should justify the approach utilized which appears to be all conventional stormwater pond methods and nothing by way of infiltration. These are requirements for land disturbance and development permits and should be addressed at least in part during preliminary plat review.

A pre application hydrology meeting will be held with EMI to go over the proposed stormwater management practices. Initial infiltration reports show that low infiltration rates may require water quality hydaulic design which will be detailed in the LDP hydrology report

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CITY OF HOSCHTON
STATE OF GEORGIA

ORDINANCE Z-23-03

AN ORDINANCE TO PROVIDE FOR THE ANNEXATION OF LAND TO THE EXISTING CORPORATE LIMITS OF THE CITY OF HOSCHTON, GEORGIA; TO PROVIDE FOR THE ZONING CLASSIFICATION FOR SUCH ANNEXED PROPERTY; TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF HOSCHTON TO REFLECT ANNEXATION AND ZONING; TO PROVIDE NOTICE OF THE APPROVED ANNEXATION TO THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS AND JACKSON COUNTY AS WELL AS THE LEGISLATIVE AND CONGRESSIONAL REAPPORTIONMENT OFFICE OF THE GENERAL ASSEMBLY; TO PROVIDE FOR AN EFFECTIVE DATE FOR AD VALOREM TAX AND OTHER PURPOSES; TO LIMIT REZONING OF THE PROPERTY ANNEXED TO A HIGHER DENSITY OR INTENSITY FOR A SPECIFIED PERIOD; AND FOR OTHER PURPOSES

WHEREAS, Rocklyn Homes, Inc., applicant, Mary Ann Kenerly and New Hope AME Church, property owners, have filed complete applications to annex and zone approximately 287.14 acres with PUD (Planned Unit Development) District zoning classification, said property proposed to be annexed consisting of Map/Parcel 114/001A (approximately 2.54 acres) (New Hope AME Church, owner), Map/Parcel 114/001B1 (approximately 0.12 acres) (New Hope AME Church, owner), Map/Parcel 114/002A (approximately 229.46 acres) (Mary Ann Kenerly, owner), and Map/Parcel 114/001B (approximately 55.76 acres) (Mary Ann Kenerly, owner) said property proposed to be annexed fronting approximately 5,571 feet on the north/east side of State Route 53 south of Pearl Industrial Avenue (the "Subject Property"); and

WHEREAS, said annexation application includes the written and signed applications of all (100%) of the owners of all of the Subject Property, except the owners of any public street, road, highway, or right of way, proposed to be annexed, as required by O.C.G.A. § 36-36-21; and

WHEREAS, additionally, the applicant seeks to zone the Subject Property to PUD (Planned Unit Development) District zoning classification; and

WHEREAS, the Subject Property is more particularly described in Exhibit A which by reference is incorporated herein;

WHEREAS, the property to be annexed is a "contiguous area" to the existing city limits of Hoschton as that term is defined by O.C.G.A. § 36-36-20(a); and

WHEREAS, the Property to be annexed does not result in an "unincorporated island" as that term is defined in O.C.G.A. § 36-36-4; and

WHEREAS, pursuant to O.C.G.A. § 36-36-6, the city provided written notice of the proposed annexation to the governing authority of the County (the Jackson County Board of Commissioners) as required by law; and

WHEREAS, pursuant to O.C.G.A. § 36-36-111, notice by verifiable delivery of the proposed annexation and the proposed zoning district or districts by the city was sent to the county governing authority and the affected school system, said notice having been accomplished by certified mail or statutory overnight delivery, return receipt requested, as required; and

WHEREAS, the Jackson County Board of Commissioners objected to the proposed annexation pursuant to O.C.G.A. § 36-36-113, and served the city with proper notice of such objection; and

WHEREAS, pursuant to O.C.G.A. §36-36-114, an arbitration panel was appointed to hear the annexation dispute; and

WHEREAS, pursuant to O.C.G.A. §36-36-115(a), the arbitration panel met on August 28, 2023 to receive evidence from the parties to the annexation dispute and rendered its findings on August 29, 2023; and

WHEREAS, none of the parties to the annexation dispute have appealed the decision of the arbitration panel; and

WHEREAS, the Hoschton City Council has authority pursuant to O.C.G.A. § 36-36-1 *et seq.* to annex certain property and authority pursuant to the Hoschton Zoning Ordinance to amend the City of Hoschton's Official Zoning Map; and

WHEREAS, the annexation and zoning application constitute a "development of regional impact;" and

WHEREAS, the City has complied with administrative rules of the Georgia Department of Community Affairs regarding the filing and processing of development of regional impact applications; and

WHEREAS, the Hoschton City Council held two public hearings on the application and has complied with all applicable laws and ordinances with respect to the public notice for public hearings and for the processing of such application; and

WHEREAS, the city's consulting planner has prepared a report on the annexation and zoning request, and such report provides findings with regard to the application and the extent to which the application is consistent with standards governing the exercise of zoning power articulated in the Hoschton zoning ordinance; and

WHEREAS, it has been determined by the Mayor and Council that such application meets the requirements of law pertaining to said application as required by applicable provisions

in Chapter 36 of Title 36 of the Georgia Code and that it is desirable, necessary and within the public's interest to approve the annexation application and zoning application of the applicant and to amend the City of Hoschton's Official Zoning Map accordingly; and

WHEREAS, per the requirements of HB 1385 (amending O.C.G.A. § 36-36-3), effective July 1, 2022, the city is required to file a report identifying any property annexed with the Legislative and Congressional Reapportionment Office of the General Assembly, in addition to the Georgia Department of Community Affairs and the county wherein the property annexed is located;

Now, Therefore, The Council of the City of Hoschton HEREBY ORDAINS as follows:

Section 1.

The property proposed for annexation, described in Exhibit A, is hereby annexed to the existing corporate limits of the City of Hoschton, Georgia, and is hereby zoned PUD, Planned Unit Development, conditional, subject to conditions of zoning specified in Exhibit B attached to this ordinance.

Section 2.

An identification of the property annexed by this ordinance shall be filed with the Georgia Department of Community Affairs and with the governing authority of Jackson County (Jackson County Board of Commissioners) in accordance with O.C.G.A. § 36-36-3, as well as with the Legislative and Congressional Reapportionment Office of the General Assembly as required by HB 1385 (amending O.C.G.A. § 36-36-3), effective July 1, 2022. The city clerk is directed to coordinate the submission of Geographic Information System (GIS) shape files by the Jackson County Geographic Information System (GIS) Department to the City of Hoschton for transmittal to said Reapportionment office as required by law. The city clerk is further directed to enter the annexation information and signed annexation ordinance into the Georgia Department of Community Affairs' online annexation reporting system.

Section 3.

For ad valorem tax purposes, the effective date of this annexation and zoning shall be on December 31 of the year during which such annexation occurred.

Section 4.

For all purposes other than ad valorem taxes, the effective date of this annexation and zoning shall be the first day of the month following the month during which this ordinance approving the annexation and zoning was adopted.

Section 5.

The zoning administrator is directed to update the official zoning map of the city to reflect the new city limits and the zoning classification of the property annexed as well as the property rezoned by this ordinance.

Section 6.

By no later than the next five-year update of the comprehensive plan, the zoning administrator is directed to show the area annexed on the future land use plan map of the city's comprehensive plan with a land use category that most closely approximates the zoning district or districts assigned to the annexed area.

Section 7.

Pursuant to O.C.G.A. § 36-36-117, the city shall not change the zoning, land use, or density of the annexed property for a period of two years unless such change is made in the service delivery agreement or comprehensive plan and adopted by the affected city and county and all required parties.

So ORDAINED, this the 18th Day of September, 2023.

James Lawson, Acting Mayor

This is to certify that I am City Clerk of the City of Hoschton. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this ordinance was adopted as stated and will be recorded in the official minutes.

ATTEST:

Jennifer Kidd-Harrison, City Clerk

CITY OF HOSCHTON, GEORGIA SEAL

APPROVED AS TO FORM

Abbott S. Hayes, Jr., City Attorney

EXHIBIT A
DESCRIPTIONS OF PROPERTY

ALL THAT TRACT OR PARCEL OF LAND lying and being in GMD 1407, Jackson County, Georgia and being more particularly described as follows:

BEGIN at a found 1/2 inch rebar, said rebar having coordinates of North: 1,485,399.1 and East: 2,424,919.5, coordinates based on NAD83 State Plane Coordinate system, Georgia West zone, said rebar located on the easterly right of way of GA. Highway 53 (variable public right of way), said rebar being the TRUE POINT OF BEGINNING;

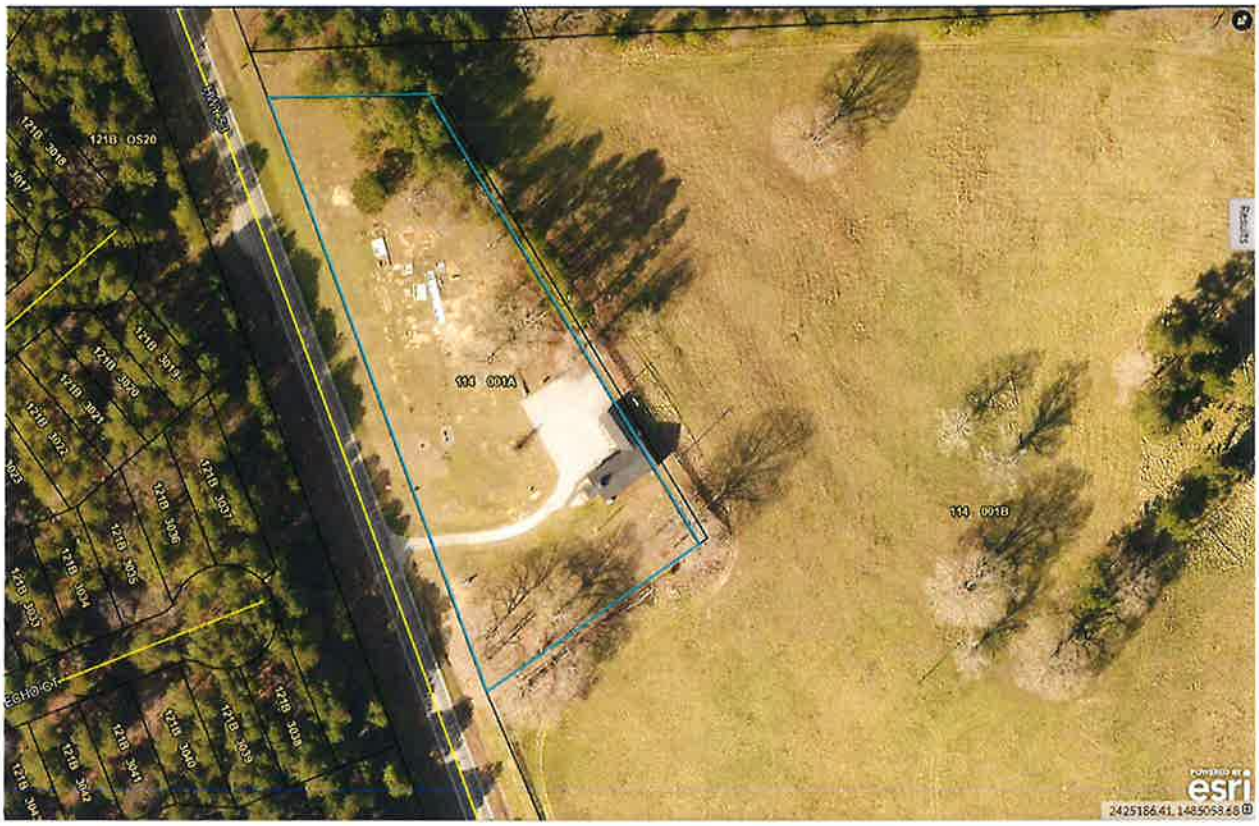
THENCE leaving said easterly right of way of GA. Highway 53 and proceed North 87 degrees 09 minutes 44 seconds East a distance of 978.40 feet to a found axle; thence South 83 degrees 36 minutes 34 seconds East a distance of 46.57 feet more or less to a point at the centerline of a branch, said point being referred to as Point "A" (the commencement point of a tie-in line "A"-"B"); thence following the centerline of said branch and the meanderings thereof, 769 feet more or less to a point, said point being referred to as point "B", (the terminus of said tie-in line "A"-"B"), said tie-in line from point "A" and to point "B" having the course of South 46 degrees 28 minutes 58 seconds East a distance of 668.70 feet more or less to a point; thence leaving said centerline of a branch and proceed South 31 degrees 06 minutes 00 seconds East a distance of 736.43 feet to a found 1 inch rebar; thence South 87 degrees 07 minutes 18 seconds East a distance of 1543.43 feet to a set 1/2 inch rebar with cap; thence North 05 degrees 53 minutes 48 seconds East a distance of 1399.97 feet to a found 1 inch rebar; thence South 81 degrees 59 minutes 28 seconds East a distance of 98.66 feet to a found 1/2 inch open top pipe; thence North 89 degrees 00 minutes 55 seconds East a distance of 368.19 feet more or less to a point at the centerline of a Indian Creek, said point being referred to as Point "C" (the commencement point of a tie-in line "C"-"D"); thence following the centerline of said creek and the meanderings thereof, 4747 feet more or less to a point, said point being referred to as point "D", (the terminus of said tie-in line "C"-"D"), said tie-in line from point "C" and to point "D" having the course of South 23 degrees 58 minutes 42 seconds East a distance of 3886.20 feet more or less to a point; thence leaving said centerline of said creek and proceed South 68 degrees 58 minutes 23 seconds West a distance of 1587.00 feet to a set 1/2 inch rebar with cap; thence South 68 degrees 57 minutes 58 seconds West a distance of 836.71 feet to a marked hole in concrete located on northerly right of way of said GA. Highway 53; thence along said northerly and easterly right of way of GA. Highway 53 the following courses and distances: North 63 degrees 27 minutes 00 seconds West a distance of 185.79 feet to a found right of way monument; North 62 degrees 37 minutes 44 seconds West a distance of 1263.78 feet to a set 1/2 inch rebar with cap; North 62 degrees 31 minutes 30 seconds West a distance of 62.00 feet to a point; along a curve turning to the right with an arc length of 465.41 feet, having a radius of 940.65 feet, being subtended by a chord bearing of North 48 degrees 07 minutes 01 seconds West, and a chord length of 460.68 feet to a point; North 34 degrees 01 minutes 31 seconds West a distance of 897.29 feet to a set 1/2 inch rebar with cap; North 34 degrees 01 minutes 31 seconds West a distance of 192.98 feet to a set 1/2 inch rebar with cap; South 55 degrees 24 minutes 28 seconds West a distance of 9.27 feet to a found right of way monument; North 34 degrees 13 minutes 12 seconds West a distance of 398.97 feet to a point; North 33 degrees 15 minutes 40 seconds West a distance of 174.95 feet to a point; North 33 degrees 04 minutes 42 seconds West a distance of 146.52 feet to a point; North 30 degrees 30 minutes 46 seconds West a distance of 54.72 feet to a point; North 29 degrees 03 minutes 57 seconds West a distance of 50.52 feet to a point; North 27 degrees 06 minutes 11 seconds West a distance of 45.05 feet to a point; North 23 degrees 33 minutes 33 seconds West a distance of 78.81 feet to a point; North 21 degrees 22 minutes 03 seconds West a distance of 80.44 feet to a point; North 20 degrees 51 minutes 23 seconds West a distance of 79.49 feet to a point; North 20 degrees 35 minutes 55 seconds West a distance of 339.35 feet to a point; North 20 degrees 21 minutes 46 seconds West a distance of 406.85 feet to a set 1/2 inch rebar with cap; thence North 20 degrees 35 minutes 57 seconds West a distance of 605.79 feet to a found 1/8" open top pipe; thence North 20 degrees 25 minutes 49 seconds West a distance of 47.15 feet to a found 1/2 inch rebar, said rebar being the TRUE POINT OF BEGINNING.

Tract or parcel contains 287.14 acres, more or less.

Map/Parcel 114/002A

Map/Parcel 114/001B

Map/Parcel 114/001A



Map/Parcel 114/001B1

EXHIBIT B
CONDITIONS OF ZONING APPROVAL

The Planned Unit development (PUD) zoning approved per this ordinance shall be subject to the following conditions of approval:

CONDITIONS OF APPROVAL
Z-23-03 PUD ZONING
9-18-23

1. **Substantial accordance with final development plan book.** Unless otherwise required by these conditions of zoning approval, the property shall be developed in substantial accordance with "Exhibit A: Site Plan" and the final development plan book submitted to the City of Hoschton on September 1, 2023 (the "Final Plan Book").

2. **Permitted and required uses.**

   (a) **Open space.** The PUD must consist of at least 20 percent open space. Any real property within the PUD dedicated to the City of Hoschton shall be subtracted from the total site area of the PUD for purposes of calculating the 20 percent requirement.

   (b) Only ½ of any open waterway within the PUD can be counted toward meeting the open space requirement. Open space tracts shall be required to be delineated separately from stormwater detention tracts, unless the zoning administrator accepts calculations of open space that separate stormwater facilities from lands authorized to be counted as open space per the PUD requirement for open space in the city's zoning ordinance.

   (c) **Civic space and recreational amenities.** There shall be civic space and recreational amenities for the PUD provided by the owner/ developer in substantial accordance with those described in the Final Plan Book. There shall be at least three "pocket" parks integrated in the detached, single-family portion of the PUD. There shall be at least one amenity integrated into the townhouse portion of the PUD. There shall be a master amenity which shall be accessible by pedestrians and vehicles from all uses in and areas of the PUD. A trail system shall be incorporated along or within the Indian Creek floodplain/ stream corridor area, and it shall connect to the existing lake which shall be incorporated into the PUD as an amenity feature.

   (d) **Residential uses.** The PUD shall be authorized to have detached, single-family residential dwelling units (lots) and fee-simple townhouses (lots), as specified in greater detail in these conditions of approval. There shall be no attached or multiple-family residential units authorized (e.g., apartments, condominiums) other than fee simple townhouse units.

   (e) **Churches and institutional uses.** Churches, cemeteries accessory to churches, and institutional uses shall be permitted within the PUD.

   (f) **Commercial uses minimum area. generally.** There shall be a minimum of 3.0 acres within the PUD for commercial uses. Commercial uses shall be limited to the +/-3.0

acres depicted as Outparcel #1 and Outparcel #2 on the Final Plan Book. The minimum 3.0 acres excludes the existing church site, cemetery and church expansion area proposed in the PUD application.

(g) **Commercial uses permitted.** Unless specifically prohibited by these conditions of zoning approval, uses permitted in the C-2 zoning district of the Hoschton zoning ordinance generally shall be permitted in commercial areas of the PUD, and uses listed as conditional in the C-2 zoning district may be authorized as conditional uses following conditional use procedures of the Hoschton zoning ordinance.

(h) **Commercial uses prohibited:** That following commercial uses shall be prohibited in the PUD: Adult establishment, automobile-oriented use (sales, service, repair), check cashing/ payday loan facility, gas station, dollar store, fireworks sales, funeral home, hookah/vapor bar or lounge, self-storage or mini-warehouse; smoke or vape shop, tattoo or body piercing parlor, and title loan facility.

(i) **Conditional use(s).** One or more uses not authorized by these conditions may (unless specifically prohibited by these conditions) be considered for approval and approved by the Hoschton City Council after the filing of a conditional use permit application in accordance with requirements of the City's zoning ordinance.

3. **Dedication of land**. Subject to the approval of the City of Hoschton, the owner/ developer shall donate, transfer, and convey at no cost to the City of Hoschton the following:

(a) approximately 3.3 acres of property located along Highway 53 and depicted as "Civic Space #1 Fire/Police/Safety" on Exhibit A: Site Plan for any public purpose deemed appropriate in the sole judgment of the City of Hoschton;

(b) approximately 4.0 acres of property located along Highway 53 and depicted as "Civic Area #2 Community Gathering Space" on Exhibit A: Site Plan for any public purpose deemed appropriate in the sole judgment of the City of Hoschton; and

(c) approximately 16.35 acres of land adjacent to the Public Safety Complex area and labeled as "School/Civic" on Exhibit A: Site Plan for any public purpose deemed appropriate in the sole judgment of the City of Hoschton.

(d) **Timing and condition of dedications**. At the time of conveyance, owner/developer shall deliver the real property in a pad ready condition. Owner/developer shall donate, transfer, and convey said parcels of land no later than one year from the approval of any land disturbance permit.

4. **Residential development; housing units; housing unit mix;**

(a) The maximum number of dwelling units/lots shall be 1,055.

(b) Of the total 1,055 units authorized, at least 60 percent shall be detached, single-family dwellings (i.e., 633 units minimum, if the total number of units authorized are constructed).

(c) No more than 40 percent of the total units authorized may be fee simple townhouse units (i.e., 422 units maximum, if the total number of units authorized are constructed).

5. **PUD Dimensional requirements generally.**

   (a) **Buffer abutting light industrial**. A 25-foot wide buffer, which may be graded and replanted, shall be required to be provided and maintained along the entire north property line of Map/Parcel 114/ 001B abutting the light industrial area.

   (b) **Landscape strip along SR 53 in front of church**. A 25-foot wide landscape strip shall be required to be planted and maintained along the church property frontage abutting SR 53 (Map/Parcel 114/001A).

   (c) A 25-foot wide buffer, which may be graded and replanted to meet the screening requirements of the Hoschton zoning ordinance, shall be provided and maintained along the PUD's south external property line abutting parcels 114/013R, 114/013M, and 114/013H in unincorporated Jackson County. Unless otherwise approved by the zoning administrator, screening tree species shall consist of savannah holly, southern magnolia, and red cedar or combination thereof.

   (d) A natural vegetative buffer shall be maintained for fifty (50) feet, measured horizontally on both banks (as applicable) of streams as measured from the top of the stream bank. An additional setback shall be maintained for twenty-five (25) feet, measured horizontally beyond the undisturbed natural vegetative buffer in which all impervious cover shall be prohibited.

   (e) The principal building setback from a PUD exterior property line shall be 30 feet.

6. **Residential dimensional requirements.** The residential land uses in the PUD shall be subject to the following dimensional requirements:

   (a) **Maximum building height, all units**: 40 feet and 3 stories.

   (b) **Maximum lot coverage:** 75% detached homes; 90% attached townhomes.

   (c) **Minimum driveway length measured from back of sidewalk** (front loading) or alley (rear loading) to face of garage, all units: 20 feet.

   (d) **Parking, all units:** A minimum two-car garage is required for each unit.

   (e) **Street trees:** 1 per lot.

   (f) **Dimensional requirements by lot type:** The following dimensional requirements and limitations shall apply to residential lots, and the maximum number of the 40-foot detached lots shall not exceed those shown in the Final Plan Book:

Residential Lot Type	Minimum Lot Size (sq. ft.)	Minimum Lot Width (ft.)	Minimum Front, Side, Major Side/Corner, Rear Building Setbacks (ft.)
60-foot Detached	6,100	60	15, 5, 7.5, 20
50-foot Detached	5,100	50	15, 5, 7.5, 20

40-foot Detached	4,100	40	15, 5, 7.5, 20
Attached (townhouses)	1,300	22	0, 0, 0,0

(g) **Minimum heated floor area per dwelling unit:** 1,600 square feet (townhouses); 1,600 square feet (one-story detached homes) 1,800 square feet (two-story detached homes)

(h) **Minimum separation between townhouse buildings:** 20 feet.

7. **Residential architectural elevations and external building material finishes.** The architectural style of homes shall be in general accordance with the renderings included in the Final Plan Book. Front facades of homes shall be constructed primarily (50% or more) of brick and/or stone. The sides and rear shall be the same or of fiber cement shake, siding, and/or board and batten.

8. **Residential development dimensional requirement not specified.** Where the Final Plan Book or these conditions of zoning fail to articulate a given regulation for residential development, such as accessory building setbacks and the like, the project shall be required to adhere to dimensional requirements of the MFR (Multi-family Residential) zoning district and general provisions of the Hoschton zoning ordinance, unless a variance is applied for and obtained.

9. **Commercial dimensional requirements.**

(a) **Maximum building height:** 40 feet.

(b) **Maximum building coverage (% of site area):** 80%

(c) **Principal building setbacks:** 20' front, 20' side, 20' rear.

(d) **Frontage landscape strip (width):** 10'.

(e) **Minimum tree canopy and minimum landscaped open space (% of lot):** 20%.

10. **Commercial architectural elevations and external building material finishes.** The owner/developer shall submit for City Council's consideration and approval, prospective front, side and rear elevations of commercial architecture included in the PUD, prior to issuance of a building permit for any such building. In addition, the owner/developer shall submit as a part of this package uniform standards and guidelines for commercial signage and PUD project entrances. Once approved the elevation drawings and standards and guidelines shall be binding on all builders and enforceable at the time of commercial building permit issuance.

11. **Commercial development dimensional requirement not specified.** Where the approved PUD application and these conditions of zoning fail to articulate a given regulation for commercial development, such as accessory building setbacks, maximum lot coverage, and the like, the project shall be required to adhere to dimensional requirements of the C-2 zoning district and general provisions of the Hoschton zoning ordinance, unless a variance is applied for and obtained.

12. **Internal subdivision street standards.** All local subdivision streets serving residential development within the PUD shall be required to meet or exceed the following requirements:
    (a) Minimum right of way width: 50 feet
    (b) Minimum pavement width: 26 feet as measured from back-of-curb to back-of-curb
    (c) Minimum centerline horizontal radius: 125 feet
    (d) Minimum alley right-of-way or access/utility easement width: 25 feet
    (e) Minimum alley pavement width: 18 feet
    (f) Rolled curbs shall be authorized
    (g) Sidewalk standards: Minimum sidewalk width: 5 feet; Minimum landscape strip between back of curb and sidewalk: 2 feet
    (h) Minimum radius for cul-de-sac right of way: 50 feet
    (i) Minimum radius for cul-de-sac roadway: 40 feet (measured to face of curb)
    (j) Hammerhead turnarounds shall be a permitted turnaround design, so long as they are less than 150 feet meeting Appendix D of the Fire Code

13. **Improvement of State Route 53.**

    (a) Prior to any final plat approval for the respective property with frontage, or prior to the issuance of a development permit in the case of commercial use, the owner/developer shall be required to install at owner/developer's expense improvements as may be required by the Georgia Department of Transportation (GDOT).

    (b) Unless otherwise approved by the GDOT, the entrances/exits onto SR 53 shall be limited to the number and shall be improved to the standards recommended by the traffic engineer in the traffic study submitted with the application for Development of Regional Impact (DRI) and the Planned Unit Development (PUD) zoning.

    (c) The owner/developer shall install a traffic signal at the PUD project entrance aligning with Crystal Lake Parkway, if and when warranted and approved by GDOT.

    (d) Construction of multi-use trail/Life Path. The owner/developer shall at no cost to the city construct an 8-foot wide multi-use path along the subject property's frontage on Highway 53.

14. **Sewage system lift station requirements.**

    (a) The PUD shall be designed so that there is no more than one sanitary sewer lift station to serve the entire development. In the event that it is impossible or impracticable to serve the entire development with a single sanitary sewer lift station, a second sanitary sewer lift station may be provided, if approved by the Director of the City of Hoschton Water and Utilities Department.

(b) The sewage lift station(s) shall be constructed by the owner/developer at no cost to the city, except as otherwise conditionally provided in this zoning condition.

(c) The sewage lift station shall be located on a lot with a minimum area of 10,000 square feet. Said lot shall have at least 30 feet of frontage on a public street and shall be deeded, in fee simple title to the city of Hoschton, within one year of final construction approval.

(d) After construction of the sewage lift station by the owner/developer and dedication to the city, if determined in the public interest by the city, the city may on its own initiative initiate a capital project to oversize the lift station to serve subsequent additional development upstream of the sewer lift station.

15. **Pedestrian connection to Sell's Mill Park.** Prior to the issuance of the final certificate of occupancy the owner/developer shall, if authorized by the county, construct a pedestrian connection from the PUD and its open space and pedestrian access network (i.e, trail network along Indian Creek) to county-owned Sell's Mill Park (Map/Parcel 114/ 003B). Said trail connection shall be provided as a natural surface (i.e., mulch or gravel) trail.

16. **Arbitration Panel Finding.** The City of Hoschton shall levy the Jackson County impact fees at the time of building permit issuance and remit the impact fees to Jackson County.

17. **Collection of Jackson County impact fees.** Collection of Jackson County impact fees as set forth in the preceding section shall be subject to the negotiation and finalization of an intergovernmental agreement between the City of Hoschton and Jackson County, in a form satisfactory to the City Council of the City of Hoschton.

18. **Sewer connection fees and capacity**.

(a) In order to have the capital funds needed to construct wastewater treatment plant capacity to serve the subject PUD, the city will, prior to and as a condition of preliminary plat approval require the owner/ developer to pay in advance of building permitting the amount of $6,330,000.00, which is the prepayment of sewer connection fees for the development of 1,055 residential units.

(b) The condition set forth in this section shall be further outlined in an agreement between the owner/developer and the City of Hoschton. As part of said agreement, the owner/developer shall acknowledge that the PUD project shall not be vested with rights to connect to sanitary sewer until the connection fees are paid and until an agreement between the owner/developer and the City of Hoschton as to this condition is approved and executed by both the owner/developer and the City of Hoschton.

19. Water line(s) serving the PUD.

(a) The owner/ developer shall at no cost to the city extend a water trunk main (size and type to be determined and approved by the city engineer) to the PUD and provide for all water lines necessary to serve the PUD with city water.

(b) The city engineer may require any such water lines to be looped for adequate water pressure.

(c) The city engineer may require any such water lines to be connected or interconnected to other water system components, including future water supplies and as may be determined appropriate and as may be required by these zoning conditions.

20. **Water supply.**

(a) The owner/ developer agrees to authorize the city to explore the subject property for potential tapping of groundwater supply via a public well or wells.

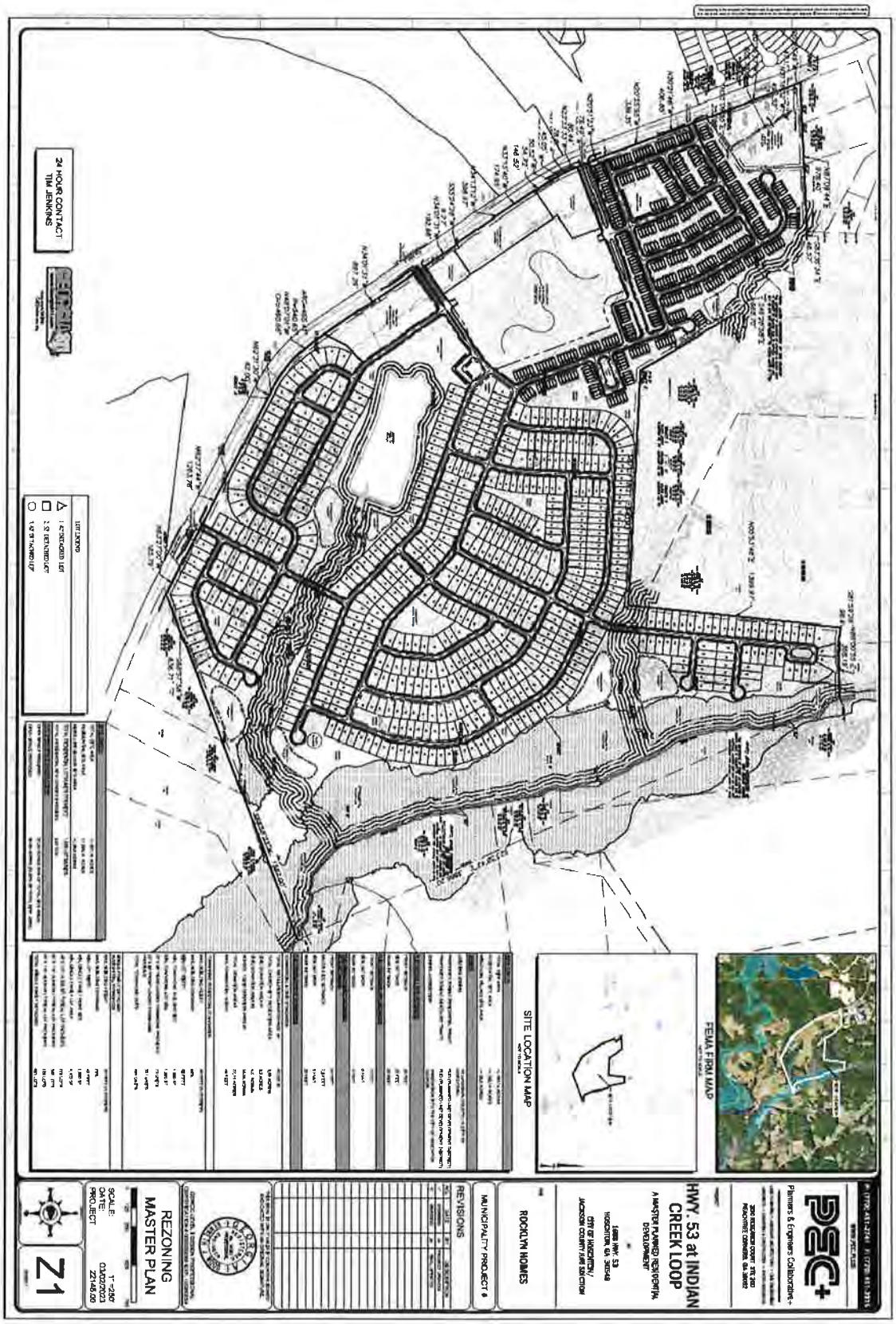
(b) If one or more well water sites are considered appropriate by the city and the owner/developer after such explorations or studies, the owner/ developer agrees to negotiate with the city in good faith for the dedication of such water well site(s) at no cost to the city or in exchange for reduction, waiver or credit of certain subsequent water connection fees.

(c) The city may require the participation of the owner/ developer in the construction of water well capital facilities in exchange for the reduction, waiver, or credit of subsequent water connection fees, subject to the approval of and acceptance by the owner/ developer.

(d) This condition shall be satisfied prior to the issue of any development permit involving connection to the city or other public water system.

21. Public street connection. To provide for a potential future public (local) through street connection, the owner/developer shall provide a publicly dedicated street right of way with a minimum 50-foot wide right of way and a local street with a pavement width of at least 26 feet from back of curb to back of curb within the Planned Unit Development, connecting SR 53 to the common property line between Map/Parcel 114/001B and 113/015A. The right of way shall extend to said common property line, and the pavement shall extend to within 25 feet of said common property line.

EXHIBIT "A": SITE PLAN



DEVELOPMENTS OF REGIONAL IMPACT

Final Report

Northeast Georgia Regional Commission • 305 Research Drive, Athens, Georgia • www.negrc.org

The Northeast Georgia Regional Commission (NEGRC) has completed its review of the following Development of Regional Impact (DRI). This report contains the NEGRC's assessment of how the proposed project relates to the policies, programs, and projects articulated in the Regional Plan and Regional Resource Plan. Also included is an assessment of likely interjurisdictional impacts resulting from the proposed development, as well as all comments received from identified affected parties and others during the fifteen-day comment period.

The materials presented in this report are purely advisory and under no circumstances should be considered as binding or infringing upon the host jurisdiction's right to determine for itself the appropriateness of development within its boundaries.

Transmittal of this DRI report officially completes the DRI process. The submitting local government may proceed with whatever final official actions it deems appropriate regarding the proposed project, but it is encouraged to take the materials presented in the DRI report into consideration when rendering its decision.

Project I.D.:	DRI #3960
Name of Project:	Seller's Mill Tributary
Name of Host Jurisdiction:	City of Hoschton

Background

DRI review was initiated following the developer's request for a rezoning and annexation into the City of Hoschton. Potentially affected parties were asked to submit comments on the proposal during the 15-day period of 6/8/2023–6/23/2023.

Proposed Development

Rocklyn Homes is proposing the construction of 200,000 square feet of commercial space, 6.6 acres of commercial outparcels, 16 gas pumps, 404 townhome units, 651 single-family lots, a church expansion, and 3.6 acres of civic space on a 286-acre site in unincorporated Jackson County, which the developer has requested to be annexed into the City of Hoschton. The proposed development would be located east of Highway 53 just south of the City of Hoschton's city limits and consists of parcel numbers 114 001A, 114 001B, and 114 002A. The project would be completed in one phase with an estimated completion date in 2032.

Commercial Area

The proposed commercial area would front Highway 53. Proposed commercial buildings include a 150,000-square-foot retail/restaurant/office building with a compactor, drive-through, and an unspecified number of parking spaces. The commercial area also includes a 50,000-square-foot retail building as well as 6.6 acres of commercial outparcels that are divided into 5 separate parcels. The site plan proposes constructing 16 fuel pumps in the southwest portion of the commercial parking area, and a large stormwater facility would be located north of the commercial buildings.

Townhome Area

The 404 proposed townhomes would be located to the north and the east of the proposed commercial area. This area includes a master amenity area, two pocket parks, three green space areas of differing sizes, and a stormwater facility.

Single-Family Residential Area

The 651 single-family lots would be located on the eastern portion of the site. Of these lots, 176 would be 4,500 square feet, 346 would be 5,500 square feet, and 129 would be 6,500 square feet. The developer has proposed six stormwater facilities, six pocket parks, a master amenity area, and four green space areas of differing sizes. The developer has proposed two stream crossings in this area. A pump station would be installed near the eastern end of the site, which will likely pump wastewater from the site to the new sewer main that will be built along Highway 53.

Other Proposed Development

The developer also proposes a 3.6-acre "civic area" along Highway 53 south of the commercial area. An existing church is located on the northernmost 2.5-acre parcel (parcel # 114 001A), and the developer has proposed an expansion of this church.

Site Transportation Improvements

The developer has proposed five separate entrances to the development from Highway 53. One entrance would serve the townhome community, one would serve the commercial area, and one would serve the single-family home area. The remaining two entrances would serve as general purpose access points and are located directly north and south of the commercial area.

Site Existing Conditions

Currently, the site is primarily open farmland with some forested areas. Two streams run through the site, and Indian Creek flows along the eastern boundary of the site area. The site plan shows the 100-year floodplain surrounding Indian Creek, and no development is proposed in this area. Numerous buildings including homes are in the southeast portion of the site, and these buildings would be demolished during construction. The site plan indicates an existing pond on the site, which would be retained.

Compatibility with Existing Plans

Jackson County has both a Future Land Use Map (dated 9/10/2020) and a Character Areas Map (dated 12/2/2020). The project site consists of four different Future Land Use designations and two different Character Area designations. The included Future Land Use and Character Areas designations as well as their definitions are provided in the tables below:

Project Area Future Land Use and Character Area Designations

		PARCELS				
	AREA DESIGNATIONS	114 001 A	114 001B	114 002A (AREA FRONTING GA-53)	114 002A (INSIDE FLOOD ZONE)	114 002A (REMAINING PORTION OUTSIDE FLOOD ZONE)
Future Land Use Areas	Public Institutional	X				
	Commercial		X	X		
	Parks/Recreation/Conservation				X	
	Agricultural/Forestry					X
Character Areas	Suburban	X	X	X		X
	Conservation				X	

Future Land Use and Character Area Designation Definitions

	AREA DESIGNATIONS	DEFINITION
Future Land Use Areas	Public Institutional	Federal, state, or local government uses, and a wide variety of institutional land uses
	Commercial	Land dedicated to non-industrial business uses, including retail sales, offices, services, and entertainment facilities
	Parks/Recreation/Conservation	Land dedicated to both active and passive recreation use
	Agricultural/Forestry	Predominately vacant or undeveloped land, but can also be used for low-density single-family residential land use
Character Areas	Suburban	Areas with an overarching principle of "neighborhood protection" and an overarching land use "predominantly residential but multiple uses permitted"
	Conservation	Areas with an overarching principle of "environmental protection"

The proposed project is mostly compatible with the Suburban and Conservation Character Area designations. However, the proposed development is incompatible with the Plan's Future Land Use descriptions in large areas of the site. This information is summarized in the table below:

Proposed Development's Compatibility with Jackson County's Future Land Use and Character Areas Maps

PARCEL	FUTURE LAND USE (FLU)	CHARACTER AREA (CA)	PROPOSED PROJECT'S COMPATIBILITY WITH DESIGNATIONS
114 001 A	Public Institutional	Suburban	The development's proposal of expanding the existing church on this parcel is fully compatible with the parcel's FLU and CA Designations.
114 001B	Commercial	Suburban	While the commercial component of this parcel is compatible with the Commercial FLU designation, the included residential use is not mentioned as an appropriate use. The proposed development on this parcel is consistent with the Suburban CA designation.

PARCEL	FUTURE LAND USE (FLU)	CHARACTER AREA (CA)	PROPOSED PROJECT'S COMPATIBILITY WITH DESIGNATIONS
114 002A (AREA FRONTING GA-53)	Commercial	Suburban	The proposed residential area fronting GA-53 is not consistent with this area's Commercial FLU. The proposed development is consistent with the Suburban CA designation.
114 002A (INSIDE FLOOD ZONE)	Parks/Recreation/ Conservation	Conservation	These areas are consistent with the FLU and CA, as no development is proposed in these areas.
114 002A (REMAINING PORTION OUTSIDE FLOOD ZONE)	Agriculture/ Forestry	Suburban	The proposed development in this area is not compatible with the Agriculture/Forestry FLU designation. The Comprehensive Plan states that in Agriculture/Forestry areas, "future buildings of dwellings or manufactured homes that are not farm-related is restricted, except for an allowance to subdivide a small number of small tracts over time for 'minor subdivisions.'" The proposed development conflicts with this description because the proposed residential development is not farm-related and is not a minor subdivision. The proposed residential development in this area is consistent with the Suburban CA designation.

On 6/15/23, the Northeast Georgia Regional Commission adopted its 5-year update to its regional plan. While this DRI's Comment package included information from the 2018 plan, this report will include the proposed development's compatibility with the most recent 2023 Regional Plan.

The site is identified as "Rural" on the Northeast Georgia Regional Plan's Regional Land Use Map (dated 2/14/2023). The Regional Plan recommends development that enhances economic mobility and competitiveness, elevates public health and equity, supports and adds value to existing communities, creates housing that is diverse, adequate, equitable, and affordable, includes transportation choices and is well-connected with existing and planned transportation options, and protects natural and historic resources. The table below summarizes the project's compatibility with these recommendations:

Proposed Development's Compatibility with the Northeast Georgia Regional Plan

REGIONAL PLAN RECOMMENDATIONS	PROPOSED PROJECT'S COMPATIBILITY WITH RECOMMENDATION
Enhances economic mobility and competitiveness	The applicant states that the regional work force is sufficient to fill the demand created for the proposed project.
Elevates public health and equity	The proposed development includes pocket parks, amenity areas, and a civic center, all of which positively contribute to the health of residents. To further elevate public health, the developer could cater the commercial area to businesses that promote public health including grocery stores, healthcare facilities, and other essential services.
Supports and adds value to existing communities	The proposed development preserves the existing church, which helps to support the existing community. It also includes a 3.7-acre "civic area." The developer could propose amenities in this area such as parks, community centers, or educational facilities that surrounding residents can enjoy and benefit from.

Regional Plan Recommendations	Proposed Project's Compatibility with Recommendation
Creates housing that is diverse, adequate, equitable, and affordable	The proposed development includes a variety of lot sizes and a mixture of single-family detached housing and townhomes, which would provide a range of housing prices in the area. However, the proposed townhomes and single-family detached homes are completely separated from one another. Mixing the housing types throughout the development would make the urban environment more varied and help create a more dynamic area.
Includes transportation choices and is well-connected with existing and planned transportation options	The proposed site plan does not include any information on infrastructure to encourage bicycling or walking around the project site. The developer should be sure to include sidewalks, crosswalks, and protected medians to provide pedestrians a safe way to travel around the site. Additionally, the proposal includes many large blocks, which could encourage unsafe driving speeds. The developer should consider adding traffic calming measures such as speed humps, median islands, and chicanes to slow traffic or other traffic calming measures of appropriate scale to slow traffic. Additionally, the proposed site development's road network is completely insular and includes no road stubs to future surrounding developments. As the surrounding area develops, GA-53 will become more congested, so providing alternative exits and entries to the site would help ease congestion in the area. The City should consider requiring road stubs along the northern edge of the site that future developments can connect to so that a cohesive expansion of services and the transportation network can be achieved.
Protects natural and historic resources	The proposed development does not directly infringe on any flood-prone areas. However, many proposed parcels are positioned in front of the 100-year floodplain, riparian areas, and stormwater facilities. Parcels that are in front of these areas should have extended rear parcel setbacks. This will help prevent flooding damage, especially if the current trend of increasingly frequent severe storms continues. It will also help mitigate the impacts of development on these natural areas.

Potential Interjurisdictional Impacts

The applicant states that the proposed development has the potential to impact floodplains in the area, but that land planning would be designed around floodplains so that they would not be affected. The applicant states that the project is unlikely to affect all other environmental quality factors identified on the DRI Additional Form, including water supply watersheds, groundwater recharge areas, wetlands, protected mountain and river corridors, historic resources, and other environmentally sensitive resources.

The National Wetland Inventory (NWI) identifies 23 wetland acres onsite, and 229 wetland acres are located within one mile of the site. The Northeast Georgia Regional Plan's Conservation and Development Map (dated 2/14/2023) identifies 28 acres of "Conservation" land onsite and 250 acres of "Conservation" land within one mile of the site. This "Conservation" land includes zero acres of Regionally Important Resource land onsite and 9 acres of RIR land within one mile of the site.

An estimated 55% of the site would be covered in impervious surfaces, and eight retention ponds are planned to manage stormwater runoff. The proposal should be designed to minimize disruption to the existing streams, associated wetlands, and floodplains to avoid future erosion, flooding, and degraded water quality onsite and downstream from the site. Low impact design measures, like bioswales, rain gardens, and other green infrastructure should be incorporated into the project design. At minimum, the project should be in accordance with the latest edition of the Georgia Stormwater Management Manual (Blue Book) and meet all relevant EPD requirements.

A&R Engineering Inc. completed a traffic impact study that projects 19,241 new daily trips, including 1,045 AM peak hour trips and 1,581 PM peak hour trips from the proposed development. In addition to the five proposed entrances, the engineer recommends improvements to existing intersections surrounding the site. The engineer recommends adding two separate right turn lanes and a separate left turn at the existing intersection of SR 53 at Jackson Trail Road and adding a traffic signal at the existing intersection of SR 53 at Bill Watkins Road. The engineer also recommends adding a traffic signal at the new intersection of SR 53 at Burton Drive/Site Driveway 2, which would connect to an entrance to the residential subdivision across the street.

The project would be served by the City of Hoschton's water and sewer systems with an estimated daily demand of 0.45 MGD for each system. The City anticipates that it would need to expand both its water supply capacity and its wastewater treatment capacity to service the project. The city is actively studying groundwater availability and considering raw water purchases from adjacent and nearby local governments to meet future water demands. The city is also currently upgrading its sewage treatment plant. A 1,000-foot extension of both water and sewer lines would be needed to service the project. The project would also require building a regional pump station to pump wastewater to the City's existing sewer line.

The applicant estimates the project would generate 1,050 tons of solid waste per year and that sufficient landfill capacity exists to handle this waste. According to the Northeast Georgia Regional Solid Waste Authority's Regional Solid Waste Management Plan (2021-2031), almost all municipal solid waste (MSW) generated in Jackson County is disposed of in a landfill in Banks County. The applicant states that no hazardous waste would be generated.

The applicant estimates that the project would be worth $526 million at build-out in 2026 and generate $20 million in annual local taxes. On a per-acre basis, the project would be worth approximately $1.84 million and generate approximately $69,930 in annual tax revenue. Prior to approval, the City should measure the life cycle costs of the infrastructure needed to serve this project to ensure that they would not be committing to more maintenance expenses than the new tax revenue can cover.

Comments from Affected Parties

Alan Hood, Airport Safety Data Program Manager, Georgia Department of Transportation

This proposal is 7.1 miles from the nearest open-to-the-public airport, and is located outside of any FAA approach or departure surfaces, and airport compatible land use areas, and does not appear to impact any airport.

However, if any construction or construction equipment reaches 200' AGL or more, an FAA Form 7460-1 must be submitted to the Federal Aviation Administration. That may be done online at https://oeaaa.faa.gov. The FAA must be in receipt of the notification, no later than 120 days prior to construction. The FAA will evaluate the potential impact of the project on protected airspace associated with the airports and advise the proponent if any action is necessary.

DRI TRAFFIC STUDY
FOR
SR 53 AND JACKSON TRAIL ROAD
MIXED-USE DEVELOPMENT

JACKSON COUNTY, GEORGIA

Prepared for:

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April 28, 2023
A & R Project # 23-039

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1.0 INTRODUCTION

The purpose of this study is to determine the traffic impact from the proposed mixed-use development that will be located east of SR 53 in Jackson County, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development.

The proposed development will consist of:

- Single-Family Detached Housing: 651 Units
- Single-Family Attached Housing (Townhomes): 404 Units
- Shopping Plaza (40-150k): 130,000 SF
- Supermarket: 60,000 SF
- Fast Casual Restaurant: 5,000 SF
- Fast-Food Restaurant with Drive-Through Window: 5,000 SF
- Gasoline/Service Station: 16 Pumps

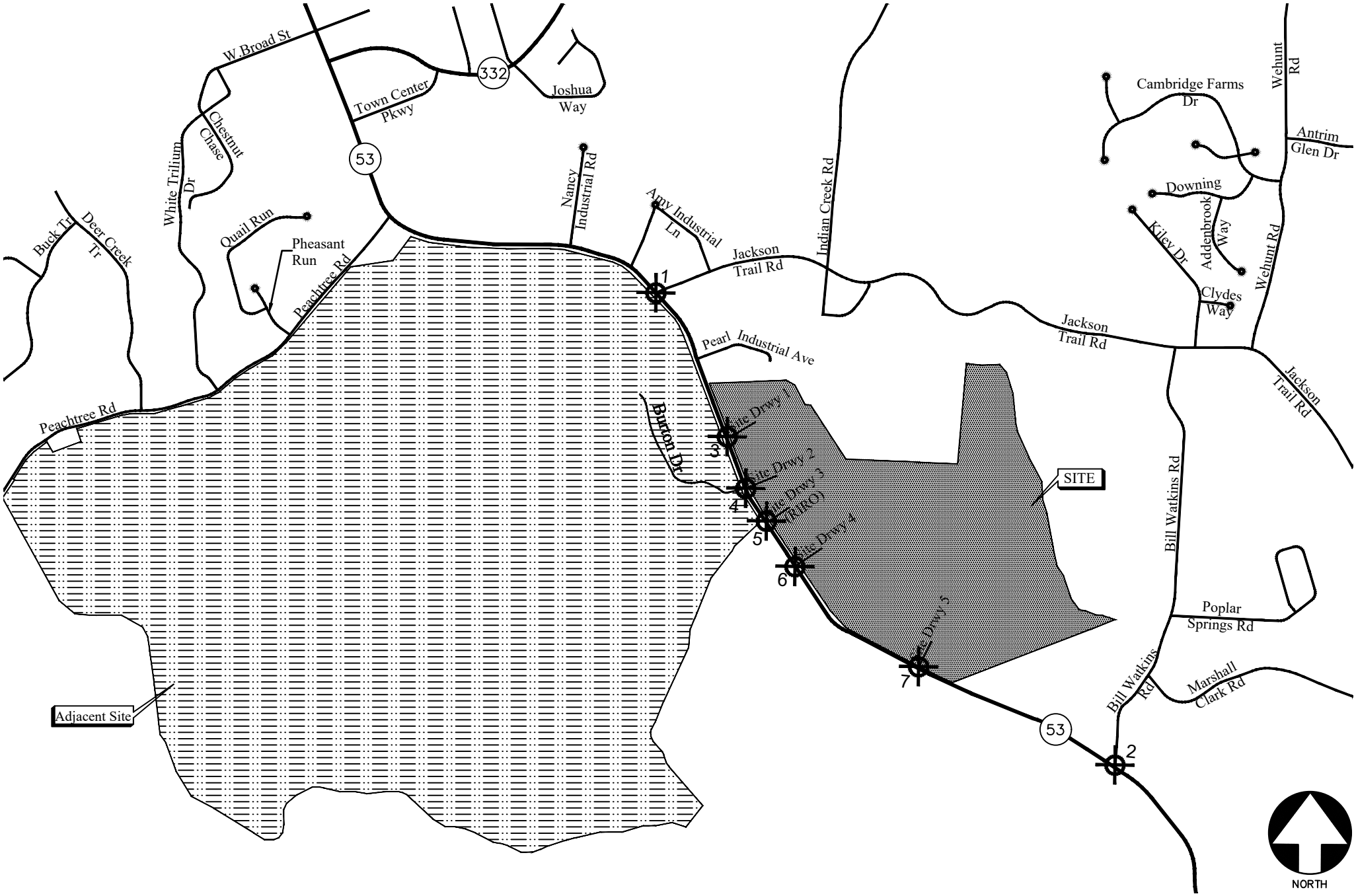
The development proposes access at the following locations:

- Site Driveway 1: Full access northernmost driveway on SR 53
- Site Driveway 2: Full access driveway on SR 53 aligned with Burton Drive
- Site Driveway 3: Right-in/right-out middle driveway on SR 53
- Site Driveway 4: Full access driveway on SR 53
- Site Driveway 5: Full access southernmost driveway on SR 53

The AM and PM peak hours have been analyzed in this study. In addition to the site access points, this study includes the evaluation of traffic operations at the intersections of:

1. SR 53 at Jackson Trail Road
2. SR 53 at Bill Watkins Road

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report. The location of the development and the surrounding roadway network are shown in Figure 1.



LOCATION MAP

FIGURE 1

A&R Engineering Inc.

2.0 EXISTING FACILITIES / CONDITIONS

2.1 Roadway Facilities

The following is a brief description of each of the roadway facilities located in proximity to the site:

2.1.1 Jackson Trail Road

Jackson Trail Road is an east-west, two-lane, undivided roadway with a posted speed limit of 55 mph in the vicinity of the site.

2.1.2 SR 53

SR 53 is a north-south, two-lane, undivided roadway with a posted speed limit of 55 mph in the vicinity of the site. GDOT traffic counts (Station ID 157-0257) indicate that the daily traffic volume on SR 53 in 2021 was 9,240 vehicles per day south of Jackson Trail Road. GDOT classifies SR 53 as a minor arterial roadway.

2.1.3 Bill Watkins Road

Bill Watkins Road is an east-west, two-lane, undivided roadway with a posted speed limit of 40 mph in the vicinity of the site. GDOT traffic counts (Station ID 157-8085) indicate that the daily traffic volume on SR 53 in 2021 was 2,290 vehicles per day north of SR 53. GDOT classifies Bill Watkins Road as a local rural roadway.

3.0 STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 6th edition (HCM 6). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

3.1 Unsignalized Intersections

For unsignalized intersections controlled by a stop sign on minor streets, the level-of-service (LOS) for motor vehicles with controlled movements is determined by the computed control delay according to the thresholds stated in Table 1 below. LOS is determined for each minor street movement (or shared movement), as well as major street left turns. LOS is not defined for the intersection as a whole or for major street approaches. The LOS of any controlled movement which experiences a volume to capacity ratio greater than 1 is designated as "F" regardless of the control delay.

Control delays for unsignalized intersections include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the control delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from "A" through "F". Level-of-service "A" indicates excellent operations with little delay to motorists, while level-of-service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross the main road without experiencing long delays.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	**v/c > 1.0**
≤ 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

*The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection.

Source: Highway Capacity Manual, 6th edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

3.2 Signalized Intersections

According to HCM procedures, LOS can be calculated for the entire intersection, each intersection approach, and each lane group. HCM uses control delay alone to characterize LOS for the entire

intersection or an approach. Control delay per vehicle is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Both control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. A volume-to-capacity ratio of 1.0 or more for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

Table 2 below summarizes the LOS criteria from HCM for motorized vehicles at signalized intersection.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Control Delay (sec/vehicle) *	LOS for Lane Group by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	**v/c > 1.0**
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

*For approach-based and intersection wide assessments, LOS is defined solely by control delay

Source: Highway Capacity Manual, 6th edition, Exhibit 19-8 *LOS Criteria: Motorized Vehicle Mode*

LOS A is typically assigned when the volume-to-capacity (v/c) ratio is low and either progression is exceptionally favorable, or the cycle length is very short. LOS B is typically assigned when the v/c ratio is low and either progression is highly favorable, or the cycle length is short. However, more vehicles are stopped than with LOS A. LOS C is typically assigned when progression is favorable, or the cycle length is moderate. Individual *cycle failures* (one or more queued vehicles are not able to depart because of insufficient capacity during the cycle) may begin to appear at this level. Many vehicles still pass through the intersection without stopping, but the number of vehicles stopping is significant. LOS D is typically assigned when the v/c ratio is high and either progression is ineffective, or the cycle length is long. There are many vehicle-stops and individual cycle failures are noticeable. LOS E is typically assigned when the v/c ratio is high, progression is very poor, the cycle length is long, and individual cycle failures are frequent. LOS F is typically assigned when the v/c ratio is very high, progression is very poor, the cycle length is long, and most cycles fail to clear the queue.

4.0 EXISTING 2021 TRAFFIC ANALYSIS

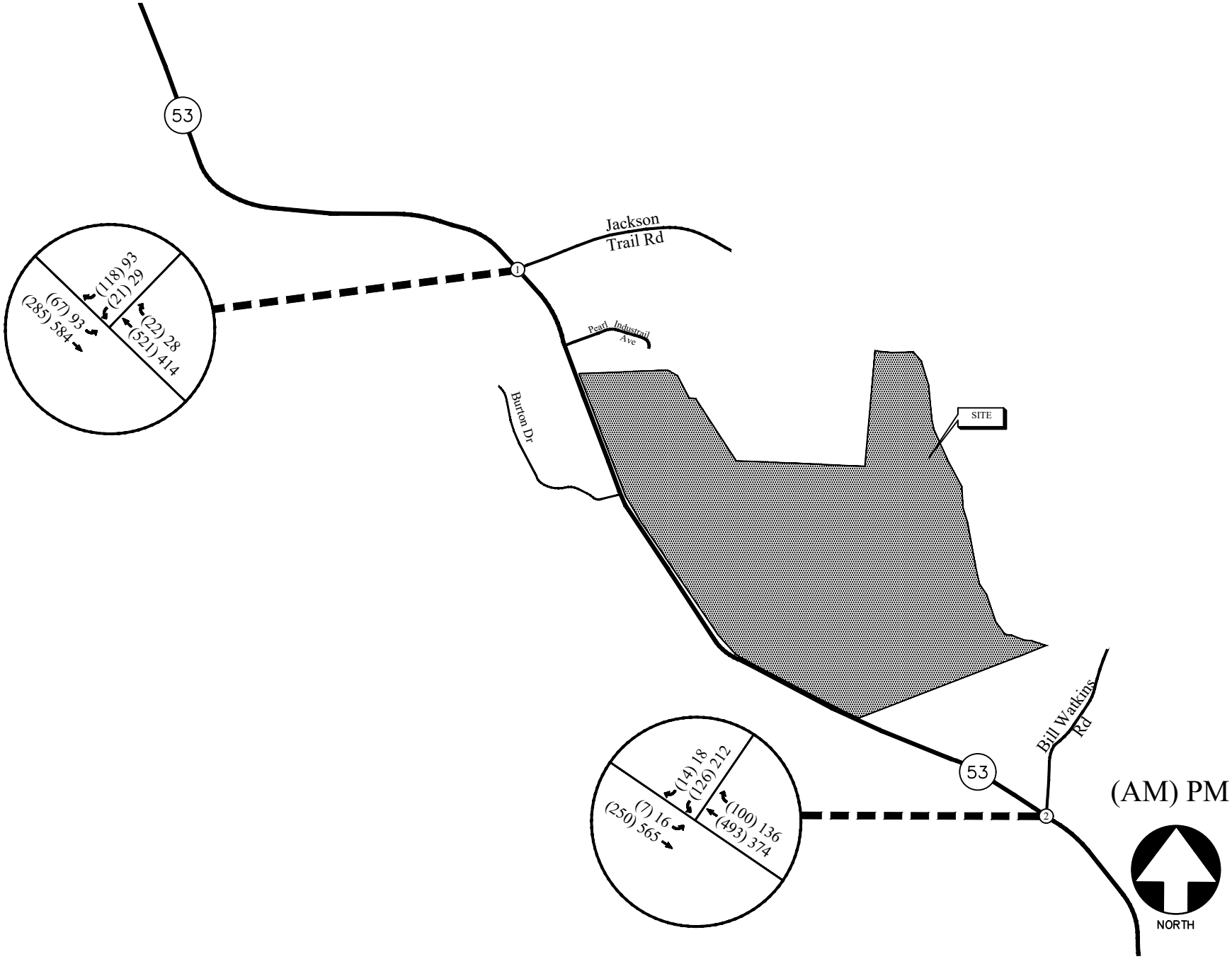
4.1 Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersections:

1. SR 53 at Jackson Trail Road
2. SR 53 at Bill Watkins Road

Turning movement counts were collected on Thursday, March 30, 2023. All turning movement counts were recorded during the AM and PM peak hours between 7:00 am to 9:00 am and 4:00 pm to 6:00 pm, respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2.

The existing traffic control and lane geometry for the intersections are shown in Figure 3.



EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2

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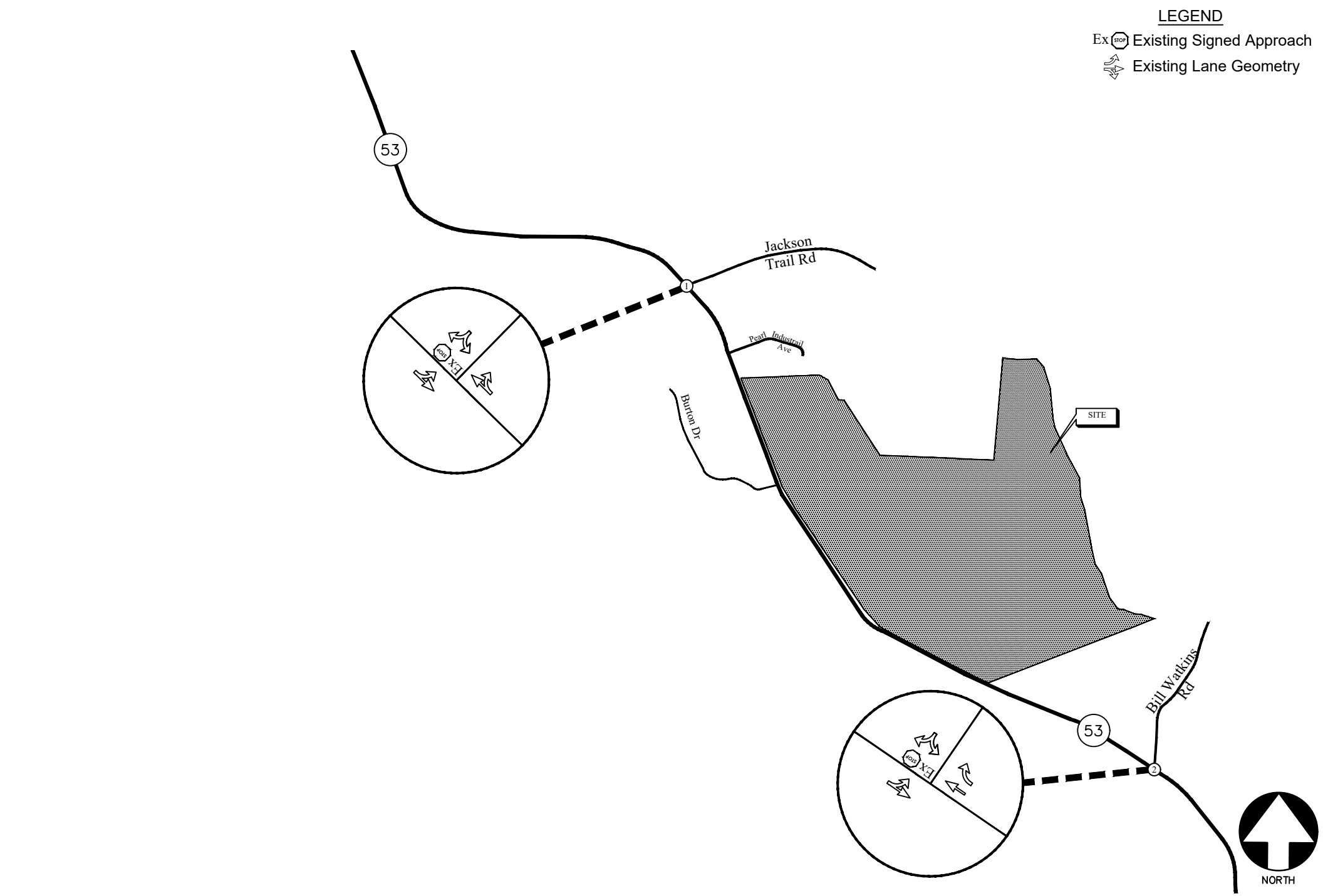

EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3

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4.2 Existing Traffic Operations

Existing 2023 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses are shown in Table 3.

TABLE 3 – EXISTING INTERSECTION OPERATIONS

Intersection		Traffic Control	LOS (Delay)	
			AM Peak Hour	PM Peak Hour
1	**SR 53 @ Jackson Trail Road** -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	C (18.5) A (9.1)	C (24.4) A (8.8)
2	**SR 53 @ Bill Watkins Road** -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	D (23.9) A (9.1)	F (89.2) A (8.7)

The results of the existing traffic operations analysis indicate that the stop-controlled approaches at both unsignalized intersections are operating at a level-of-service "D" or better in the AM and PM peak hours, with the exception of the westbound approach (Bill Watkins Road) at intersection 2 which is operating at a level-of-service "F" in the PM peak hour.

5.0 PROPOSED DEVELOPMENT

The proposed development will consist of:

- Single-Family Detached Housing: 651 Units
- Single-Family Attached Housing (Townhomes): 404 Units
- Shopping Plaza (40-150k): 130,000 SF
- Supermarket: 60,000 SF
- Fast Casual Restaurant: 5,000 SF
- Fast-Food Restaurant with Drive-Through Window: 5,000 SF
- Gasoline/Service Station: 16 Pumps

The development proposes access at the following locations on SR 53:

- Site Driveway 1: Full access northernmost driveway on SR 53
- Site Driveway 2: Full access driveway on SR 53 aligned with Burton Drive
- Site Driveway 3: Right-in/right-out middle driveway on SR 53
- Site Driveway 4: Full access driveway on SR 53
- Site Driveway 5: Full access southernmost driveway on SR 53

A site plan is shown in Figure 4.

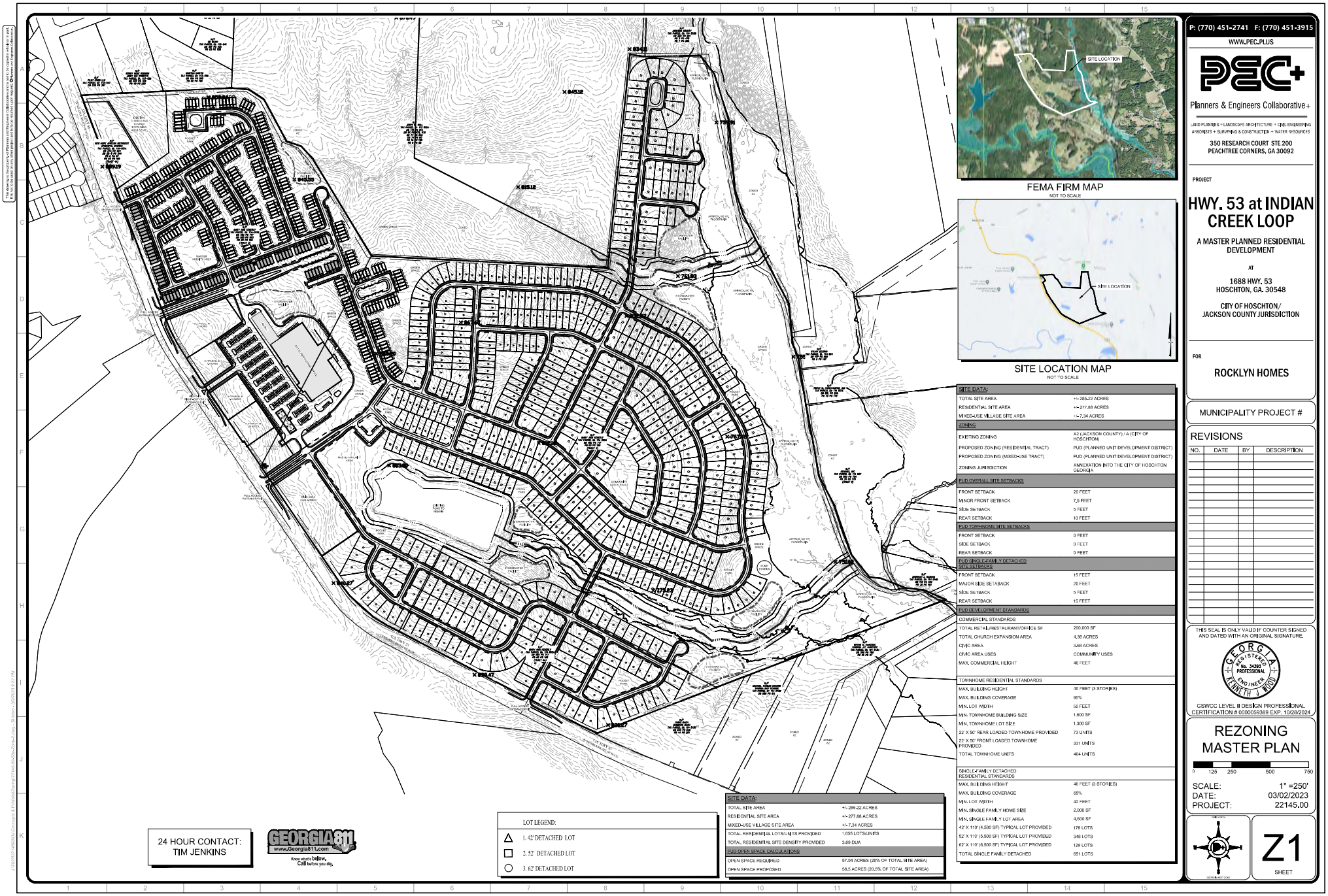


Figure 4 – Site Plan

5.1 Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 10th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Uses: *210 – Single-Family Detached Housing, 215 – Single-Family Attached Housing, 821 – Shopping Plaza (40-150k), 850 – Supermarket, 930 – Fast Casual Restaurant, 934 – Fast-Food Restaurants with Drive-Through Window and 944 – Gasoline/Service Station*. The calculated total trip generation for the proposed development is shown in Table 4.

TABLE 4A – TRIP GENERATION FOR PROPOSED DEVELOPMENT

Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Total
ITE 210 - Single-Family Detached Housing	651 Units	102	308	410	364	214	578	5,655
Mixed-Use Reduction		-26	-25	-51	-63	-47	-110	-1260
ITE 215 - Single-Family Attached Housing	404 Units	51	153	204	141	97	238	3,028
Mixed-Use Reduction		-14	-13	-27	-33	-25	-58	-674
ITE 821 – Shopping Plaza (40-150k) – Supermarket - No	130,000 SF	139	86	225	331	344	675	8,778
Mixed-Use Reduction		-18	-19	-37	-34	-46	-80	-917
Pass-by Trips (0%) 40%		0	0	0	-119	-119	-238	-2,380*
ITE 850 – Supermarket	60,000 SF	101	71	172	256	255	511	5,543
Mixed-Use Reduction		-11	-12	-23	-22	-29	-51	-579
Pass-by Trips (0%) 24%		0	0	0	-56	-54	-110	-1,110*
ITE 930 – Fast Casual Restaurant	5,000 SF	4	3	7	41	33	74	486
Mixed-Use Reduction		-1	-1	-2	-2	-3	-5	-51
ITE 934 – Fast-Food Restaurants with Drive-Through Window	5,000 SF	114	109	223	86	79	165	2,337
Mixed-Use Reduction		-5	-5	-10	-9	-12	-21	-244
Pass-By Trips (50%) 55%		-55	-52	-107	-42	-37	-79	-790*
ITE 944 – Gasoline/Service Station	16 Pumps	82	82	164	111	112	223	2,752
Mixed-Use Reduction		-5	-5	-10	-10	-14	-24	-268
Pass-By Trips (63%) 57%		-49	-49	-98	-58	-56	-114	-1,140*
Total Trips without Reductions		**593**	**813**	**1,406**	**1,330**	**1,134**	**2,464**	**28,579**
Total Trips with Reductions		**411**	**634**	**1,045**	**884**	**697**	**1,581**	**19,241**

*Daily pass-by volume reduction estimated to be ten times the PM pass-by volume

5.2 Trip Distribution

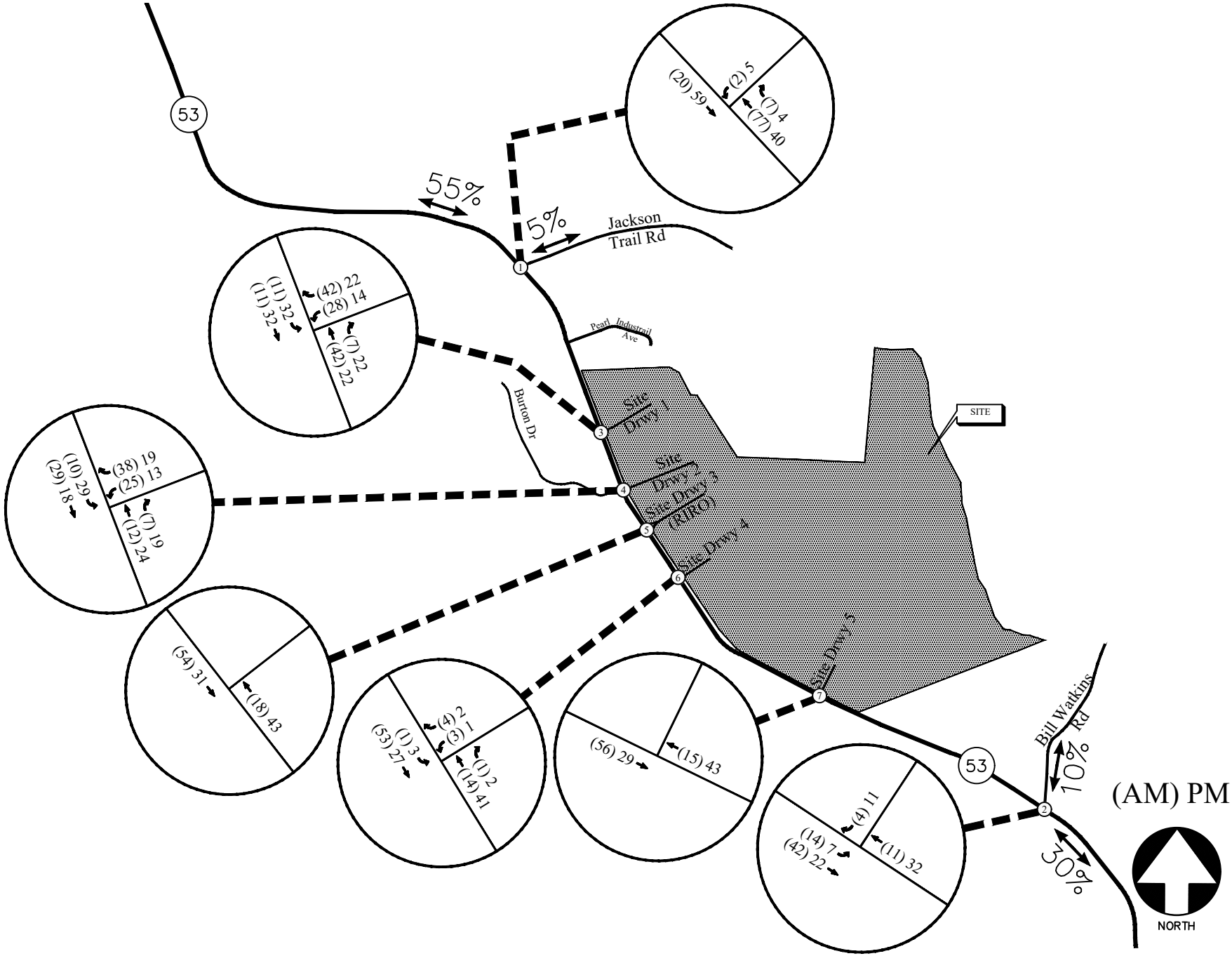
The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, shown in Table 4, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site for attached homes, detached homes and commercial use buildings are shown in Figure 5, Figure 6, and Figure 7, respectively. Total site generated trips are shown in Figure 8. Pass-by volumes have also been distributed based on existing travel patterns and are shown in Figure 9.

5.2.1 Adjacent Planned Development – Twin Lakes Residential Development on SR 53

The Twin Lakes community is an under-construction residential development that is being built to the west of SR 53, across from the planned location of the proposed mixed-use development. It will consist of 2,600 single-family homes and be accessible from four driveways along SR 53 to the east and Peachtree Road to the west. The southeastern Twin Lakes site driveway has been recently completed and is located across from the planned location of site driveway 2 for the proposed mixed-use development. Projected traffic volumes entering/exiting the adjacent development via Burton Drive was included in the analysis of the future "No Build" and "Build" conditions and the traffic volumes are shown in Figure 10. An assumed 30% of overall adjacent site-generated traffic was assigned to Burton Drive based on its location relative to the Twin Lakes homes and other three site driveways. The calculated total trip generation for the adjacent development is shown in Table 4B.

TABLE 4B – TRIP GENERATION (ADJACENT SITE)

Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-Way
ITE 210 – Single-Family Detached Housing	2,600 Units	361	1,084	1,445	1,339	786	2,125	20,216
30% of Traffic from Adjacent Site		**108**	**325**	**434**	**402**	**236**	**638**	**6,065**



TRIP DISTRIBUTION AND NEW SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (ATTACHED HOMES)

FIGURE 5

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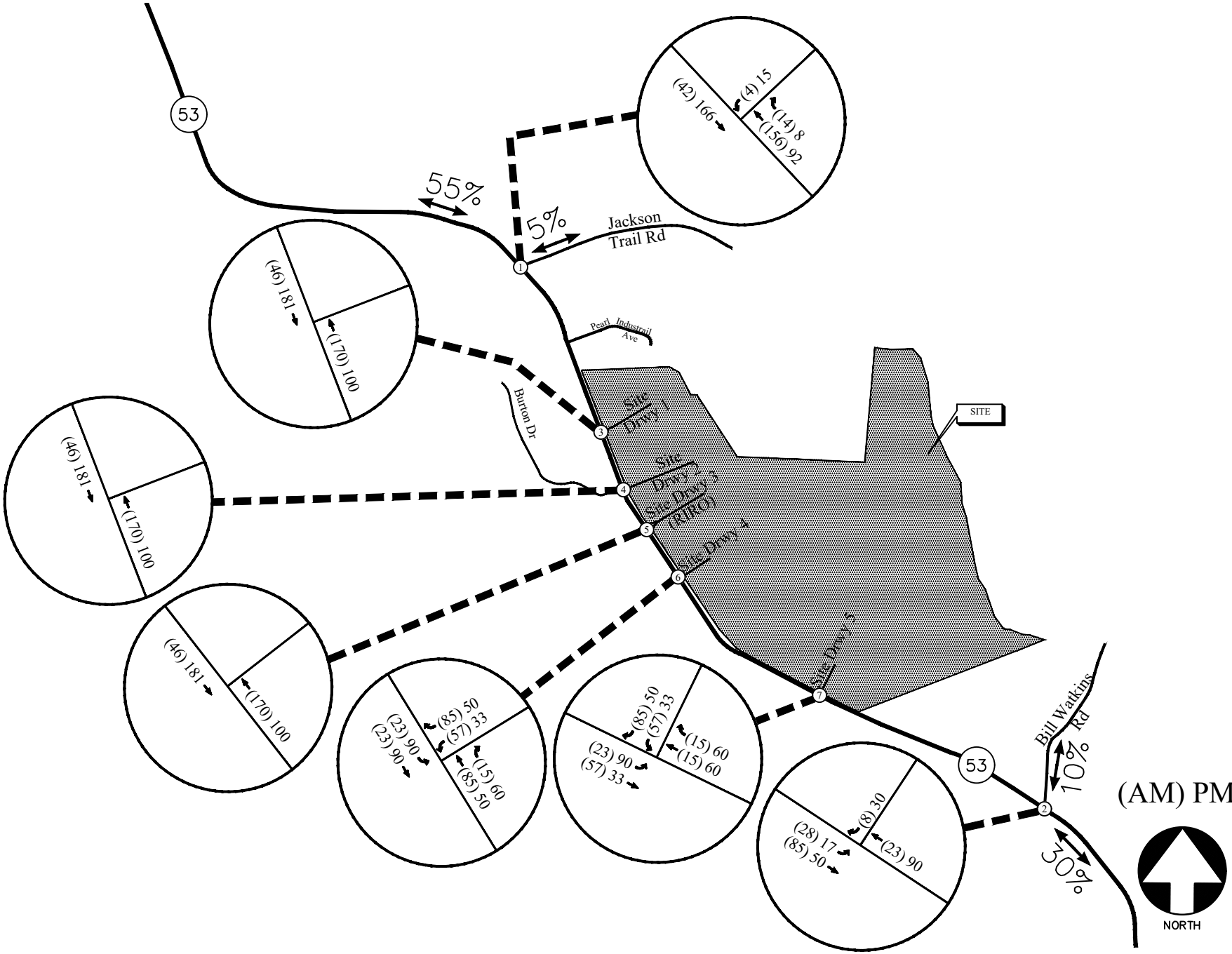
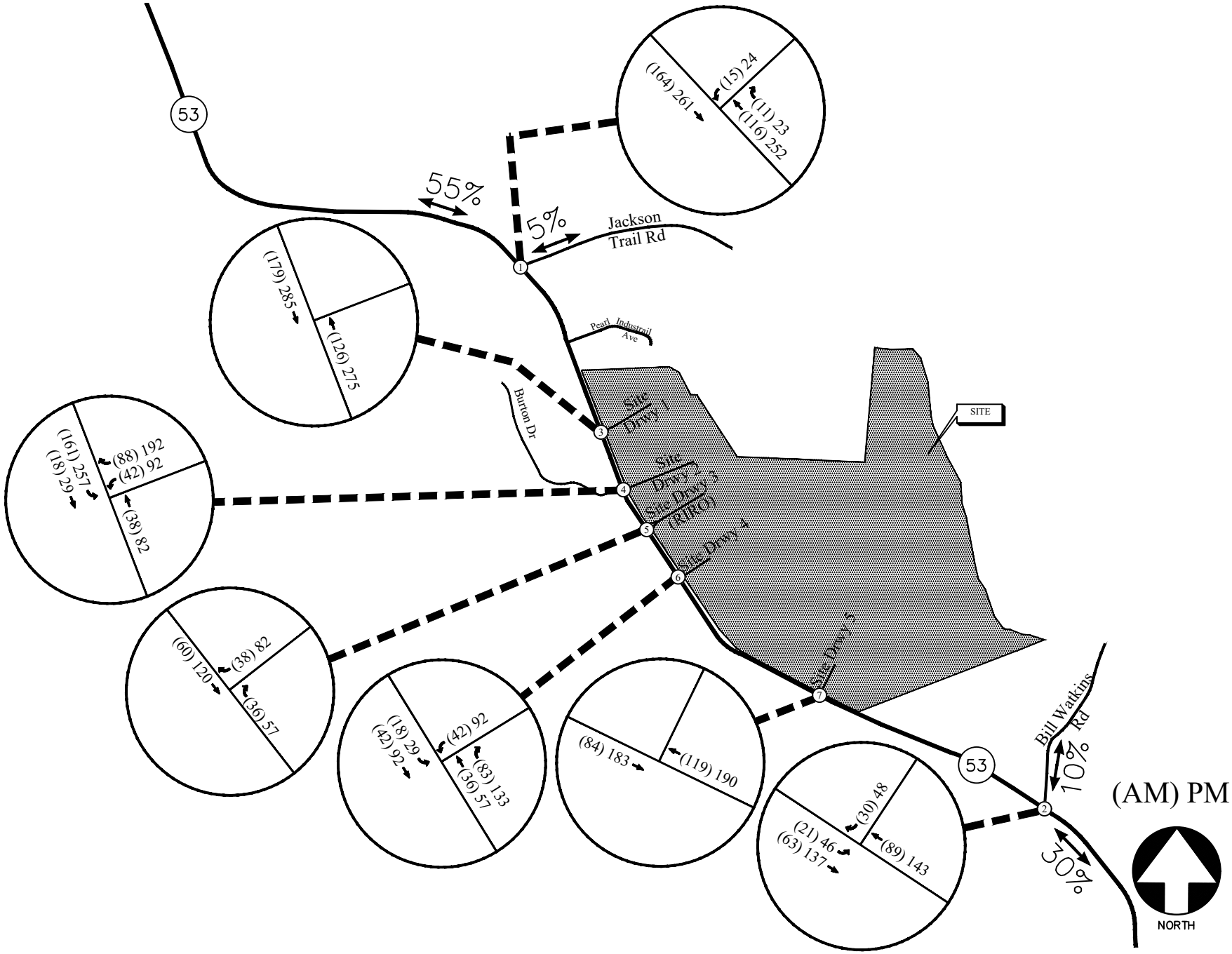


TRIP DISTRIBUTION AND NEW SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES
(DETACHED HOMES)

FIGURE 6

A&R Engineering Inc.



TRIP DISTRIBUTION AND NEW SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (COMMERCIAL)

FIGURE 7

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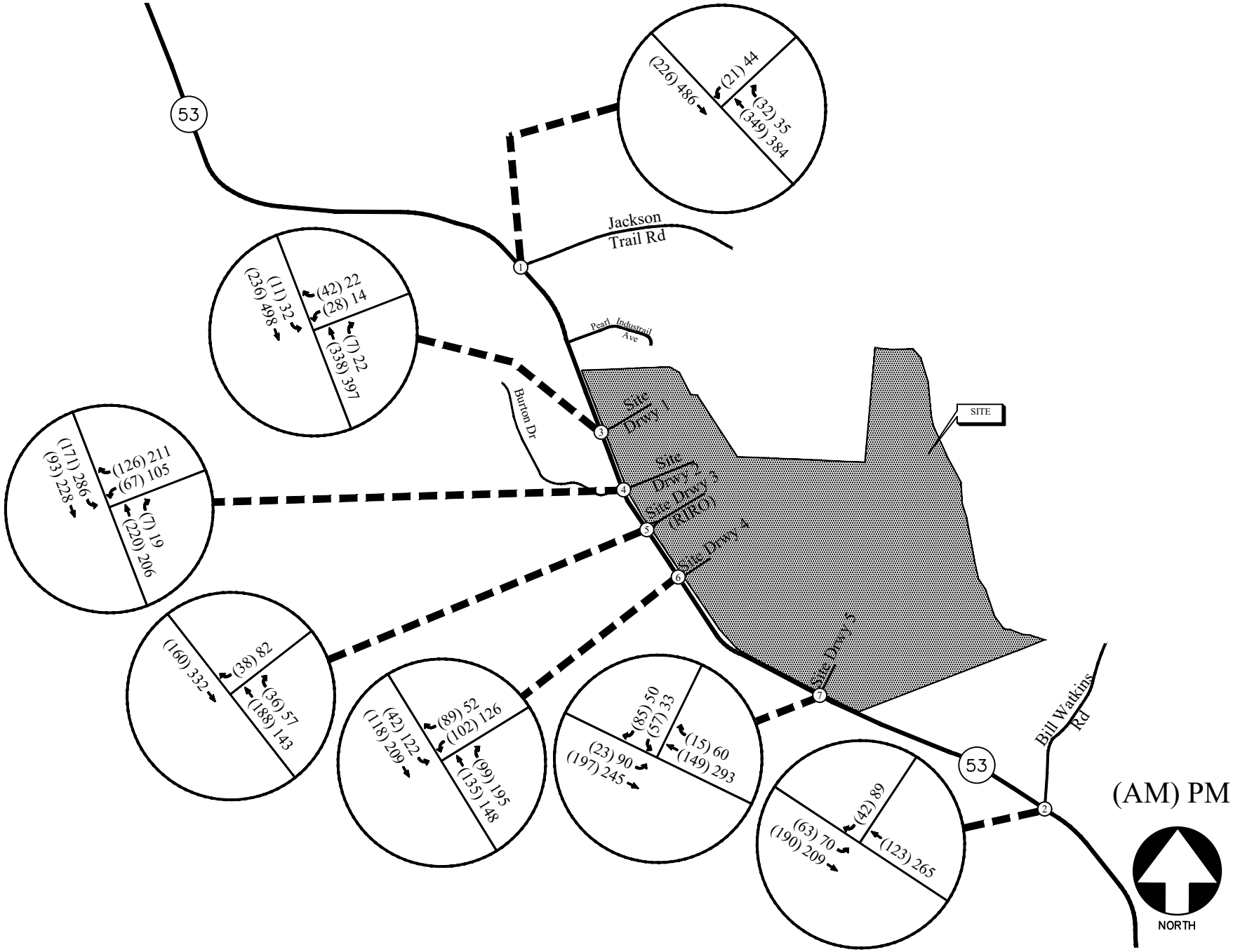
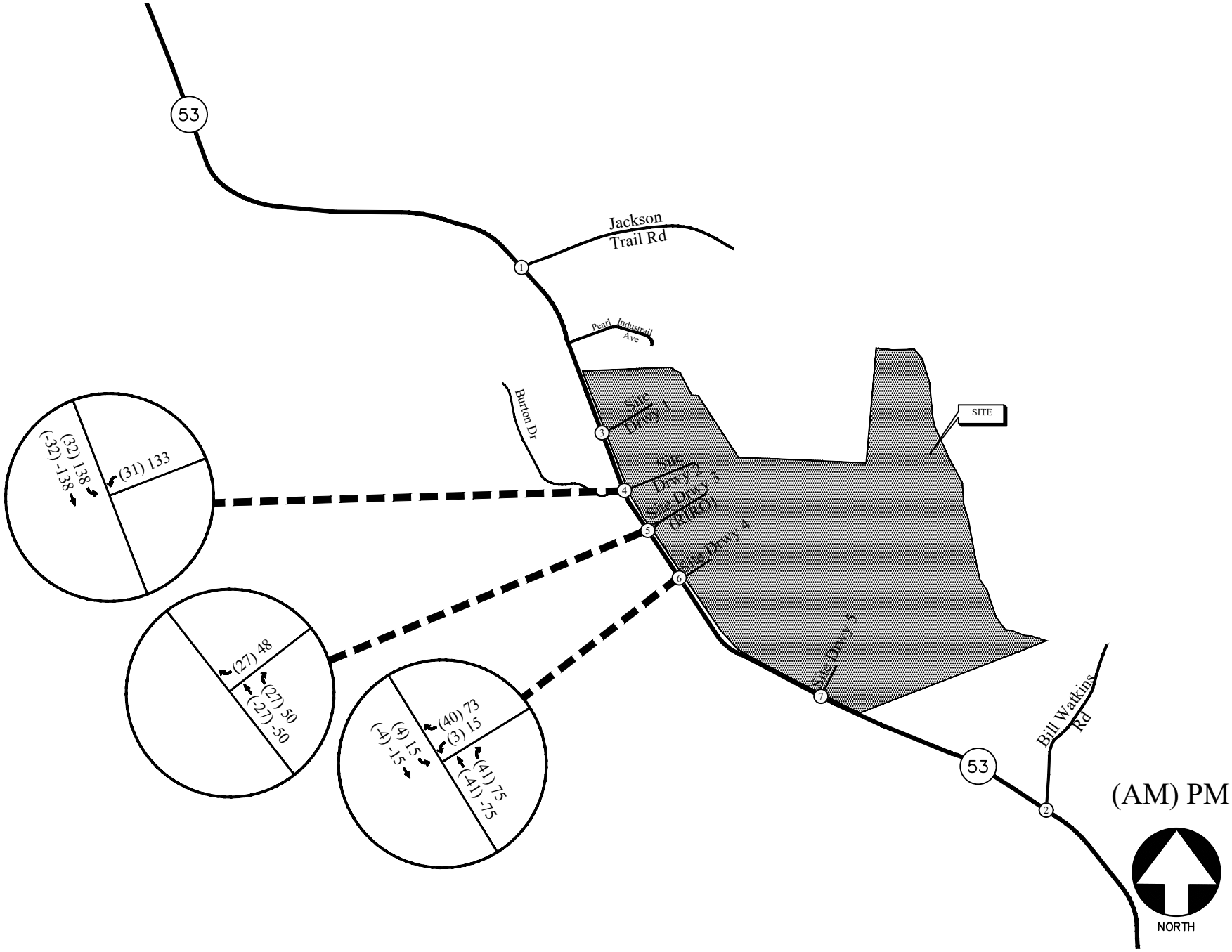


TOTAL SITE GENERATED PEAK HOUR VOLUMES

FIGURE 8

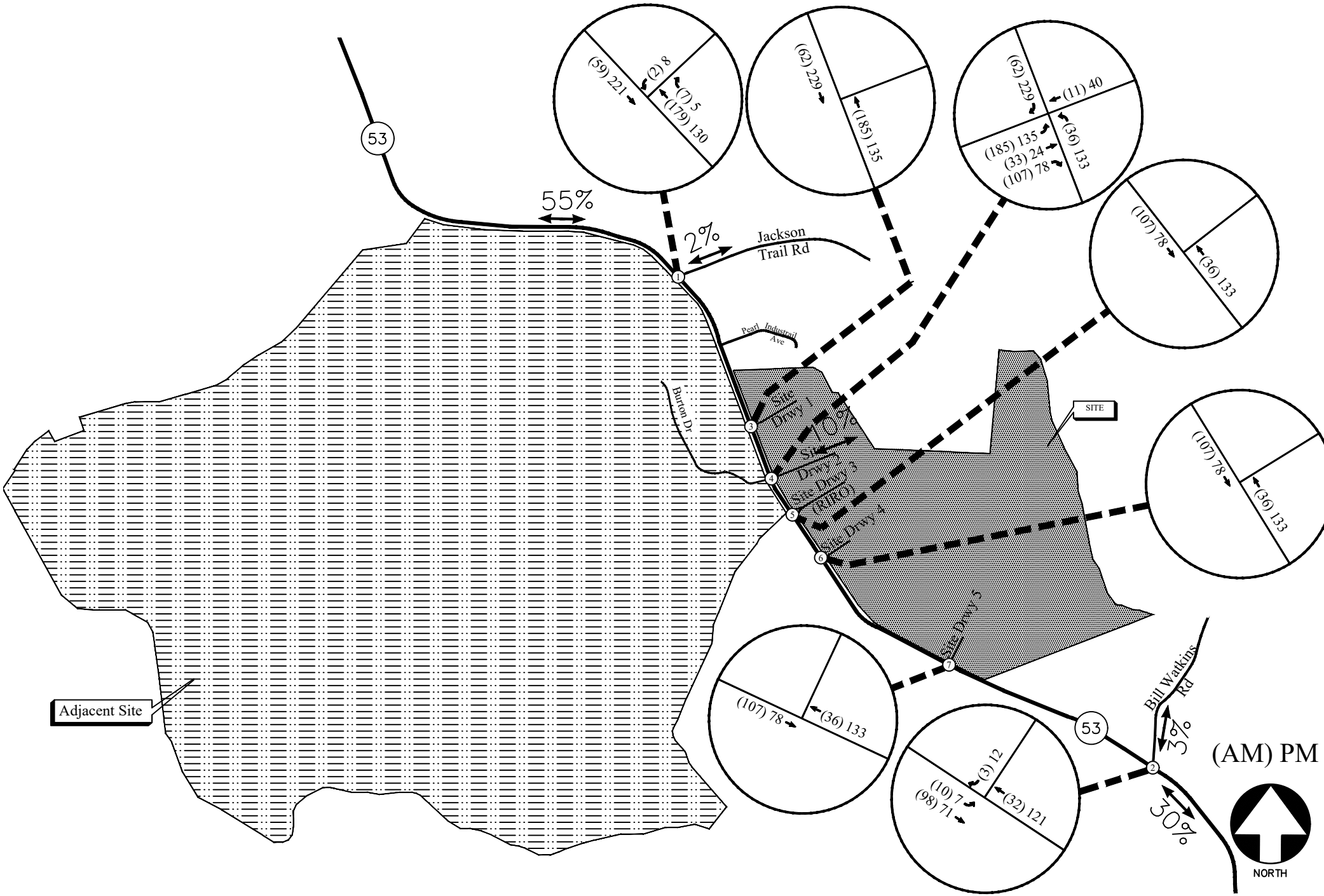
A&R Engineering Inc.



SITE PEAK HOUR PASS-BY VOLUMES

FIGURE 9

A&R Engineering Inc.



ADJACENT SITE VOLUMES

FIGURE 10

A&R Engineering Inc.

6.0 FUTURE 2025 TRAFFIC ANALYSIS

The future 2025 traffic operations are analyzed for the "Build" and "No-Build" conditions.

6.1 Future "No-Build" Conditions

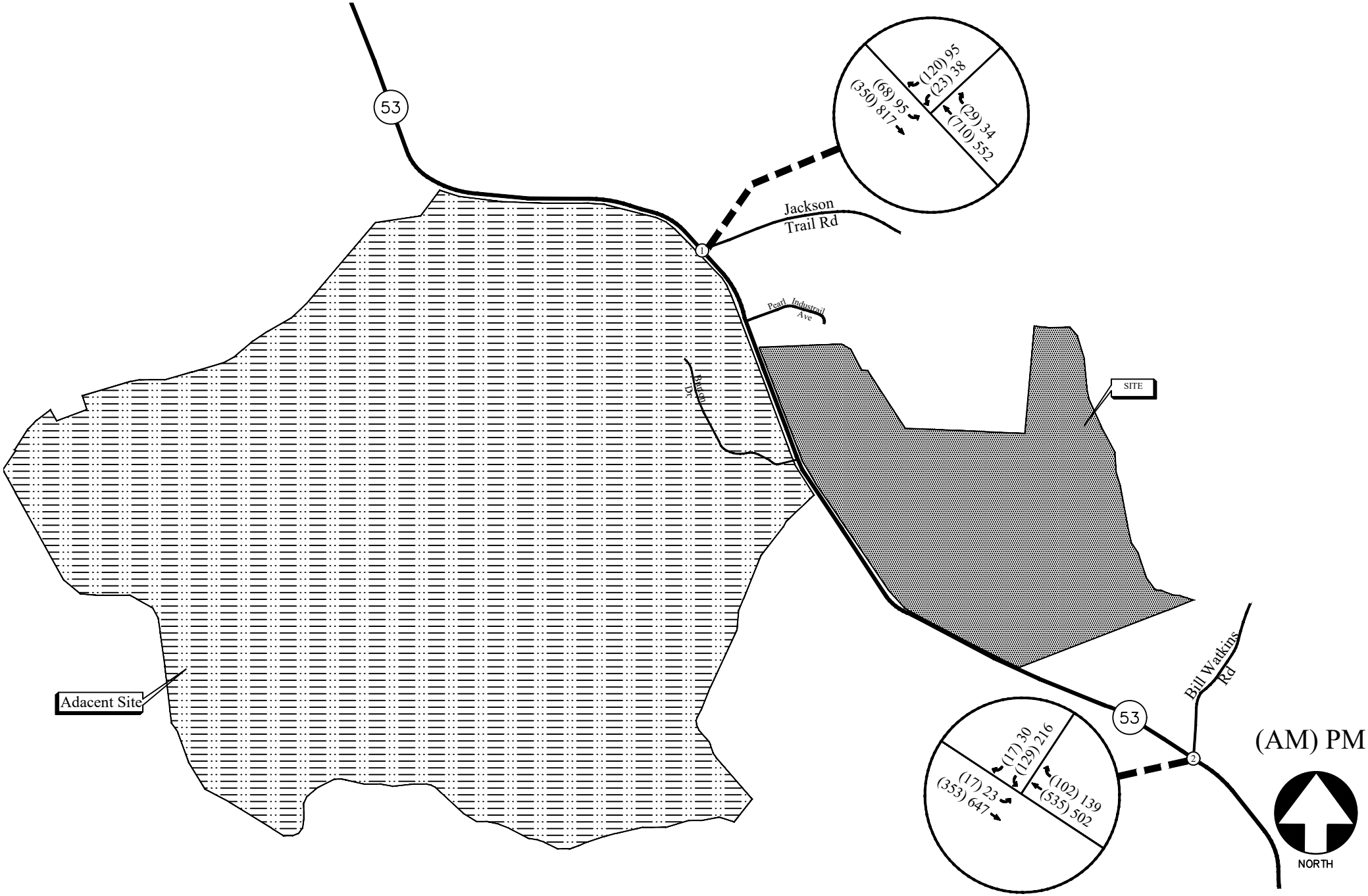
The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of through traffic. The resulting Future "No-Build" volumes on the roadway are shown in Figure 10.

6.1.1 Annual Traffic Growth

To evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last three years revealed traffic growth of approximately 1% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways to estimate the future year traffic volumes prior to the addition of site-generated traffic.

6.2 Future "Build" Conditions

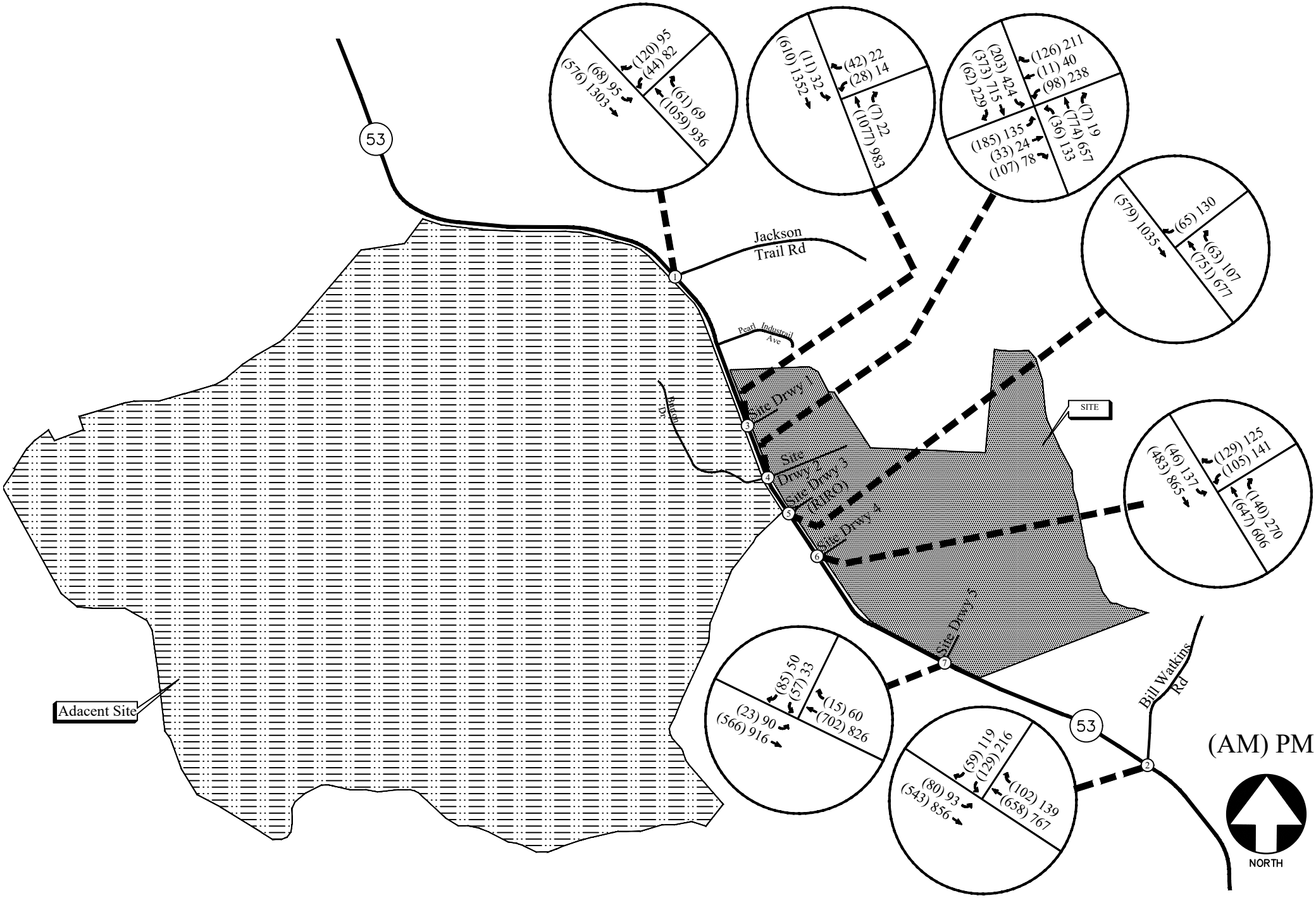
The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the added traffic from the proposed development. To evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 8), pass-by volumes (Figure 9) and adjacent site volumes (Figure 10) were added to base traffic volumes (Figure 11) to calculate the future traffic volumes after the construction of the development. These total future "Build" traffic volumes are shown in Figure 12.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 11

A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 12

A&R Engineering Inc.

6.2.1 Auxiliary Lane Analysis

Included below are analyses for left-turn lanes and deceleration lanes for all site driveways per GDOT standards. The analyses below are based off the trip distribution included in Section 5.2. According to the trip distribution, the 24-hour two-way volume entering and exiting the entire site is 19,241 vehicles.

6.2.1.1 Left Turn Lane Analysis

Per GDOT standards, for two lane roadways with AADT's greater than or equal to 6,000 vehicles and a posted speed limit of 55 mph, the daily site generated traffic left turn movements threshold to warrant a turn lane is 150 left-turning vehicles a day. The projected left-turn volumes per day for each site driveway are included in Table 5. No left turn lane analysis was conducted for site driveway 3 as it is only planned to provide right-in/right-out access.

TABLE 5 - GDOT REQUIREMENTS FOR LEFT TURN LANES

Intersection	Left Turn Traffic (% total entering)	Left Turn / Roadway Direction	Left Turn Volume (vehicle/day)	Roadway Speed / # Lanes / ADT	GDOT Threshold (vehicle /day)	Warrant Met?
SR 53 @ Site Drwy 1	30% Townhome Traffic	SR 53 (SB)	**353** [(2,354÷2) x 0.3] = 353	55 mph / 2-Lane / ≥ 6,000	150	Yes
SR 53 @ Site Drwy 2	27% Townhome Traffic + 54% Commercial Area Traffic	SR 53 (SB)	**5,168** [(2,354) ÷ 2) x 0.27] + [(17,962 ÷ 2) x 0.54] = 5,168	55 mph / 2-Lane / ≥ 6,000	150	Yes
SR 53 @ Site Drwy 4	3% Townhome Traffic + 30% Detached Homes Traffic + 6% Commercial Traffic	SR 53 (SB)	**1,233** [(2,354 ÷ 2) x 0.03] + [(4,395 ÷ 2) x 0.3] + [(17,962 ÷ 2) x 0.06] = 1,233	55 mph / 2-Lane / ≥ 6,000	150	Yes
SR 53 @ Site Drwy 5	30% Detached Home Traffic	SR 53 (SB)	**659** [(4,395 ÷ 2) x 0.30] = 659	55 mph / 2-Lane / ≥ 6,000	150	Yes

A left turn lane is warranted at site driveways 1, 2, 4, and 5 as per GDOT standards.

6.2.1.2 Deceleration Turn Lane Analysis

For two lane roadways with AADT's greater than or equal to 6,000 vehicles and a posted speed limit of 55 mph, the daily site generated traffic right turn movements threshold to warrant a deceleration lane is 50 right-turning vehicles a day. The projected right turn volumes per day for each site driveway are included in Table 6.

TABLE 6 - GDOT REQUIREMENTS FOR DECELERATION LANES

Intersection	Right Turn Traffic (% total entering)	Right Turn / Roadway Direction	Right Turn Volume (vehicle/day)	Roadway Speed / # Lanes / ADT	GDOT Threshold (vehicle/ day)	Warrant Met?
SR 53 @ Site Drwy 1	20% Townhomes Traffic	SR 53 (NB)	**235** [(2,354÷2) x 0.2] = 235	55 mph / 2-Lane / ≥ 6,000	50	Yes
SR 53 @ Site Drwy 2	18% Townhomes Traffic	SR 53 (NB)	**212** [(2,354÷2) x 0.18] = 212	55 mph / 2-Lane / ≥ 6,000	50	Yes
SR 53 @ Site Drwy 3	12% Commercial Traffic	SR 53 (NB)	**1,078** [(17,962÷2) x 0.12] = 1,078	55 mph / 2-Lane / ≥ 6,000	50	Yes
SR 53 @ Site Drwy 4	2% Townhomes Traffic + 20% Detached Homes Traffic + 28% Commercial Traffic	SR 53 (NB)	**2,979** [(2,354÷2) x 0.02] + [(4,395÷2) x 0.2] + [(17,962÷2) x 0.28] = 2,979	55 mph / 2-Lane / ≥ 6,000	50	Yes
SR 53 @ Site Drwy 5	20% Detached Homes Traffic	SR 53 (NB)	**440** [(4,395÷2) x 0.20] = 440	55 mph / 2-Lane / ≥ 6,000	50	Yes

A right turn lane is warranted at every site driveway as per GDOT standards.

6.2.2 Future "Build" Traffic Operations

The future "No-Build" and "Build" traffic operations were analyzed using the volumes in Figure 11 and Figure 12, respectively. Recommendations for future traffic control and lane geometry are shown in Figure 13. The results of the future traffic operations analysis are shown below in Table 7.

TABLE 7 – FUTURE "BUILD" INTERSECTION OPERATIONS

Intersection		Build Condition: LOS (Delay)			
		NO BUILD		BUILD	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**SR 53 @ Jackson Trail Road** -Westbound Approach -Southbound Left	 D (30.2) B (10.1)	 F (103.7) A (9.5)	 F (81.4) B (12.7)	 F (*) B (12.4)
2	**SR 53 @ Bill Watkins Road** -Westbound Approach -Southbound Left	 E (40.6) A (9.3)	 F (271.9) A (9.2)	 F (*) B (10.5)	 F (*) B (11.1)
3	**SR 53 @ Site Driveway 1 (Northern)** -Westbound Approach -Southbound Left	 -	 -	 F (65.0) B (11.2)	 F (149.4) B (11.0)
4	**SR 53 @ Site Driveway 2 / Burton Drive** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	 -	 -	 F (*) F (*) A (8.4) B (11.3)	 F (*) F (*) B (11.8) B (13.7)
5	**SR 53 @ Site Driveway 3 (Right-in/right-out)** -Westbound Approach	 -	 -	 B (11.9)	 B (12.4)
6	**SR 53 @ Site Driveway 4** -Westbound Approach -Southbound Left	 -	 -	 E (44.0) A (9.9)	 F (*) B (11.3)
7	**SR 53 @ Site Driveway 5 (Southern)** -Westbound Approach -Southbound Left	 -	 -	 E (39.8) A (9.4)	 F (145.1) B (10.8)

*Delay exceeds 300 seconds

The results of future traffic operations analysis indicate that some of the stop-controlled approaches at the study intersections will operate at a level of service "F" during the AM and PM peak hours under both "No-Build" and "Build" conditions. It is not unusual for minor side streets that are stop sign controlled to experience higher delays due to the time gap required for a vehicle to make a turning movement on a busy roadway, particularly during peak traffic hours.

The projected delays at intersection 1 (SR 53 at Jackson Trail Road) are primarily the result of traffic turning left out Jackson Trail Road. However, a preliminary signal warrant analysis for this intersection indicated that the future volumes of left-turning traffic in and out of Jackson Trail Road will not be sufficient to meet warrants. Although a traffic signal is not warranted, it is recommended that Jackson County monitors the traffic volumes at this intersection in the future to determine if improvements become necessary. Recommended system improvements for this intersection are explained in Section 6.2.3 below.

6.2.3 Site Mitigation and System Improvements

The following system and site improvements are recommended.

Recommended System Improvements:

Intersection 1: SR 53 @ Jackson Trail Road *(System Improvement)*
Jackosn Trail road experiences heavy right turn volumes from traffic turning on/off SR 53. Therefore, a northbound right turn lane on SR 53, as well as a westbound separate right turn lane on Jackson Trail Road are recommended on SR 53. Additionally, a southbound left turn lane is recommended on SR 53 to prevent congestion at the intersection and to allow for safer left turn movements on Jackson Trail Road.

Intersection 2: SR 53 @ Bill Watkins Road *(System Improvement)*
The stop-controlled westbound approach of Bill Watkins Road is mostly used by left-turning traffic and is currently operating at a level of service F. As the adjacent residential development and the proposed mixed-use development will add more traffic at this intersection, a preliminary signal warrant analysis was conducted with 100% right turn reductions being applied to the westbound approach. Based on the projected peak hour future volumes, this intersection meets four-hour warrants for the installation of a traffic signal. However, a full signal warrant analysis of this intersection will be required for a traffic signal to be installed here.

Recommended Site Improvements:

Intersection 4: SR 53 @ Burton Drive/ Site Driveway 2 *(Site Improvement)*
The stop-controlled eastbound (Burton Drive) and westbound (Site Driveway 2) approaches at this intersection are projected to operate at a level of service F upon the completion of both developments. A preliminary signal warrant analysis was conducted with 100% right turn reductions being applied to both minor street approaches. Based on the projected peak hour future volumes, this intersection meets four-hour warrants for the installation of a traffic signal. However, a full signal warrant analysis of this intersection will be required for a traffic signal to be installed here.

6.2.4 Traffic Operations with System and Site Improvements

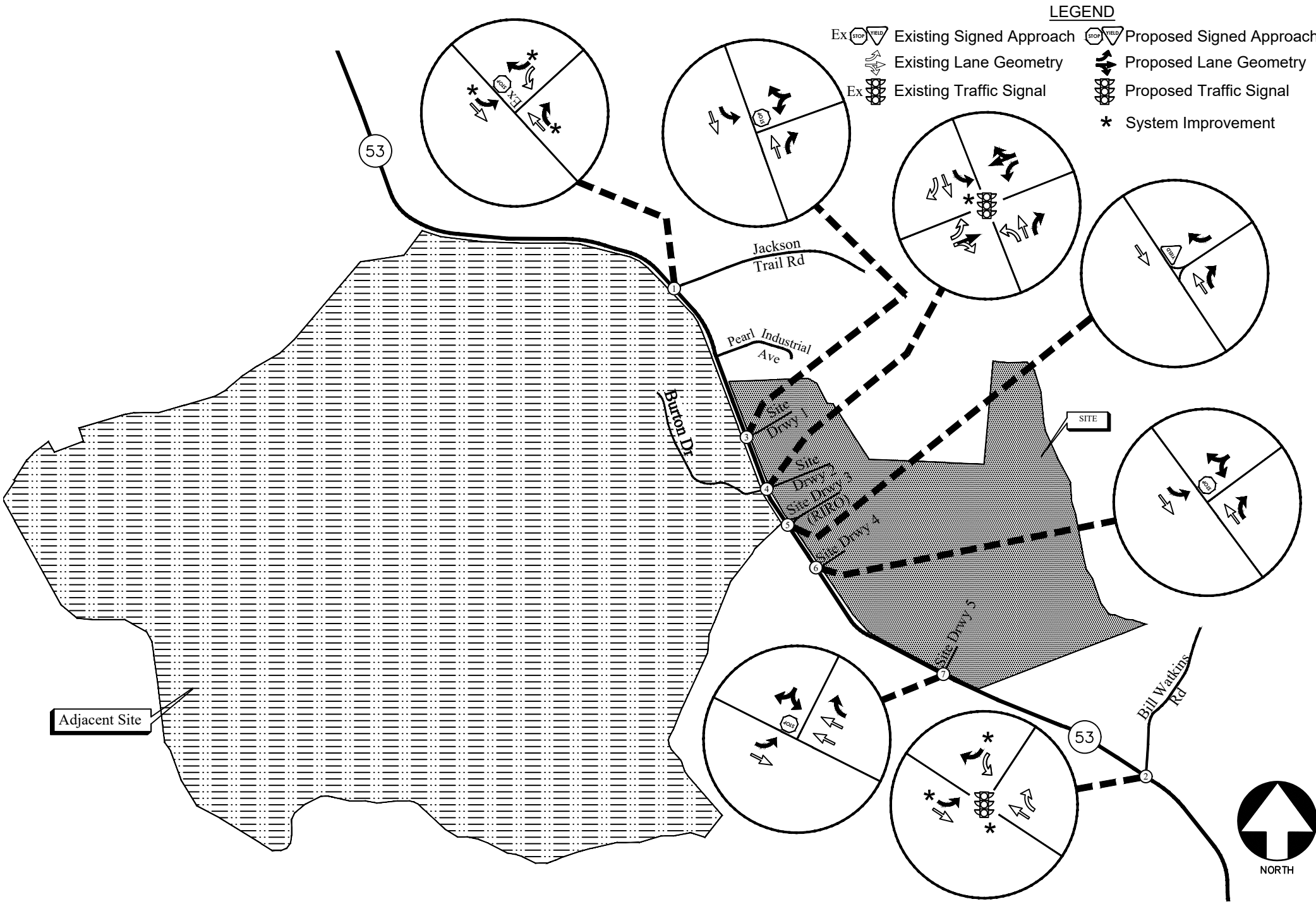
Table 8 below shows the traffic operations at the intersections of SR 53 at Bill Watkins Road and SR 53 at Burton Drive / Site driveway 2 after the recommended system and site improvements are completed.

TABLE 8 – FUTURE INTERSECTION OPERATIONS WITH & WITHOUT A TRAFFIC SIGNAL

Intersection		Build Condition: LOS (Delay)			
		WITHOUT SIGNAL		WITH SIGNAL	
		AM Peak	PM Peak	AM Peak	PM Peak
2	**SR 53 @ Bill Watkins Road**			**B (11.4)**	**B (16.3)**
	-Westbound Approach	F (*)	F (*)	D (47.3)	D (46.9)
	-Northbound Approach	-	-	B (10.6)	B (15.7)
	-Southbound Approach (Left)	B (10.5)	B (11.1)	A (4.8)	A (10.0)
4	**SR 53 @ Site Driveway 2 / Burton Drive**			**C (25.0)**	**C (31.7)**
	-Eastbound Approach	F (*)	F (*)	C (45.3)	D (30.9)
	-Westbound Approach	F (*)	F (*)	C (45.8)	D (50.4)
	-Northbound Approach (Left)	A (8.4)	B (11.8)	C (24.6)	C (29.3)
	-Southbound Approach (Left)	B (11.3)	B (13.7)	B (15.0)	C (29.4)

*Delay exceeds 300 seconds

The results of the future conditions analysis indicate that intersection 2 (SR 53 at Bill Watkins Road) will operate satisfactorily at an overall level of service "B" or better during the AM and PM peak hours with the addition of a traffic signal as a system improvement. Intersection 4 (SR 53 at Site Driveway 2 / Burton Drive) will operate satisfactorily at an overall level of service "C" or better during the AM and PM peak hours with the addition of a traffic signal as a site improvement.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY
(WITH SYSTEM IMPROVEMENTS)

FIGURE 13

A&R Engineering Inc.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed mixed-use development that will be located east of SR 53 in Jackson County, Georgia. The proposed development will consist of:

- Single-Family Detached Housing: 651 Units
- Single-Family Attached Housing (Townhomes): 404 Units
- Shopping Plaza (40-150k): 130,000 SF
- Supermarket: 60,000 SF
- Fast Casual Restaurant: 5,000 SF
- Fast-Food Restaurant with Drive-Through Window: 5,000 SF
- Gasoline/Service Station: 16 Pumps

The development proposes access at the following locations:

- Site Driveway 1: Full access northernmost driveway on SR 53
- Site Driveway 2: Full access driveway on SR 53 aligned with Burton Drive
- Site Driveway 3: Right-in/right-out middle driveway on SR 53
- Site Driveway 4: Full access driveway on SR 53
- Site Driveway 5: Full access southernmost driveway on SR 53

The AM and PM peak hours have been analyzed in at the intersections of:

- SR 53 at Jackson Trail Road
- SR 53 at Bill Watkins Road
- SR 53 at Site Driveway 1 (northernmost driveway)
- SR 53 at Site Driveway 2 / Burton Drive
- SR 53 at Site Driveway 3 (Right-in/right-out)
- SR 53 at Site Driveway 4
- SR 53 at Site Driveway 5 (southernmost driveway)

The analysis included the evaluation of Future operations for “No-Build” and “Build” conditions, with the differences between “No-Build” and “Build” scenarios accounting for an increase in traffic due to the proposed development. The results of the future traffic operations analysis indicate that some of the stop-controlled approaches at the study intersections will operate at a level of service “F” during the AM and PM peak hours under both “No-Build” and “Build” conditions. It is not unusual for minor side streets that are stop sign controlled to experience higher delays due to the time gap required for a vehicle to make a turning movement on a busy roadway, particularly during peak traffic hours. Intersection 2 (SR 53 at Bill Watkins Road) will operate satisfactorily at an overall level of service “B” or better during the AM and PM peak hours with the addition of a traffic signal as a system improvement. Intersection 4 (SR 53 at Site Driveway 2 / Burton Drive) will operate satisfactorily at an overall level of service “C” or better during the AM and PM peak hours with the addition of a traffic signal as a site improvement. A preliminary signal warrant analysis for intersection 1 (SR 53 at Jackson Trail Road) indicated that the future volumes of left-turning traffic in and out of Jackson Trail Road will not be sufficient to meet warrants. Although a traffic signal is not warranted, it is recommended that Jackson County monitors the traffic volumes at this intersection in the future to determine if improvements become necessary.

7.1 Recommendations for Site Access Configuration

The following access configuration is recommended at the site driveway intersections.

- Site Driveway 1: Full access northern driveway on SR 53
    - One entering lane and one exiting lane
    - Stop-sign controlled on the driveway approach with SR 53 remaining free flow
    - A left turn lane and a right turn lane for entering traffic
    - Provide adequate sight distance per AASHTO standards

- Site Driveway 2: Full access driveway on SR 53 aligned with Burton Drive
    - Two entering lanes and two exiting lanes
    - A traffic signal is recommended at this intersection as a site improvement
    - A left turn lane and a right turn lane for entering traffic

- Site Driveway 3: Right-in/right-out driveway on SR 53
    - One entering lane and one exiting lane
    - Stop-sign controlled on the driveway approach with SR 53 remaining free flow
    - A right turn lane for entering traffic

- Site Driveway 4: Full access driveway on SR 53
    - Two entering lanes and two exiting lanes
    - Stop-sign controlled on the driveway approach with SR 53 remaining free flow
    - A left turn lane and a right turn laner for entering traffic.

- Site Driveway 5: Full-access southern driveway on SR 53
    - One entering lane and one exiting lane
    - Stop-sign controlled on the driveway approach with SR 53 remaining free flow
    - A left turn lane and a right turn lane for entering traffic

7.1.1 Recommendations for System and Site Improvements

The following system and site improvements are recommended.

Add two separate right turn lanes and a separate left turn at the existing intersection of SR 53 at Jackson Trail Road (System Improvement)

Jackosn Trail road experiences heavy right turn volumes from traffic turning on/off SR 53. Therefore, a northbound right turn lane on SR 53, as well as a westbound separate right turn lane on Jackson Trail Road are recommended on SR 53. Additionally, a southbound left turn lane is recommended on SR 53 to prevent congestion at the intersection and to allow for safer left turn movements on Jackson Trail Road.

Add a traffic signal at the existing intersection of SR 53 at Bill Watkins Road (System Improvement)

The stop-controlled westbound approach of Bill Watkins Road is mostly used by left-turning traffic and is currently operating at a level of service F. As the adjacent residential development and the proposed mixed-use development will add more traffic at this intersection, a preliminary signal warrant analysis was conducted with 100% right turn reductions being applied to the westbound approach. Based on the projected peak hour future volumes, this intersection meets four-hour warrants for the installation of a traffic signal. However, a full signal warrant analysis of this intersection will be required for a traffic signal to be installed here.

Add a traffic signal at the intersection of SR 53 at Burton Drive/ Site Driveway 2 (Site Improvement)

The stop-controlled eastbound (Burton Drive) and westbound (Site Driveway 2) approaches at this intersection are projected to operate at a level of service F upon the completion of both developments. A preliminary signal warrant analysis was conducted with 100% right turn reductions being applied to both minor street approaches. Based on the projected peak hour future volumes, this intersection meets four-hour warrants for the installation of a traffic signal. However, a full signal warrant analysis of this intersection will be required for a traffic signal to be installed here.

Appendix

EXISTING INTERSECTION TRAFFIC COUNTS

Prepared by National Data & Surveying Services

SR 53 & Jackson Trail Rd

Peak Hour Turning Movement Count

ID: 23-180041-001
City: Hoschton

Day: Thursday
Date: 3/30/2023

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

SOUTHBOUND (SR 53)

AM	0	285	67	0	639	AM
NOON	0	0	0	0	0	NOON
PM	0	584	93	0	507	PM

EASTBOUND (Jackson Trail Rd)

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

WESTBOUND (Jackson Trail Rd)

PM	NOON	AM	
93	0	118	0
0	0	0	1
29	0	21	0
0	0	0	0
121	0	89	
PM	NOON	AM	

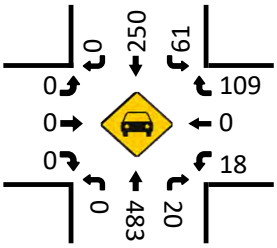
NORTHBOUND (SR 53)

PM	613	0	0	414	28	PM
NOON	0	0	0	0	0	NOON
AM	306	0	0	521	22	AM

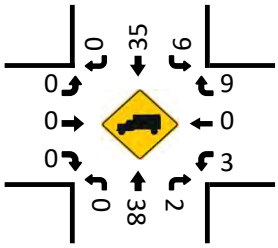
0	1	0	0
			0 0 1 0

CONTROL			
1-Way Stop(WB)			
TEV	1034 AM	0 NOON	1241 PM
PHF	0.89		0.87

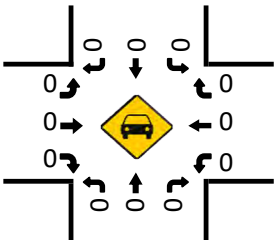
Cars (AM)



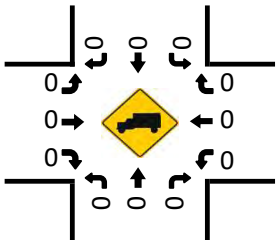
HT (AM)



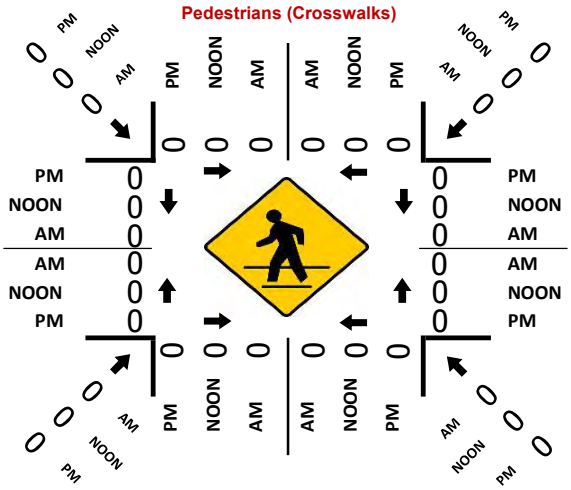
Cars (NOON)



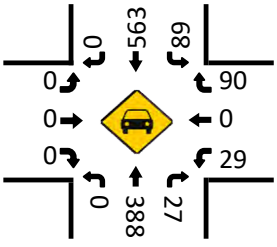
HT (NOON)



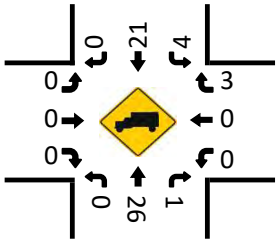
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Project ID: 23-180041-001
Location: SR 53 & Jackson Trail Rd
City: Hoschton

Day: Thursday
Date: 3/30/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	SR 53 Northbound						SR 53 Southbound						Jackson Trail Rd Eastbound						Jackson Trail 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	118	3	0	0	121	5	46	0	0	0	51	0	0	0	0	0	0	4	0	22	0	0	26	198
7:15 AM	0	137	9	0	0	146	20	57	0	0	0	77	0	0	0	0	0	0	3	0	27	0	0	30	253
7:30 AM	0	136	6	0	0	142	20	84	0	0	0	104	0	0	0	0	0	0	8	0	35	0	0	43	289
7:45 AM	0	129	5	0	0	134	16	66	0	0	0	82	0	0	0	0	0	0	5	0	29	0	0	34	250
Total	0	520	23	0	0	543	61	253	0	0	0	314	0	0	0	0	0	0	20	0	113	0	0	133	990
8:00 AM	0	119	2	0	0	121	11	78	0	0	0	89	0	0	0	0	0	0	5	0	27	0	0	32	242
8:15 AM	0	113	9	0	0	122	18	72	0	0	0	90	0	0	0	0	0	0	5	0	29	0	0	34	246
8:30 AM	0	115	4	0	0	119	8	65	0	0	0	73	0	0	0	0	0	0	6	0	21	0	0	27	219
8:45 AM	0	106	5	0	0	111	6	69	0	0	0	75	0	0	0	0	0	0	9	0	20	0	0	29	215
Total	0	453	20	0	0	473	43	284	0	0	0	327	0	0	0	0	0	0	25	0	97	0	0	122	922
BREAK																									
4:00 PM	0	85	4	0	0	89	22	132	0	0	0	154	0	0	0	0	0	0	9	0	23	0	0	32	275
4:15 PM	0	87	4	0	0	91	24	129	0	0	0	153	0	0	0	0	0	0	5	0	18	0	0	23	267
4:30 PM	0	79	1	0	0	80	17	133	0	0	0	150	0	0	0	0	0	0	10	0	22	0	0	32	262
4:45 PM	0	94	5	0	0	99	26	148	0	0	0	174	0	0	0	0	0	0	6	0	23	0	0	29	302
Total	0	345	14	0	0	359	89	542	0	0	0	631	0	0	0	0	0	0	30	0	86	0	0	116	1106
5:00 PM	0	118	10	0	0	128	23	159	0	0	0	182	0	0	0	0	0	0	15	0	31	0	0	46	356
5:15 PM	0	98	8	0	0	106	21	137	0	0	0	158	0	0	0	0	0	0	5	0	23	0	0	28	292
5:30 PM	0	104	5	0	0	109	23	140	0	0	0	163	0	0	0	0	0	0	3	0	16	0	0	19	291
5:45 PM	0	80	5	0	0	85	27	124	0	0	0	151	0	0	0	0	0	0	9	0	15	0	0	24	260
Total	0	400	28	0	0	428	94	560	0	0	0	654	0	0	0	0	0	0	32	0	85	0	0	117	1199
Grand Total	0	1718	85	0	0	1803	287	1639	0	0	0	1926	0	0	0	0	0	0	107	0	381	0	0	488	4217
Apprch %	0.0	95.3	4.7	0.0	0.0		14.9	85.1	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		21.9	0.0	78.1	0.0	0.0		
Total %	0.0	40.7	2.0	0.0	0.0	42.8	6.8	38.9	0.0	0.0	0.0	45.7	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	9.0	0.0	0.0	11.6	
Cars, PU, Vans	0	1585	77	0		1662	270	1509	0	0		1779	0	0	0	0		0	99	0	362	0		461	3902
% Cars, PU, Vans	0.0	92.3	90.6	0.0		92.2	94.1	92.1	0.0	0.0		92.4	0.0	0.0	0.0	0.0		0.0	92.5	0.0	95.0	0.0		94.5	92.5
Heavy trucks	0	133	8	0		141	17	130	0	0		147	0	0	0	0		0	8	0	19	0		27	315
%Heavy trucks	0.0	7.7	9.4	0.0		7.8	5.9	7.9	0.0	0.0		7.6	0.0	0.0	0.0	0.0		0.0	7.5	0.0	5.0	0.0		5.5	7.5

Project ID: 23-180041-001
Location: SR 53 & Jackson Trail Rd
City: Hoschton

PEAK HOURS

Day: Thursday
Date: 3/30/2023

AM

	SR 53 Northbound					SR 53 Southbound					Jackson Trail Rd Eastbound					Jackson Trail 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 07:15 AM																					
7:15 AM	0	137	9	0	146	20	57	0	0	77	0	0	0	0	0	3	0	27	0	30	253
7:30 AM	0	136	6	0	142	20	84	0	0	104	0	0	0	0	0	8	0	35	0	43	289
7:45 AM	0	129	5	0	134	16	66	0	0	82	0	0	0	0	0	5	0	29	0	34	250
8:00 AM	0	119	2	0	121	11	78	0	0	89	0	0	0	0	0	5	0	27	0	32	242
Total Volume	0	521	22	0	543	67	285	0	0	352	0	0	0	0	0	21	0	118	0	139	1034
% App. Total	0.0	95.9	4.1	0.0	100	19.0	81.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0	15.1	0.0	84.9	0.0	100	
PHF					0.930					0.846										0.808	0.894
Cars, PU, Vans	0	483	20	0	503	61	250	0	0	311	0	0	0	0	0	18	0	109	0	127	941
% Cars, PU, Vans	0.0	92.7	90.9	0.0	92.6	91.0	87.7	0.0	0.0	88.4	0.0	0.0	0.0	0.0	0.0	85.7	0.0	92.4	0.0	91.4	91.0
Heavy trucks	0	38	2	0	40	6	35	0	0	41	0	0	0	0	0	3	0	9	0	12	93
%Heavy trucks	0.0	7.3	9.1	0.0	7.4	9.0	12.3	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	14.3	0.0	7.6	0.0	8.6	9.0

PM

	SR 53 Northbound					SR 53 Southbound					Jackson Trail Rd Eastbound					Jackson Trail 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 04:45 PM																					
4:45 PM	0	94	5	0	99	26	148	0	0	174	0	0	0	0	0	6	0	23	0	29	302
5:00 PM	0	118	10	0	128	23	159	0	0	182	0	0	0	0	0	15	0	31	0	46	356
5:15 PM	0	98	8	0	106	21	137	0	0	158	0	0	0	0	0	5	0	23	0	28	292
5:30 PM	0	104	5	0	109	23	140	0	0	163	0	0	0	0	0	3	0	16	0	19	291
Total Volume	0	414	28	0	442	93	584	0	0	677	0	0	0	0	0	29	0	93	0	122	1241
% App. Total	0.0	93.7	6.3	0.0	100	13.7	86.3	0.0	0.0	100	0.0	0.0	0.0	0.0	0	23.8	0.0	76.2	0.0	100	
PHF					0.863					0.930										0.663	0.871
Cars, PU, Vans	0	388	27	0	415	89	563	0	0	652	0	0	0	0	0	29	0	90	0	119	1186
% Cars, PU, Vans	0.0	93.7	96.4	0.0	93.9	95.7	96.4	0.0	0.0	96.3	0.0	0.0	0.0	0.0	0.0	100.0	0.0	96.8	0.0	97.5	95.6
Heavy trucks	0	26	1	0	27	4	21	0	0	25	0	0	0	0	0	0	0	3	0	3	55
%Heavy trucks	0.0	6.3	3.6	0.0	6.1	4.3	3.6	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	2.5	4.4

Prepared by National Data & Surveying Services

SR 53 & Bill Watkins Rd

Peak Hour Turning Movement Count

ID: 23-180041-002
City: Hoschton

Day: Thursday
Date: 3/30/2023

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

SR 53 – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	0	250	7	0	507
NOON	0	0	0	0	0
PM	0	565	16	0	392
(red)	0	2	0	0	

Bill Watkins Rd – WESTBOUND

	(red)	PM	NOON	AM
Right	1	18	0	14
Thru	1	0	0	0
Left	0	212	0	126
U-Turn	0	0	0	0
Departing		152	0	107

Bill Watkins Rd – EASTBOUND

	AM	NOON	PM	(red)
Departing	0	0	0	
U-Turn	0	0	0	0
Left	0	0	0	0
Thru	0	0	0	0
Right	0	0	0	0

SR 53 – NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
(red)		0	0	1	1
PM	777	0	0	374	136
NOON	0	0	0	0	0
AM	376	0	0	493	100

CONTROL

1-Way Stop(WB)

	AM	NOON	PM
TEV	990	0	1321
PHF	0.86		0.92

Cars (AM)

Approach	U-Turn	Left	Thru	Right
SB	0	7	223	
EB		0	0	0
WB		124	0	14
NB	0		457	97

HT (AM)

Approach	U-Turn	Left	Thru	Right
SB	0	0	27	
EB		0	0	0
WB		2	0	0
NB	0		36	3

Cars (NOON)

All movements: 0

HT (NOON)

All movements: 0

Cars (PM)

Approach	U-Turn	Left	Thru	Right
SB	0	15	546	
EB		0	0	0
WB		210	0	17
NB	0		350	129

HT (PM)

Approach	U-Turn	Left	Thru	Right
SB	0	1	19	
EB		0	0	0
WB		2	0	1
NB	0		24	7

Pedestrians (Crosswalks)

All crosswalks, all periods (AM, NOON, PM): 0

Project ID: 23-180041-002
Location: SR 53 & Bill Watkins Rd
City: Hoschton

Day: Thursday
Date: 3/30/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	SR 53 Northbound						SR 53 Southbound						Bill Watkins Rd Eastbound						Bill Watkins 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	115	33	0	0	148	1	50	0	0	0	51	0	0	0	0	0	0	26	0	1	0	0	27	226
7:15 AM	0	134	32	0	0	166	1	56	0	0	0	57	0	0	0	0	0	0	27	0	3	0	0	30	253
7:30 AM	0	134	27	0	0	161	2	75	0	0	0	77	0	0	0	0	0	0	45	0	4	0	0	49	287
7:45 AM	0	114	18	0	0	132	4	50	0	0	0	54	0	0	0	0	0	0	29	0	4	0	0	33	219
Total	0	497	110	0	0	607	8	231	0	0	0	239	0	0	0	0	0	0	127	0	12	0	0	139	985
8:00 AM	0	111	23	0	0	134	0	69	0	0	0	69	0	0	0	0	0	0	25	0	3	0	0	28	231
8:15 AM	0	118	28	0	0	146	1	63	0	0	0	64	0	0	0	0	0	0	33	0	1	0	0	34	244
8:30 AM	0	101	25	0	0	126	1	61	0	0	0	62	0	0	0	0	0	0	17	0	2	0	0	19	207
8:45 AM	0	93	29	0	0	122	2	70	0	0	0	72	0	0	0	0	0	0	18	0	1	0	0	19	213
Total	0	423	105	0	0	528	4	263	0	0	0	267	0	0	0	0	0	0	93	0	7	0	0	100	895
BREAK																									
4:00 PM	0	78	38	0	0	116	9	126	0	0	0	135	0	0	0	0	0	0	34	0	4	0	0	38	289
4:15 PM	0	83	37	0	0	120	3	133	0	0	0	136	0	0	0	0	0	0	35	0	5	0	0	40	296
4:30 PM	0	75	33	0	0	108	3	126	0	0	0	129	0	0	0	0	0	0	41	0	3	0	0	44	281
4:45 PM	0	92	34	0	0	126	1	130	0	0	0	131	0	0	0	0	0	0	45	0	4	0	0	49	306
Total	0	328	142	0	0	470	16	515	0	0	0	531	0	0	0	0	0	0	155	0	16	0	0	171	1172
5:00 PM	0	101	30	0	0	131	9	167	0	0	0	176	0	0	0	0	0	0	42	0	9	0	0	51	358
5:15 PM	0	94	38	0	0	132	4	133	0	0	0	137	0	0	0	0	0	0	64	0	3	0	0	67	336
5:30 PM	0	87	34	0	0	121	2	135	0	0	0	137	0	0	0	0	0	0	61	0	2	0	0	63	321
5:45 PM	0	70	35	0	0	105	4	108	0	0	0	112	0	0	0	0	0	0	51	0	5	0	0	56	273
Total	0	352	137	0	0	489	19	543	0	0	0	562	0	0	0	0	0	0	218	0	19	0	0	237	1288
Grand Total	0	1600	494	0	0	2094	47	1552	0	0	0	1599	0	0	0	0	0	0	593	0	54	0	0	647	4340
Apprch %	0.0	76.4	23.6	0.0	0.0		2.9	97.1	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		91.7	0.0	8.3	0.0	0.0		
Total %	0.0	36.9	11.4	0.0	0.0	48.2	1.1	35.8	0.0	0.0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	1.2	0.0	0.0	14.9	
Cars, PU, Vans	0	1483	474	0		1957	45	1429	0	0		1474	0	0	0	0		0	577	0	51	0		628	4059
% Cars, PU, Vans	0.0	92.7	96.0	0.0		93.5	95.7	92.1	0.0	0.0		92.2	0.0	0.0	0.0	0.0		0.0	97.3	0.0	94.4	0.0		97.1	93.5
Heavy trucks	0	117	20	0		137	2	123	0	0		125	0	0	0	0		0	16	0	3	0		19	281
%Heavy trucks	0.0	7.3	4.0	0.0		6.5	4.3	7.9	0.0	0.0		7.8	0.0	0.0	0.0	0.0		0.0	2.7	0.0	5.6	0.0		2.9	6.5

Project ID: 23-180041-002
Location: SR 53 & Bill Watkins Rd
City: Hoschton

PEAK HOURS

Day: Thursday
Date: 3/30/2023

AM

	SR 53 Northbound					SR 53 Southbound					Bill Watkins Rd Eastbound					Bill Watkins 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 07:15 AM																					
7:15 AM	0	134	32	0	166	1	56	0	0	57	0	0	0	0	0	27	0	3	0	30	253
7:30 AM	0	134	27	0	161	2	75	0	0	77	0	0	0	0	0	45	0	4	0	49	287
7:45 AM	0	114	18	0	132	4	50	0	0	54	0	0	0	0	0	29	0	4	0	33	219
8:00 AM	0	111	23	0	134	0	69	0	0	69	0	0	0	0	0	25	0	3	0	28	231
Total Volume	0	493	100	0	593	7	250	0	0	257	0	0	0	0	0	126	0	14	0	140	990
% App. Total	0.0	83.1	16.9	0.0	100	2.7	97.3	0.0	0.0	100	0.0	0.0	0.0	0.0	0	90.0	0.0	10.0	0.0	100	
PHF					0.893					0.834										0.714	0.862
Cars, PU, Vans	0	457	97	0	554	7	223	0	0	230	0	0	0	0	0	124	0	14	0	138	922
% Cars, PU, Vans	0.0	92.7	97.0	0.0	93.4	100.0	89.2	0.0	0.0	89.5	0.0	0.0	0.0	0.0	0.0	98.4	0.0	100.0	0.0	98.6	93.1
Heavy trucks	0	36	3	0	39	0	27	0	0	27	0	0	0	0	0	2	0	0	0	2	68
%Heavy trucks	0.0	7.3	3.0	0.0	6.6	0.0	10.8	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.4	6.9

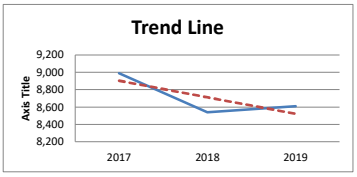
PM

	SR 53 Northbound					SR 53 Southbound					Bill Watkins Rd Eastbound					Bill Watkins 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 04:45 PM																					
4:45 PM	0	92	34	0	126	1	130	0	0	131	0	0	0	0	0	45	0	4	0	49	306
5:00 PM	0	101	30	0	131	9	167	0	0	176	0	0	0	0	0	42	0	9	0	51	358
5:15 PM	0	94	38	0	132	4	133	0	0	137	0	0	0	0	0	64	0	3	0	67	336
5:30 PM	0	87	34	0	121	2	135	0	0	137	0	0	0	0	0	61	0	2	0	63	321
Total Volume	0	374	136	0	510	16	565	0	0	581	0	0	0	0	0	212	0	18	0	230	1321
% App. Total	0.0	73.3	26.7	0.0	100	2.8	97.2	0.0	0.0	100	0.0	0.0	0.0	0.0	0	92.2	0.0	7.8	0.0	100	
PHF					0.966					0.825										0.858	0.922
Cars, PU, Vans	0	350	129	0	479	15	546	0	0	561	0	0	0	0	0	210	0	17	0	227	1267
% Cars, PU, Vans	0.0	93.6	94.9	0.0	93.9	93.8	96.6	0.0	0.0	96.6	0.0	0.0	0.0	0.0	0.0	99.1	0.0	94.4	0.0	98.7	95.9
Heavy trucks	0	24	7	0	31	1	19	0	0	20	0	0	0	0	0	2	0	1	0	3	54
%Heavy trucks	0.0	6.4	5.1	0.0	6.1	6.3	3.4	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.9	0.0	5.6	0.0	1.3	4.1

LINEAR REGRESSION OF DAILY TRAFFIC

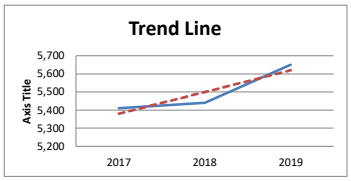
Location	Growth Rate	R Squared	Station ID	Route	2017	2018	2019
SR 53 (S of Pearl Industrial Ave)	-2.2%	0.62	157-0257	00005300	8,990	8,540	8,610
Jefferson Hwy (N of Eastmont Rd)	2.2%	0.84	013-0074	00001100	5,410	5,440	5,650
SR 53 (Gainsville Hwy) (S of Rockwell Ch	2.6%	0.65	013-0085	00005300	8,500	9,020	8,960
Winder Hwy (W of Hope Heaven Rd)	-2.7%	0.43	157-0256	00001100	4,630	4,270	4,390
SR 124 (W of Skelton Rd)	3.5%	0.90	157-0270	00012400	8,080	8,200	8,650
Weighted Average	**0.9%**	0.59	Sum of Count Stations =		35,610	35,470	36,260

Location	Traffic Counter	RCLINK	2017	2018	2019
SR 53 (S of Pearl Industrial Ave)	157-0257	00005300	8,990	8,540	8,610



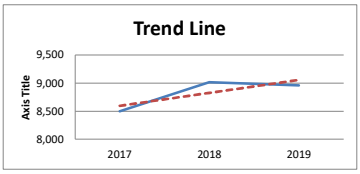
Growth Rate	-2.2%	Intercept	392,133	Slope	-190.00
Trend Line			8,903	8,713	8,523

Location	Traffic Counter	RCLINK	2017	2018	2019
Jefferson Hwy (N of Eastmont Rd)	013-0074	00001100	5,410	5,440	5,650



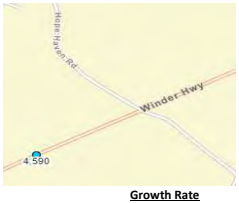
Growth Rate	2.2%	Intercept	-236,660	Slope	120.00
Trend Line			5,380	5,500	5,620

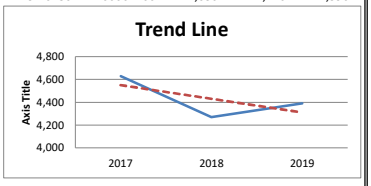
Location	Traffic Counter	RCLINK	2017	2018	2019
SR 53 (Gainsville Hwy) (S of Rockwell Chruch Rd)	013-0085	00005300	8,500	9,020	8,960



Growth Rate	2.6%	Intercept	-455,313	Slope	230.00
Trend Line			8,597	8,827	9,057

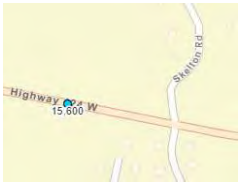
Location	Traffic Counter	RCLINK	2017	2018	2019
Winder Hwy (W of Hope Heaven Rd)	157-0256	00001100	4,630	4,270	4,390

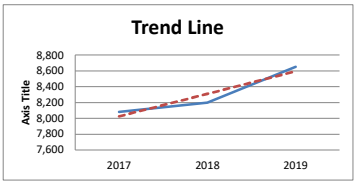




Growth Rate	-2.7%	Intercept	246,590	Slope	-120.00
Trend Line			4,550	4,430	4,310

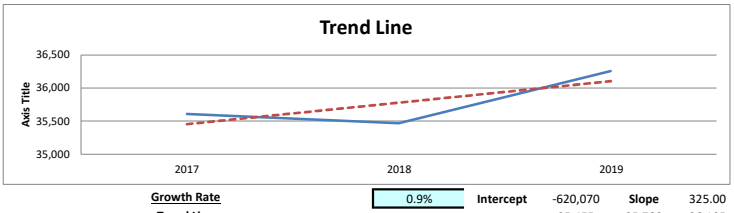
Location	Traffic Counter	RCLINK	2017	2018	2019
SR 124 (W of Skelton Rd)	157-0270	00012400	8,080	8,200	8,650





Growth Rate	3.5%	Intercept	-566,820	Slope	285.00
Trend Line			8,025	8,310	8,595

Weighted Average			2017	2018	2019
Sum of Count Stations			35,610	35,470	36,260



Growth Rate	0.9%	Intercept	-620,070	Slope	325.00
Trend Line			35,455	35,780	36,105

EXISTING INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	118	521	22	67	285
Future Vol, veh/h	21	118	521	22	67	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	24	133	585	25	75	320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1068	598	0	0	610	0
Stage 1	598	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	245	502	-	-	954	-
Stage 1	549	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	221	502	-	-	954	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	421	954	-
HCM Lane V/C Ratio	-	-	0.371	0.079	-
HCM Control Delay (s)	-	-	18.5	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.7	0.3	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	126	14	493	100	7	250
Future Vol, veh/h	126	14	493	100	7	250
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	210	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	147	16	573	116	8	291

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	880	573	0	0	689	0
Stage 1	573	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	318	519	-	-	891	-
Stage 1	564	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	519	-	-	891	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	350	891	-
HCM Lane V/C Ratio	-	-	0.465	0.009	-
HCM Control Delay (s)	-	-	23.9	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.4	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	93	414	28	93	584
Future Vol, veh/h	29	93	414	28	93	584
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	33	107	476	32	107	671

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1377	492	0	0	508	0
Stage 1	492	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	160	577	-	-	1042	-
Stage 1	615	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	134	577	-	-	1042	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	337	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.4	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	323	1042	-
HCM Lane V/C Ratio	-	-	0.434	0.103	-
HCM Control Delay (s)	-	-	24.4	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0.3	-

Intersection	
Int Delay, s/veh	15.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	212	18	374	136	16	565
Future Vol, veh/h	212	18	374	136	16	565
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	210	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	230	20	407	148	17	614

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1055	407	0	0	555	0
Stage 1	407	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	250	644	-	-	1001	-
Stage 1	672	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	244	644	-	-	1001	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	672	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	89.2	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	259	1001	-
HCM Lane V/C Ratio	-	-	0.965	0.017	-
HCM Control Delay (s)	-	-	89.2	8.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	9.1	0.1	-

FUTURE "NO-BUILD" INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	120	710	29	68	350
Future Vol, veh/h	23	120	710	29	68	350
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	26	135	798	33	76	393

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1360	815	0	0	831	0
Stage 1	815	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	164	377	-	-	788	-
Stage 1	435	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	144	377	-	-	788	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.2	0	1.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	299	788	-
HCM Lane V/C Ratio	-	-	0.537	0.097	-
HCM Control Delay (s)	-	-	30.2	10.1	0
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	3	0.3	-

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	17	535	102	17	353
Future Vol, veh/h	129	17	535	102	17	353
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	210	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	150	20	622	119	20	410

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1072	622	0	0	741	0
Stage 1	622	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	244	487	-	-	852	-
Stage 1	535	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	237	487	-	-	852	-
Mov Cap-2 Maneuver	237	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	40.6	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	263	852	-
HCM Lane V/C Ratio	-	-	0.646	0.023	-
HCM Control Delay (s)	-	-	40.6	9.3	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	4.1	0.1	-

Intersection	
Int Delay, s/veh	9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	95	552	34	95	817
Future Vol, veh/h	38	95	552	34	95	817
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	44	109	634	39	109	939

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1811	654	0	0	673	0
Stage 1	654	-	-	-	-	-
Stage 2	1157	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	86	467	-	-	904	-
Stage 1	517	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	64	467	-	-	904	-
Mov Cap-2 Maneuver	64	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	224	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	103.7	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	167	904	-
HCM Lane V/C Ratio	-	-	0.915	0.121	-
HCM Control Delay (s)	-	-	103.7	9.5	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	6.7	0.4	-

Intersection	
Int Delay, s/veh	43.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	216	30	502	139	23	647
Future Vol, veh/h	216	30	502	139	23	647
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	210	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	235	33	546	151	25	703

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1299	546	0	0	697	0
Stage 1	546	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	~ 178	538	-	-	885	-
Stage 1	580	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 170	538	-	-	885	-
Mov Cap-2 Maneuver	~ 170	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	271.9	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	186	885	-
HCM Lane V/C Ratio	-	-	1.438	0.028	-
HCM Control Delay (s)	-	-	271.9	9.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	16.3	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

FUTURE "BUILD" INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	32.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	120	1059	61	68	576
Future Vol, veh/h	44	120	1059	61	68	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	5	2	5	5
Mvmt Flow	49	135	1190	69	76	647

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2024	1225	0	0	1259	0
Stage 1	1225	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	64	218	-	-	542	-
Stage 1	278	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	218	-	-	542	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	346	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	374.2	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	115	542	-
HCM Lane V/C Ratio	-	-	1.602	0.141	-
HCM Control Delay (s)	-	-	$ 374.2	12.7	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	13.7	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	48.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	59	658	102	80	543
Future Vol, veh/h	129	59	658	102	80	543
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	210	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	150	69	765	119	93	631

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1582	765	0	0	884	0
Stage 1	765	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	~ 120	403	-	-	753	-
Stage 1	459	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 97	403	-	-	753	-
Mov Cap-2 Maneuver	~ 97	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	352	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 403	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	129	753	-
HCM Lane V/C Ratio	-	-	1.695	0.124	-
HCM Control Delay (s)	-	-	$ 403	10.5	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	16.2	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	42	1077	7	11	610
Future Vol, veh/h	28	42	1077	7	11	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	30	46	1171	8	12	663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1858	1171	0	0	1179	0
Stage 1	1171	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	81	235	-	-	592	-
Stage 1	295	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	235	-	-	592	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	295	-	-	-	-	-
Stage 2	489	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	65	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	131	592	-
HCM Lane V/C Ratio	-	-	0.581	0.02	-
HCM Control Delay (s)	-	-	65	11.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.9	0.1	-

Intersection	
Int Delay, s/veh	581.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	185	33	107	98	11	126	36	774	7	203	373	62
Future Vol, veh/h	185	33	107	98	11	126	36	774	7	203	373	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	-	-	0	310	-	250	310	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	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	5	2	2	5	2
Mvmt Flow	201	36	116	107	12	137	39	841	8	221	405	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1845	1774	405	1818	1833	841	472	0	0	849	0	0
Stage 1	847	847	-	919	919	-	-	-	-	-	-	-
Stage 2	998	927	-	899	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	~ 57	83	646	~ 60	76	365	1090	-	-	789	-	-
Stage 1	357	378	-	325	350	-	-	-	-	-	-	-
Stage 2	294	347	-	334	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 23	58	646	~ 20	53	365	1090	-	-	789	-	-
Mov Cap-2 Maneuver	~ 23	58	-	~ 20	53	-	-	-	-	-	-	-
Stage 1	344	272	-	313	337	-	-	-	-	-	-	-
Stage 2	~ 171	335	-	171	253	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay	$ 2766.7	$ 1150.4	0.4	3.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1090	-	-	25	646	21	365	789	-	-
HCM Lane V/C Ratio	0.036	-	-	9.478	0.18	5.642	0.375	0.28	-	-
HCM Control Delay (s)	8.4	-	-	$ 4118.9	11.9	$ 2456.2	20.7	11.3	-	-
HCM Lane LOS	A	-	-	F	B	F	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	29.5	0.7	15.1	1.7	1.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	65	751	63	0	579
Future Vol, veh/h	0	65	751	63	0	579
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	-	0	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	0	71	816	68	0	629

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	408	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	593	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	593	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	593	-
HCM Lane V/C Ratio	-	-	0.119	-
HCM Control Delay (s)	-	-	11.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	105	129	647	140	46	483
Future Vol, veh/h	105	129	647	140	46	483
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	114	140	703	152	50	525

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1328	352	0	0	855	0
Stage 1	703	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	158	645	-	-	783	-
Stage 1	453	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	645	-	-	783	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	148	645	783	-
HCM Lane V/C Ratio	-	-	0.771	0.217	0.064	-
HCM Control Delay (s)	-	-	83.2	12.1	9.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.8	0.8	0.2	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	85	702	15	23	566
Future Vol, veh/h	57	85	702	15	23	566
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	2
Mvmt Flow	62	92	763	16	25	615

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1428	382	0	0	779	0
Stage 1	763	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	137	617	-	-	836	-
Stage 1	422	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	617	-	-	836	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	495	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39.8	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	251	836	-
HCM Lane V/C Ratio	-	-	0.615	0.03	-
HCM Control Delay (s)	-	-	39.8	9.4	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	3.7	0.1	-

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	95	936	69	95	1303
Future Vol, veh/h	82	95	936	69	95	1303
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	94	109	1076	79	109	1498

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2832	1116	0	0	1155	0
Stage 1	1116	-	-	-	-	-
Stage 2	1716	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	~ 19	253	-	-	594	-
Stage 1	313	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	253	-	-	594	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	313	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	59.4	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	253	594	-
HCM Lane V/C Ratio	-	-	0.804	0.184	-
HCM Control Delay (s)	-	-	59.4	12.4	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	6.2	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	313.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	216	119	767	139	93	856
Future Vol, veh/h	216	119	767	139	93	856
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	-	210	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	235	129	834	151	101	930

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1966	834	0	0	985	0
Stage 1	834	-	-	-	-	-
Stage 2	1132	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	~ 69	368	-	-	689	-
Stage 1	426	-	-	-	-	-
Stage 2	308	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 48	368	-	-	689	-
Mov Cap-2 Maneuver	~ 48	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	~ 215	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 2044.3	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	69	689	-
HCM Lane V/C Ratio	-	-	5.277	0.147	-
HCM Control Delay (s)	-	-	$ 2044.3	11.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	40.3	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	22	983	22	32	1352
Future Vol, veh/h	14	22	983	22	32	1352
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	15	24	1068	24	35	1470

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2608	1068	0	0	1092	0
Stage 1	1068	-	-	-	-	-
Stage 2	1540	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	27	269	-	-	639	-
Stage 1	330	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	26	269	-	-	639	-
Mov Cap-2 Maneuver	26	-	-	-	-	-
Stage 1	330	-	-	-	-	-
Stage 2	184	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	149.4	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	58	639	-
HCM Lane V/C Ratio	-	-	0.675	0.054	-
HCM Control Delay (s)	-	-	149.4	11	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.8	0.2	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	24	78	238	40	211	133	657	19	424	715	229
Future Vol, veh/h	135	24	78	238	40	211	133	657	19	424	715	229
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	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	-	-	0	310	-	250	310	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	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	5	2	2	5	2
Mvmt Flow	147	26	85	259	43	229	145	714	21	461	777	249

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2850	2724	777	2841	2952	714	1026	0	0	735	0	0
Stage 1	1699	1699	-	1004	1004	-	-	-	-	-	-	-
Stage 2	1151	1025	-	1837	1948	-	-	-	-	-	-	-
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	~ 11	~ 21	397	~ 11	~ 15	431	677	-	-	870	-	-
Stage 1	~ 117	148	-	291	320	-	-	-	-	-	-	-
Stage 2	241	312	-	~ 97	111	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 8	397	-	~ 6	431	677	-	-	870	-	-
Mov Cap-2 Maneuver	-	~ 8	-	-	~ 6	-	-	-	-	-	-	-
Stage 1	~ 92	70	-	~ 229	252	-	-	-	-	-	-	-
Stage 2	~ 73	245	-	~ 22	52	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.9	4.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	677	-	-	-	397	-	431	870	-	-
HCM Lane V/C Ratio	0.214	-	-	-	0.214	-	0.532	0.53	-	-
HCM Control Delay (s)	11.8	-	-	-	16.5	-	22.5	13.7	-	-
HCM Lane LOS	B	-	-	-	C	-	C	B	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-	0.8	-	3	3.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	130	677	107	0	1035
Future Vol, veh/h	0	130	677	107	0	1035
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	-	0	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	0	141	736	116	0	1125

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	368	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	630	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	630	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	630	-
HCM Lane V/C Ratio	-	-	0.224	-
HCM Control Delay (s)	-	-	12.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.9	-

Intersection	
Int Delay, s/veh	66.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	141	125	606	270	137	865
Future Vol, veh/h	141	125	606	270	137	865
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	153	136	659	293	149	940

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1897	330	0	0	952	0
Stage 1	659	-	-	-	-	-
Stage 2	1238	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	~ 68	667	-	-	720	-
Stage 1	477	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 54	667	-	-	720	-
Mov Cap-2 Maneuver	~ 54	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	216	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	531.1	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	54	667	720	-
HCM Lane V/C Ratio	-	-	2.838	0.204	0.207	-
HCM Control Delay (s)	-	-	$ 991.4	11.8	11.3	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	16	0.8	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	50	826	60	90	916
Future Vol, veh/h	33	50	826	60	90	916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	36	54	898	65	98	996

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2090	449	0	0	963	0
Stage 1	898	-	-	-	-	-
Stage 2	1192	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	51	558	-	-	713	-
Stage 1	359	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	44	558	-	-	713	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	145.1	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	99	713	-
HCM Lane V/C Ratio	-	-	0.911	0.137	-
HCM Control Delay (s)	-	-	145.1	10.8	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	5.3	0.5	-

FUTURE "BUILD" INTERSECTION ANALYSIS (WITH IMPROVEMENTS)

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	120	1059	61	68	576
Future Vol, veh/h	44	120	1059	61	68	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	5	2	5	5
Mvmt Flow	49	135	1190	69	76	647

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1989	1190	0	0	1259	0
Stage 1	1190	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	67	229	-	-	542	-
Stage 1	289	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	58	229	-	-	542	-
Mov Cap-2 Maneuver	58	-	-	-	-	-
Stage 1	289	-	-	-	-	-
Stage 2	381	-	-	-	-	-

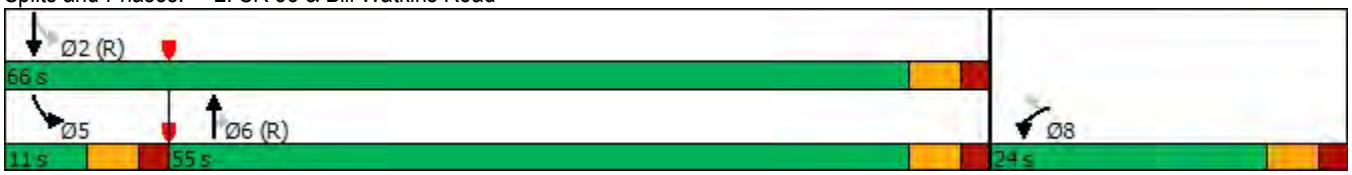
Approach	WB	NB	SB
HCM Control Delay, s	81.4	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	58	229	542	-
HCM Lane V/C Ratio	-	-	0.852	0.589	0.141	-
HCM Control Delay (s)	-	-	191.7	41	12.7	-
HCM Lane LOS	-	-	F	E	B	-
HCM 95th %tile Q(veh)	-	-	3.8	3.3	0.5	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	59	658	102	80	543
Future Volume (vph)	129	59	658	102	80	543
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases		8		6	2	
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	6.0	6.0	15.0	15.0	5.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	10.5	23.5
Total Split (s)	24.0	24.0	55.0	55.0	11.0	66.0
Total Split (%)	26.7%	26.7%	61.1%	61.1%	12.2%	73.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	12.9	12.9	56.4	56.4	66.1	66.1
Actuated g/C Ratio	0.14	0.14	0.63	0.63	0.73	0.73
v/c Ratio	0.59	0.24	0.67	0.11	0.23	0.50
Control Delay	45.3	10.5	16.6	2.2	5.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	10.5	16.6	2.2	5.5	7.1
LOS	D	B	B	A	A	A
Approach Delay	34.3		14.7			7.0
Approach LOS	C		B			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 14.0	Intersection LOS: B
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: SR 53 & Bill Watkins Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	129	59	658	102	80	543
Future Volume (veh/h)	129	59	658	102	80	543
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1826	1870	1826	1870
Adj Flow Rate, veh/h	150	0	765	119	93	631
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	5	2	5	2
Cap, veh/h	186		1209	1049	424	1446
Arrive On Green	0.10	0.00	0.66	0.66	0.05	0.77
Sat Flow, veh/h	1781	1585	1826	1585	1739	1870
Grp Volume(v), veh/h	150	0	765	119	93	631
Grp Sat Flow(s),veh/h/ln	1781	1585	1826	1585	1739	1870
Q Serve(g_s), s	7.4	0.0	21.9	2.5	1.4	10.4
Cycle Q Clear(g_c), s	7.4	0.0	21.9	2.5	1.4	10.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	186		1209	1049	424	1446
V/C Ratio(X)	0.80		0.63	0.11	0.22	0.44
Avail Cap(c_a), veh/h	366		1209	1049	443	1446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	8.9	5.6	7.1	3.5
Incr Delay (d2), s/veh	7.9	0.0	2.5	0.2	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	6.7	0.6	0.3	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.3	0.0	11.4	5.8	7.4	4.5
LnGrp LOS	D		B	A	A	A
Approach Vol, veh/h	150		884			724
Approach Delay, s/veh	47.3		10.6			4.8
Approach LOS	D		B			A

Timer - Assigned Phs		2			5	6	8
Phs Duration (G+Y+Rc), s		75.1			10.0	65.1	14.9
Change Period (Y+Rc), s		5.5			5.5	5.5	5.5
Max Green Setting (Gmax), s		60.5			5.5	49.5	18.5
Max Q Clear Time (g_c+I1), s		12.4			3.4	23.9	9.4
Green Ext Time (p_c), s		9.1			0.0	10.9	0.2

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	42	1077	7	11	610
Future Vol, veh/h	28	42	1077	7	11	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	30	46	1171	8	12	663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1858	1171	0	0	1179	0
Stage 1	1171	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	81	235	-	-	592	-
Stage 1	295	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	235	-	-	592	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	295	-	-	-	-	-
Stage 2	489	-	-	-	-	-

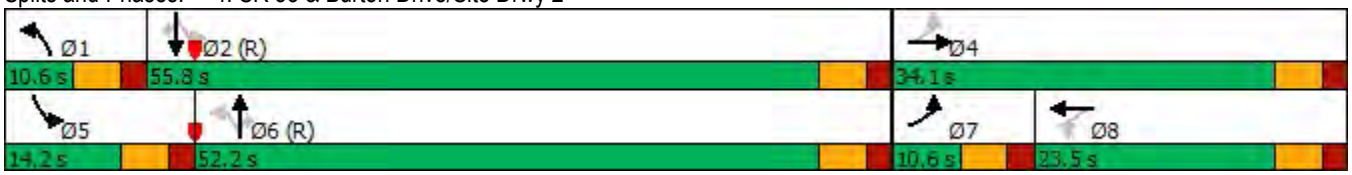
Approach	WB	NB	SB
HCM Control Delay, s	65	0	0.2
HCM LOS	F		

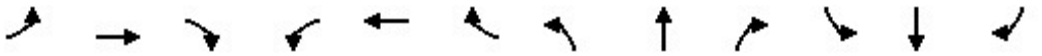
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	131	592	-
HCM Lane V/C Ratio	-	-	0.581	0.02	-
HCM Control Delay (s)	-	-	65	11.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.9	0.1	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	185	33	98	11	36	774	7	203	373	62
Future Volume (vph)	185	33	98	11	36	774	7	203	373	62
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	8	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	10.5	23.5	23.5	23.5	10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	10.6	34.1	23.5	23.5	10.6	52.2	52.2	14.2	55.8	55.8
Total Split (%)	10.5%	33.9%	23.4%	23.4%	10.5%	51.9%	51.9%	14.1%	55.5%	55.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	24.1	24.1	13.5	13.5	54.0	48.1	48.1	64.6	58.5	58.5
Actuated g/C Ratio	0.24	0.24	0.13	0.13	0.54	0.48	0.48	0.64	0.58	0.58
v/c Ratio	0.89	0.31	0.65	0.45	0.07	0.97	0.01	0.79	0.38	0.07
Control Delay	71.6	10.7	58.4	12.5	8.2	51.6	0.0	44.9	14.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.6	10.7	58.4	12.5	8.2	51.6	0.0	44.9	14.6	0.1
LOS	E	B	E	B	A	D	A	D	B	A
Approach Delay		45.4		31.7		49.2			22.8	
Approach LOS		D		C		D			C	

Intersection Summary	
Cycle Length: 100.5	
Actuated Cycle Length: 100.5	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 38.2	Intersection LOS: D
Intersection Capacity Utilization 88.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: SR 53 & Burton Drive/Site Drwy 2





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	33	107	98	11	126	36	774	7	203	373	62
Future Volume (veh/h)	185	33	107	98	11	126	36	774	7	203	373	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	201	36	0	107	12	0	39	841	8	221	405	67
Peak Hour Factor	0.92	0.92	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	5	2	2	5	2
Cap, veh/h	291	379		205	181		578	1022	887	320	1094	950
Arrive On Green	0.05	0.20	0.00	0.10	0.10	0.00	0.03	0.56	0.56	0.07	0.60	0.60
Sat Flow, veh/h	1781	1870	0	1372	1870	0	1781	1826	1585	1781	1826	1585
Grp Volume(v), veh/h	201	36	0	107	12	0	39	841	8	221	405	67
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1372	1870	0	1781	1826	1585	1781	1826	1585
Q Serve(g_s), s	5.1	1.6	0.0	7.6	0.6	0.0	0.9	37.6	0.2	5.2	11.4	1.8
Cycle Q Clear(g_c), s	5.1	1.6	0.0	7.6	0.6	0.0	0.9	37.6	0.2	5.2	11.4	1.8
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	291	379		205	181		578	1022	887	320	1094	950
V/C Ratio(X)	0.69	0.09		0.52	0.07		0.07	0.82	0.01	0.69	0.37	0.07
Avail Cap(c_a), veh/h	291	535		319	337		610	1022	887	346	1094	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	32.4	0.0	44.2	41.0	0.0	8.8	18.0	9.7	18.5	10.3	8.4
Incr Delay (d2), s/veh	6.9	0.1	0.0	2.1	0.2	0.0	0.0	7.5	0.0	5.2	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.7	0.0	2.7	0.3	0.0	0.3	15.0	0.1	2.7	4.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	32.5	0.0	46.3	41.2	0.0	8.8	25.4	9.8	23.7	11.3	8.5
LnGrp LOS	D	C		D	D		A	C	A	C	B	A
Approach Vol, veh/h		237			119			888			693	
Approach Delay, s/veh		45.3			45.8			24.6			15.0	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	65.4		25.8	12.7	61.5	10.6	15.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.1	50.3		28.6	8.7	46.7	5.1	18.0				
Max Q Clear Time (g_c+I1), s	2.9	13.4		3.6	7.2	39.6	7.1	9.6				
Green Ext Time (p_c), s	0.0	5.3		0.1	0.1	4.6	0.0	0.2				

Intersection Summary		
HCM 6th Ctrl Delay		25.0
HCM 6th LOS		C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	65	751	63	0	579
Future Vol, veh/h	0	65	751	63	0	579
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	-	0	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	0	71	816	68	0	629

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	408	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	593	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	593	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	593	-
HCM Lane V/C Ratio	-	-	0.119	-
HCM Control Delay (s)	-	-	11.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	105	129	647	140	46	483
Future Vol, veh/h	105	129	647	140	46	483
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	114	140	703	152	50	525

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1328	352	0	0	855	0
Stage 1	703	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	158	645	-	-	783	-
Stage 1	453	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	645	-	-	783	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	148	645	783	-
HCM Lane V/C Ratio	-	-	0.771	0.217	0.064	-
HCM Control Delay (s)	-	-	83.2	12.1	9.9	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.8	0.8	0.2	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	85	702	15	23	566
Future Vol, veh/h	57	85	702	15	23	566
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	2
Mvmt Flow	62	92	763	16	25	615

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1428	382	0	0	779	0
Stage 1	763	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	137	617	-	-	836	-
Stage 1	422	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	617	-	-	836	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	495	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39.8	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	251	836	-
HCM Lane V/C Ratio	-	-	0.615	0.03	-
HCM Control Delay (s)	-	-	39.8	9.4	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	3.7	0.1	-

Intersection	
Int Delay, s/veh	80.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	95	936	69	95	1303
Future Vol, veh/h	82	95	936	69	95	1303
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	2	5	2
Mvmt Flow	94	109	1076	79	109	1498

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2792	1076	0	0	1155	0
Stage 1	1076	-	-	-	-	-
Stage 2	1716	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	~ 21	267	-	-	594	-
Stage 1	327	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 17	267	-	-	594	-
Mov Cap-2 Maneuver	~ 17	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	130	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1170	0	0.8
HCM LOS	F		

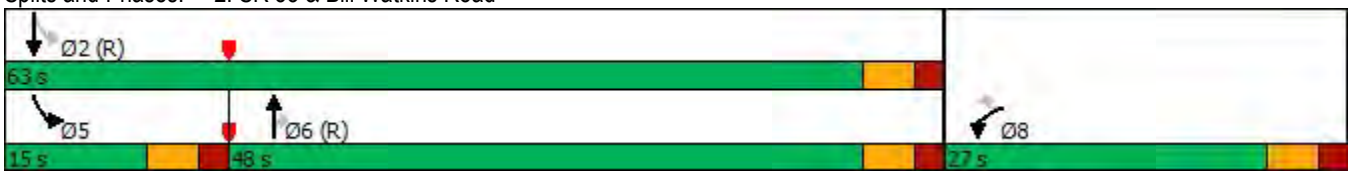
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	17	267	594	-
HCM Lane V/C Ratio	-	-	5.544	0.409	0.184	-
HCM Control Delay (s)	-	-	$ 2493.7	27.5	12.4	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	12.5	1.9	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	216	119	767	139	93	856
Future Volume (vph)	216	119	767	139	93	856
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases		8		6	2	
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	6.0	6.0	15.0	15.0	5.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	10.5	23.5
Total Split (s)	27.0	27.0	48.0	48.0	15.0	63.0
Total Split (%)	30.0%	30.0%	53.3%	53.3%	16.7%	70.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	16.8	16.8	51.7	51.7	62.2	62.2
Actuated g/C Ratio	0.19	0.19	0.57	0.57	0.69	0.69
v/c Ratio	0.71	0.32	0.80	0.16	0.33	0.77
Control Delay	46.2	7.8	25.8	3.8	8.6	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	7.8	25.8	3.8	8.6	16.1
LOS	D	A	C	A	A	B
Approach Delay	32.6		22.4			15.5
Approach LOS	C		C			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: SR 53 & Bill Watkins Road



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	216	119	767	139	93	856
Future Volume (veh/h)	216	119	767	139	93	856
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1826	1870	1826	1870
Adj Flow Rate, veh/h	235	0	834	151	101	930
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	5	2	5	2
Cap, veh/h	275		1115	968	327	1353
Arrive On Green	0.15	0.00	0.61	0.61	0.05	0.72
Sat Flow, veh/h	1781	1585	1826	1585	1739	1870
Grp Volume(v), veh/h	235	0	834	151	101	930
Grp Sat Flow(s),veh/h/ln	1781	1585	1826	1585	1739	1870
Q Serve(g_s), s	11.6	0.0	29.4	3.7	1.8	24.6
Cycle Q Clear(g_c), s	11.6	0.0	29.4	3.7	1.8	24.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	275		1115	968	327	1353
V/C Ratio(X)	0.85		0.75	0.16	0.31	0.69
Avail Cap(c_a), veh/h	426		1115	968	422	1353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	0.0	12.5	7.5	11.5	6.9
Incr Delay (d2), s/veh	9.8	0.0	4.6	0.3	0.5	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	10.2	1.0	0.6	6.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.9	0.0	17.1	7.9	12.0	9.7
LnGrp LOS	D		B	A	B	A
Approach Vol, veh/h	235		985			1031
Approach Delay, s/veh	46.9		15.7			10.0
Approach LOS	D		B			A

Timer - Assigned Phs		2			5	6	8
Phs Duration (G+Y+Rc), s		70.6			10.1	60.5	19.4
Change Period (Y+Rc), s		5.5			5.5	5.5	5.5
Max Green Setting (Gmax), s		57.5			9.5	42.5	21.5
Max Q Clear Time (g_c+I1), s		26.6			3.8	31.4	13.6
Green Ext Time (p_c), s		14.5			0.1	7.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	22	983	22	32	1352
Future Vol, veh/h	14	22	983	22	32	1352
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	15	24	1068	24	35	1470

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2608	1068	0	0	1092	0
Stage 1	1068	-	-	-	-	-
Stage 2	1540	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	27	269	-	-	639	-
Stage 1	330	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	26	269	-	-	639	-
Mov Cap-2 Maneuver	26	-	-	-	-	-
Stage 1	330	-	-	-	-	-
Stage 2	184	-	-	-	-	-

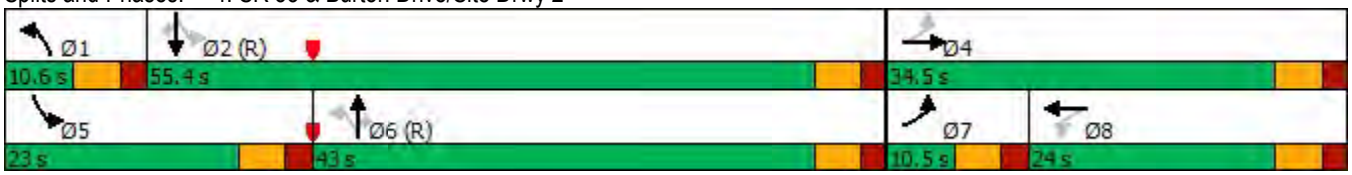
Approach	WB	NB	SB
HCM Control Delay, s	149.4	0	0.3
HCM LOS	F		

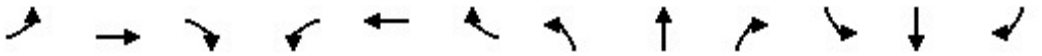
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	58	639	-
HCM Lane V/C Ratio	-	-	0.675	0.054	-
HCM Control Delay (s)	-	-	149.4	11	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.8	0.2	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	135	24	238	40	133	657	19	424	715	229
Future Volume (vph)	135	24	238	40	133	657	19	424	715	229
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	8	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	10.5	23.5	23.5	23.5	10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	10.5	34.5	24.0	24.0	10.6	43.0	43.0	23.0	55.4	55.4
Total Split (%)	10.4%	34.3%	23.9%	23.9%	10.5%	42.8%	42.8%	22.9%	55.1%	55.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	29.0	29.0	18.5	18.5	42.6	37.5	37.5	60.5	49.9	49.9
Actuated g/C Ratio	0.29	0.29	0.18	0.18	0.42	0.37	0.37	0.60	0.50	0.50
v/c Ratio	0.77	0.21	1.11	0.56	0.70	1.06	0.03	1.21	0.87	0.27
Control Delay	56.9	10.2	130.3	13.0	32.8	83.0	0.1	143.3	34.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	10.2	130.3	13.0	32.8	83.0	0.1	143.3	34.4	2.6
LOS	E	B	F	B	C	F	A	F	C	A
Approach Delay		36.8		70.2		72.7			62.8	
Approach LOS		D		E		E			E	

Intersection Summary	
Cycle Length: 100.5	
Actuated Cycle Length: 100.5	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 64.7	Intersection LOS: E
Intersection Capacity Utilization 99.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: SR 53 & Burton Drive/Site Drwy 2





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	24	78	238	40	211	133	657	19	424	715	229
Future Volume (veh/h)	135	24	78	238	40	211	133	657	19	424	715	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	147	26	0	259	43	0	145	714	21	461	777	249
Peak Hour Factor	0.92	0.92	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	5	2	2	5	2
Cap, veh/h	387	542		328	346		365	856	743	476	1082	940
Arrive On Green	0.05	0.29	0.00	0.19	0.19	0.00	0.05	0.47	0.47	0.17	0.59	0.59
Sat Flow, veh/h	1781	1870	0	1385	1870	0	1781	1826	1585	1781	1826	1585
Grp Volume(v), veh/h	147	26	0	259	43	0	145	714	21	461	777	249
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1385	1870	0	1781	1826	1585	1781	1826	1585
Q Serve(g_s), s	5.0	1.0	0.0	18.5	1.9	0.0	4.3	34.1	0.7	16.4	30.2	7.6
Cycle Q Clear(g_c), s	5.0	1.0	0.0	18.5	1.9	0.0	4.3	34.1	0.7	16.4	30.2	7.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	542		328	346		365	856	743	476	1082	940
V/C Ratio(X)	0.38	0.05		0.79	0.12		0.40	0.83	0.03	0.97	0.72	0.27
Avail Cap(c_a), veh/h	387	542		328	346		365	856	743	476	1082	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	25.6	0.0	40.9	34.0	0.0	14.5	23.2	14.3	24.6	14.4	9.8
Incr Delay (d2), s/veh	0.6	0.0	0.0	12.2	0.2	0.0	0.7	9.4	0.1	33.2	4.1	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	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.5	0.0	7.5	0.9	0.0	1.5	14.8	0.3	10.0	11.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	25.6	0.0	53.0	34.2	0.0	15.2	32.6	14.4	57.8	18.5	10.5
LnGrp LOS	C	C		D	C		B	C	B	E	B	B
Approach Vol, veh/h		173			302			880			1487	
Approach Delay, s/veh		30.9			50.4			29.3			29.4	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	64.8		34.5	23.0	52.4	10.5	24.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.1	49.9		29.0	17.5	37.5	5.0	18.5				
Max Q Clear Time (g_c+I1), s	6.3	32.2		3.0	18.4	36.1	7.0	20.5				
Green Ext Time (p_c), s	0.0	9.8		0.1	0.0	0.9	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		31.7
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	130	677	107	0	1035
Future Vol, veh/h	0	130	677	107	0	1035
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	-	0	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	0	141	736	116	0	1125

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	368	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	630	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	630	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	630	-
HCM Lane V/C Ratio	-	-	0.224	-
HCM Control Delay (s)	-	-	12.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.9	-

Intersection	
Int Delay, s/veh	66.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	141	125	606	270	137	865
Future Vol, veh/h	141	125	606	270	137	865
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	153	136	659	293	149	940

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1897	330	0	0	952	0
Stage 1	659	-	-	-	-	-
Stage 2	1238	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	~ 68	667	-	-	720	-
Stage 1	477	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 54	667	-	-	720	-
Mov Cap-2 Maneuver	~ 54	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	216	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 531.1	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	54	667	720	-
HCM Lane V/C Ratio	-	-	2.838	0.204	0.207	-
HCM Control Delay (s)	-	-	$ 991.4	11.8	11.3	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	16	0.8	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	50	826	60	90	916
Future Vol, veh/h	33	50	826	60	90	916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	36	54	898	65	98	996

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2090	449	0	0	963	0
Stage 1	898	-	-	-	-	-
Stage 2	1192	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	51	558	-	-	713	-
Stage 1	359	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	44	558	-	-	713	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	248	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	145.1	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	99	713	-
HCM Lane V/C Ratio	-	-	0.911	0.137	-
HCM Control Delay (s)	-	-	145.1	10.8	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	5.3	0.5	-

TRAFFIC VOLUME WORKSHEETS

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI

Traffic Volumes

A&R Engineering
April 2023

1.SR 53 @ Jackson Trail Rd

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Jackson Trail Road Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	521	22	543	67	285	0	352	0	0	0	0	21	0	118	139
Adjacent Site Counts:	0	179	7	186	0	59	0	59	0	0	0	0	2	0	0	2
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	710	29	739	68	350	0	418	0	0	0	0	23	0	120	143
Townhome Trips:	0	77	7	84	0	20	0	20	0	0	0	0	2	0	0	2
Detached homes Trips:	0	156	14	170	0	42	0	42	0	0	0	0	4	0	0	4
Commercial Trips:	0	116	11	127	0	164	0	164	0	0	0	0	15	0	0	15
Total New Trips:	0	349	32	381	0	226	0	226	0	0	0	0	21	0	0	21
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	1059	61	1120	68	576	0	644	0	0	0	0	44	0	120	164

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Jackson Trail Road Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	414	28	442	93	584	0	677	0	0	0	0	29	0	93	122
Adjacent Site Counts:	0	130	5	135	0	221	0	221	0	0	0	0	8	0	0	8
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	552	34	586	95	817	0	912	0	0	0	0	38	0	95	133
Townhome Trips:	0	40	4	44	0	59	0	59	0	0	0	0	5	0	0	5
Detached homes Trips:	0	92	8	100	0	166	0	166	0	0	0	0	15	0	0	15
Commercial Trips:	0	252	23	275	0	261	0	261	0	0	0	0	24	0	0	24
Total New Trips:	0	384	35	419	0	486	0	486	0	0	0	0	44	0	0	44
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	936	69	1005	95	1303	0	1398	0	0	0	0	82	0	95	177

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI

Traffic Volumes

A&R Engineering
April 2023

2.SR 53 @ Bill Watkins Rd

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Bill Watkins Road Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	493	100	593	7	250	0	257	0	0	0	0	126	0	14	140
Adjacent Site Counts:	0	32	0	32	10	98	0	108	0	0	0	0	0	0	3	3
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	535	102	637	17	353	0	370	0	0	0	0	129	0	17	146
Townhome Trips:	0	11	0	11	14	42	0	56	0	0	0	0	0	0	4	4
Detached homes Trips:	0	23	0	23	28	85	0	113	0	0	0	0	0	0	8	8
Commercial Trips:	0	89	0	89	21	63	0	84	0	0	0	0	0	0	30	30
Total New Trips:	0	123	0	123	63	190	0	253	0	0	0	0	0	0	42	42
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	658	102	760	80	543	0	623	0	0	0	0	129	0	59	188

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Bill Watkins Road Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	374	136	510	16	565	0	581	0	0	0	0	212	0	18	230
Adjacent Site Counts:	0	121	0	121	7	71	0	78	0	0	0	0	0	0	12	12
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	502	139	641	23	647	0	670	0	0	0	0	216	0	30	246
Townhome Trips:	0	32	0	32	7	22	0	29	0	0	0	0	0	0	11	11
Detached homes Trips:	0	90	0	90	17	50	0	67	0	0	0	0	0	0	30	30
Commercial Trips:	0	143	0	143	46	137	0	183	0	0	0	0	0	0	48	48
Total New Trips:	0	265	0	265	70	209	0	279	0	0	0	0	0	0	89	89
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	767	139	906	93	856	0	949	0	0	0	0	216	0	119	335

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI
Traffic Volumes

A&R Engineering
April 2023

3.SR 53 @ Site Drwy 1

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 1 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	543	0	543	0	306	0	306	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	185	0	185	0	62	0	62	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	739	0	739	0	374	0	374	0	0	0	0	0	0	0	0
Townhome Trips:	0	42	7	49	11	11	0	22	0	0	0	0	28	0	42	70
Detached homes Trips:	0	170	0	170	0	46	0	46	0	0	0	0	0	0	0	0
Commercial Trips:	0	126	0	126	0	179	0	179	0	0	0	0	0	0	0	0
Total New Trips:	0	338	7	345	11	236	0	247	0	0	0	0	28	0	42	70
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	1077	7	1084	11	610	0	621	0	0	0	0	28	0	42	70

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 1 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	442	0	442	0	613	0	613	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	135	0	135	0	229	0	229	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	586	0	586	0	854	0	854	0	0	0	0	0	0	0	0
Townhome Trips:	0	22	22	44	32	32	0	64	0	0	0	0	14	0	22	36
Detached homes Trips:	0	100	0	100	0	181	0	181	0	0	0	0	0	0	0	0
Commercial Trips:	0	275	0	275	0	285	0	285	0	0	0	0	0	0	0	0
Total New Trips:	0	397	22	419	32	498	0	530	0	0	0	0	14	0	22	36
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	983	22	1005	32	1352	0	1384	0	0	0	0	14	0	22	36

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI

Traffic Volumes

A&R Engineering
April 2023

4.SR 53 @ Site Drwy 2

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				Burton Drive Eastbound				Site Driveway 2 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	543	0	543	0	306	0	306	0	0	0	0	0	0	0	0
Adjacent Site Counts:	36	0	0	36	0	0	62	62	185	33	107	325	0	11	0	11
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	36	554	0	590	0	312	62	374	185	33	107	325	0	11	0	11
Townhome Trips:	0	12	7	19	10	29	0	39	0	0	0	0	25	0	38	63
Detached homes Trips:	0	170	0	170	0	46	0	46	0	0	0	0	0	0	0	0
Commercial Trips:	0	38	0	38	161	18	0	179	0	0	0	0	42	0	88	130
Total New Trips:	0	220	7	227	171	93	0	264	0	0	0	0	67	0	126	193
Pass-by Trips:	0	0	0	0	32	-32	0	0	0	0	0	0	31	0	0	31
Future 2025 Traffic Volumes:	36	774	7	817	203	373	62	638	185	33	107	325	98	11	126	235

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				Burton Drive Eastbound				Site Driveway 2 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	442	0	442	0	613	0	613	0	0	0	0	0	0	0	0
Adjacent Site Counts:	133	0	0	133	0	0	229	229	135	24	78	237	0	40	0	40
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	133	451	0	584	0	625	229	854	135	24	78	237	0	40	0	40
Townhome Trips:	0	24	19	43	29	18	0	47	0	0	0	0	13	0	19	32
Detached homes Trips:	0	100	0	100	0	181	0	181	0	0	0	0	0	0	0	0
Commercial Trips:	0	82	0	82	257	29	0	286	0	0	0	0	92	0	192	284
Total New Trips:	0	206	19	225	286	228	0	514	0	0	0	0	105	0	211	316
Pass-by Trips:	0	0	0	0	138	-138	0	0	0	0	0	0	133	0	0	133
Future 2025 Traffic Volumes:	133	657	19	809	424	715	229	1368	135	24	78	237	238	40	211	489

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI
Traffic Volumes

A&R Engineering
April 2023

5.SR 53 @ Site Drwy 3(RIRO)

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 3 (RIRO) Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	543	0	543	0	306	0	306	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	36	0	36	0	107	0	107	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	590	0	590	0	419	0	419	0	0	0	0	0	0	0	0
Townhome Trips:	0	18	0	18	0	54	0	54	0	0	0	0	0	0	0	0
Detached homes Trips:	0	170	0	170	0	46	0	46	0	0	0	0	0	0	0	0
Commercial Trips:	0	0	36	36	0	60	0	60	0	0	0	0	0	0	38	38
Total New Trips:	0	188	36	224	0	160	0	160	0	0	0	0	0	0	38	38
Pass-by Trips:	0	-27	27	0	0	0	0	0	0	0	0	0	0	0	27	27
Future 2025 Traffic Volumes:	0	751	63	814	0	579	0	579	0	0	0	0	0	0	65	65

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 3 (RIRO) Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	442	0	442	0	613	0	613	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	133	0	133	0	78	0	78	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	584	0	584	0	703	0	703	0	0	0	0	0	0	0	0
Townhome Trips:	0	43	0	43	0	31	0	31	0	0	0	0	0	0	0	0
Detached homes Trips:	0	100	0	100	0	181	0	181	0	0	0	0	0	0	0	0
Commercial Trips:	0	0	57	57	0	120	0	120	0	0	0	0	0	0	82	82
Total New Trips:	0	143	57	200	0	332	0	332	0	0	0	0	0	0	82	82
Pass-by Trips:	0	-50	50	0	0	0	0	0	0	0	0	0	0	0	48	48
Future 2025 Traffic Volumes:	0	677	107	784	0	1035	0	1035	0	0	0	0	0	0	130	130

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI
Traffic Volumes

A&R Engineering
April 2023

6.SR 53 @ Site Drwy 4

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 4 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	507	0	507	0	257	0	257	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	36	0	36	0	107	0	107	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	553	0	553	0	369	0	369	0	0	0	0	0	0	0	0
Townhome Trips:	0	14	1	15	1	53	0	54	0	0	0	0	3	0	4	7
Detached homes Trips:	0	85	15	100	23	23	0	46	0	0	0	0	57	0	85	142
Commercial Trips:	0	36	83	119	18	42	0	60	0	0	0	0	42	0	0	42
Total New Trips:	0	135	99	234	42	118	0	160	0	0	0	0	102	0	89	191
Pass-by Trips:	0	-41	41	0	4	-4	0	0	0	0	0	0	3	0	40	43
Future 2025 Traffic Volumes:	0	647	140	787	46	483	0	529	0	0	0	0	105	0	129	234

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 4 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	392	0	392	0	581	0	581	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	133	0	133	0	78	0	78	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	533	0	533	0	671	0	671	0	0	0	0	0	0	0	0
Townhome Trips:	0	41	2	43	3	27	0	30	0	0	0	0	1	0	2	3
Detached homes Trips:	0	50	60	110	90	90	0	180	0	0	0	0	33	0	50	83
Commercial Trips:	0	57	133	190	29	92	0	121	0	0	0	0	92	0	0	92
Total New Trips:	0	148	195	343	122	209	0	331	0	0	0	0	126	0	52	178
Pass-by Trips:	0	-75	75	0	15	-15	0	0	0	0	0	0	15	0	73	88
Future 2025 Traffic Volumes:	0	606	270	876	137	865	0	1002	0	0	0	0	141	0	125	266

23-039 SR 53 and Jackson Trail Road Mixed-Use Dev - Hoschton, GA - DRI

Traffic Volumes

A&R Engineering
April 2023

7.SR 53 @ Site Drwy 5

A.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 5 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	507	0	507	0	257	0	257	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	36	0	36	0	107	0	107	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	553	0	553	0	369	0	369	0	0	0	0	0	0	0	0
Townhome Trips:	0	15	0	15	0	56	0	56	0	0	0	0	0	0	0	0
Detached homes Trips:	0	15	15	30	23	57	0	80	0	0	0	0	57	0	85	142
Commercial Trips:	0	119	0	119	0	84	0	84	0	0	0	0	0	0	0	0
Total New Trips:	0	149	15	164	23	197	0	220	0	0	0	0	57	0	85	142
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	702	15	717	23	566	0	589	0	0	0	0	57	0	85	142

P.M. Peak Hour

	SR 53 Northbound				SR 53 Southbound				- Eastbound				Site Driveway 5 Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2023 Traffic Counts:	0	392	0	392	0	581	0	581	0	0	0	0	0	0	0	0
Adjacent Site Counts:	0	133	0	133	0	78	0	78	0	0	0	0	0	0	0	0
Growth Factor (%):	1	1	1		1	1	1		1	1	1		1	1	1	
No-Build 2025 Volumes:	0	533	0	533	0	671	0	671	0	0	0	0	0	0	0	0
Townhome Trips:	0	43	0	43	0	29	0	29	0	0	0	0	0	0	0	0
Detached homes Trips:	0	60	60	120	90	33	0	123	0	0	0	0	33	0	50	83
Commercial Trips:	0	190	0	190	0	183	0	183	0	0	0	0	0	0	0	0
Total New Trips:	0	293	60	353	90	245	0	335	0	0	0	0	33	0	50	83
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2025 Traffic Volumes:	0	826	60	886	90	916	0	1006	0	0	0	0	33	0	50	83

WATER AND SANITARY SEWER SERVICE AGREEMENT

This Water and Sanitary Sewer Service Agreement (the "Agreement"), dated as of the 4th day of January, 2024 is made by and between Rocklyn Homes, Inc., a Florida corporation, ("Rocklyn") and The City of Hoschton, a political subdivision of the State of Georgia (the "City").

WHEREAS, Rocklyn is the contract purchaser of a tract of land (the "Property") located in Jackson County, Georgia more particularly described in Exhibit "A" attached hereto and incorporated herein by reference; and

WHEREAS, Rocklyn intends to develop the Property for a mixed-use development including 1,055 homes and other uses (the "Development") as set forth on the site plan depicted in Exhibit "B" attached hereto and incorporated herein by reference; and

WHEREAS, in furtherance of the Development, Rocklyn submitted annexation and rezoning applications to the City; and

WHEREAS, on September 18, 2023, the City approved the annexation and rezoning applications with conditions, which approval is more particularly set forth in Ordinance Z-23-03, a true and correct copy of which is attached hereto and incorporated herein by reference as Exhibit "C" (the "Ordinance"); and

WHEREAS, as set forth in the Jackson County Service Delivery Strategy dated December 21, 2022, and the Jackson County Water and Sewer Service Territory Map contained therein, the Property is located within the water and sewer service territory of the City; and

WHEREAS, the City intends to serve the Development with municipal services including water and sanitary sewer; and

WHEREAS, in order to aid the construction of wastewater service infrastructure necessary to provide sanitary sewer service to the City, including the Property and for the Development, Rocklyn agreed to a condition of zoning requiring Rocklyn to prepay sewer connection fees to the City in the amount of $6,330,000.00 at the rate of $6,000.00 per home for 1,055 homes, which condition is more particularly described as Condition 18 in the Ordinance; and

WHEREAS, as of the date of this agreement, the City's existing sanitary sewer service facilities (the "Sewer Facilities") have the capacity to serve 500,000 gallons of wastewater per day; and

WHEREAS, the City is pursuing and plans to construct improvements to the Sewer Facilities to increase the capacity of the Sewer Facilities by 450,000 gallons per day to a total of 950,000 gallons per day (the "Phase I Expansion"); and

WHEREAS, the City is pursuing and plans to construct further improvements to the Sewer Facilities in addition to the Phase I Expansion to increase the capacity of the Sewer Facilities by 1,050,000 gallons per day to a total of 2,000,000 gallons per day (the "Phase II Expansion"); and

WHEREAS, the City anticipates the completion of the Phase I Expansion by December 31, 2025; and the completion of the Phase II Expansion by December 31, 2028.

NOW, THEREFORE, in consideration of the mutual promises and agreements contained herein, and other good and valuable consideration, the parties hereto, intending to be legally bound, hereby agree as follows:

1. The above statements of facts, including all defined terms, are true and current and are incorporated into this Agreement by reference.

2. Rocklyn shall pay to the City the sum of six million three hundred thirty thousand dollars ($6,330,000.00) (the "Sewer Connection Fee") prior to the issuance of the first building permit for the Development. The parties acknowledge and agree that Rocklyn may pay the Sewer Connection Fee, in full or in part, at any time prior to the issuance of the first residential building permit for the Development. Provided, however, that if, due to engineering or other constraints, the total number of residential dwelling units approved on the Property, as set forth on the approved land disturbance permit and/or development permit, decreases, the Sewer Connection Fee shall be reduced accordingly to the amount which is six thousand dollars ($6,000.00) per residential dwelling unit. The Sewer Connection Fee shall represent the full prepayment of the sewer connection fees charged by the City for 1,055 residential units.

3. Upon execution of this Agreement, the City shall reserve wastewater treatment capacity in the amount necessary to serve 1,055 residential connections (the "Sewer Capacity Reservation") for a period of nine (9) years (the "Development Period"), for the benefit of and use by the Property. Upon payment of the Sewer Connection Fee and the execution of this Agreement, Rocklyn shall be vested with the right to utilize the Sewer Capacity Reservation and to connect 1,055 residential dwelling units to the City's sanitary sewer infrastructure (each individual connection being a "Sewer Connection"). The reserved capacity shall consist of 250 residential connections within the Phase I Expansion to 0.95 MGD and 805 residential connections within the Phase II Expansion, unless the City determines that additional capacity is available, taking into consideration whether the available capacity meets the anticipated needs of the City and whether the allowance of additional capacity would be in the best interest of the health, safety or welfare of the citizens of Hoschton. In the event Rocklyn elects to pay a portion of the Sewer Connection Fee prior to the time it would otherwise be obligated to do so pursuant to Paragraph 2 of this Agreement, Rocklyn shall be vested with the right to utilize that same portion of the Sewer Capacity Reservation and connect the same portion of residential dwelling units to the City's sanitary sewer infrastructure. At the expiration of the Development Period, the City may buy back any remaining capacity related to unused Sewer Connections. Said re-purchase of the connections shall be at the original cost. During the Development Period, Rocklyn may transfer one or more of the Sewer Connections as well as the portion of the Sewer Capacity Reservation pertaining to said Sewer Connection(s). Rocklyn shall provide written notice (the "Transfer Notice") of any such transfers to the City at least 30 days prior to such transfer. The Transfer Notice shall include the name of the transferee, the date of the transfer, and the number of Sewer Connections being transferred. Provided, however, that Rocklyn's right to transfer such Sewer Connections and related Sewer Capacity Reservation for use outside the scope of

the Property shall be subject to a right of first refusal on part of the City whereby the City may, within 15 days of the Transfer Notice, elect to purchase, at the rate of $6,000.00 per Sewer Connection, all, and not less than all, of the Sewer Connections and Sewer Capacity Reservation reflected in the Transfer Notice. The City shall provide written notice of such election (the "Right of First Refusal Notice") to Rocklyn within 15 days of the Transfer Notice. In the event the City exercises its right of first refusal by timely providing the Right of First Refusal Notice, Rocklyn may (i) proceed with a transfer of the Sewer Connections to the City only with the City's approval, which approval the City may withhold as set forth in Section 20-119 of the Hoschton Code of Ordinances, at a date which is mutually acceptable to Rocklyn and the City or (ii) cancel any proposed transfer of Sewer Connections and Sewer Capacity Reservation by providing written notice to the City within 15 days of the Right of First Refusal Notice. Rocklyn hereby acknowledges that neither Rocklyn, nor the Development, shall be vested with the right to connect to the City's sanitary sewer infrastructure until the Sewer Connection Fee is paid and this Agreement is duly executed. The number of connections shall be limited to those outlined above.

4. The City has the full power and authority to enter into this Agreement and to perform its obligations hereunder and, upon executing this Agreement, this Agreement became and is, a valid and binding obligation, enforceable against the City in accordance with its terms. The execution and delivery of this Agreement by the City has been validly authorized by all necessary corporate or governmental action and does not conflict with any other agreements entered into by the City.

5. The City shall diligently pursue the permitting and construction of the Phase I Expansion and the Phase II Expansion. The City shall operate the wastewater system in a reasonable and customary manner; however, the parties acknowledge that interruptions of service may occur, in which event the City shall take all reasonable means to restore the wastewater system to operation as soon as possible in accordance with good and reasonable engineering practices.

6. Rocklyn and its assigns agree to be bound by all rules and regulations promulgated by the Environmental Protection Division of the Georgia Department of Natural Resources from time to time for use of the treatment facilities and wastewater infrastructure.

7. Force Majeure. For purposes of this Agreement, the term "Force Majeure" means any event or circumstance which (i) is beyond the reasonable control of the party affected (the "Affected Party"), (ii) occurs or exists without fault or negligence on the part of the Affected Party, and (iii) prevents, wholly or in part, the Affected Party from performing its duties and obligations under this Agreement (other than obligations of the Affected Party to pay or expend monies for or in connection with its performance under this Agreement). Force Majeure includes, but is not limited to, acts of God, fires, floods, droughts, earthquakes, windstorms, hurricanes, strikes, lockouts, explosions, riots, insurrections, acts of a public enemy, wars, acts of sabotage, actions or orders of governmental authorities (civil or military), and breakage of or damage to pipelines, machinery, or equipment. Notwithstanding any other provision of this Agreement, a delay or failure on the part of the Affected Party in performing its duties and obligations under this Agreement shall be excused if, and to the extent, such delay or failure in performance is

caused by Force Majeure but only during the continuance of such Force Majeure; provided however, that written notice of such Force Majeure and the reason(s) therefore shall be promptly given by the Affected Party to the other party; and provided further that the Affected Party shall act diligently in attempting to remove or eliminate such Force Majeure. In such event, neither party shall be liable to the other party for any loss or damage caused by such Force Majeure.

8. Notices. All notices required or permitted under this Agreement shall be in writing and shall be served on the parties at the addresses set forth below. Any such notices shall, unless otherwise provided herein, be given or served: (a) by depositing the same in the United States mail, postage paid, certified and addressed to the party to be notified, with return receipt requested; (b) by overnight delivery using a nationally recognized overnight courier; (c) by personal delivery; or (d) by e-mail transmittal. Notice deposited in the mail in the manner hereinabove described shall be effective upon receipt or rejection of such notice. Notice given in any other manner shall be effective only if and when received (or rejected) by the party to be notified between the hours of 8:00 a.m. and 5:00 p.m. Eastern Time of any business day with delivery made after such hours to be deemed received the following business day. A party's address may be changed by written notice to the other party; however, no notice of a change of address shall be effective until actual receipt of such notice. Copies of notices are for informational purposes only, and a failure to give or receive copies of any notice shall not be deemed a failure to give notice. Notices given by City's counsel shall be deemed given by City and notices given by Rocklyn's counsel shall be deemed given by Rocklyn.

   a. Notices to Rocklyn:

      Rocklyn Homes, Inc.
      3505 Koger Boulevard, Suite #275
      Duluth, Georgia 30096
      Attn: Tim Jenkins
      Email: tjenkins@rocklynhomes.com

      With a copy to:

      Jeffrey R. Mahaffey, Esq.
      Mahaffey Pickens Tucker, LLP
      1550 North Brown Road, Suite 125
      Lawrenceville, Georgia 30043
      Email: jmahaffey@mptlawfirm.com

   b. Notices to City:

      City of Hoschton
      61 City Square
      Hoschton, Georgia 30548
      Attn: Jennifer Kidd-Harrison, City Manager
      Email: jkidd@cityofhoschton.com

With a copy to:

Abbott S. Hayes, Jr., Esq.
Hulsey, Oliver, & Mahar, LLP
200 E.E. Butler Parkway
Gainesville, Georgia 30501
Email: ash@homlaw.com

9. Partial Invalidity. If any term or provision or portion thereof of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision or portion thereof to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each such term and provision of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

10. Waivers. No waiver of any breach of any covenant or provision herein contained shall be deemed a waiver of any preceding or succeeding breach thereof, or of any other covenant or provision herein contained. No extension of time for performance of any obligation or act shall be deemed an extension of the time for performance of any other obligation or act.

11. Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the parties hereto.

12. Professional Fees. In the event any action or suit is brought by a party hereto against another party hereunder by reason of any breach of any of the covenants, agreements or provisions on the part of the other party arising out of this Agreement, then in that event the prevailing party shall be entitled to have and recover of and from the other party all costs and expenses of the action or suit and any appeals therefrom, and enforcement of any judgment in connection therewith, including actual attorneys' fees, accounting and engineering fees, and any other professional fees resulting therefrom.

13. Entire Agreement. This Agreement (including all exhibits attached hereto) is the final expression of, and contains the entire agreement between, the parties with respect to the subject matter hereof and supersedes all prior understandings with respect thereto. This Agreement may not be modified, changed, supplemented or terminated, nor may any obligations hereunder be waived, except by written instrument signed by the party to be charged or by its agent duly authorized in writing or as otherwise expressly permitted herein. This Agreement may be executed in one or more counterparts, each of which shall be an original, and all of which together shall constitute a single instrument. The parties do not intend to confer any benefit hereunder on any person, firm or corporation other than the parties hereto.

14. Time of Essence/Business Days. Rocklyn and City hereby acknowledge and agree that time is strictly of the essence with respect to each and every term, condition, obligation and provision hereof and that failure to timely perform any of the terms, conditions, obligations or provisions

hereof by either party shall constitute a material breach of and a non-curable (but waivable) default under this Agreement by the party so failing to perform. Unless the context otherwise requires, all periods terminating on a given day, period of days, or date shall terminate at 5:00 p.m. (Eastern Time) on such date or dates, and references to "days" shall refer to calendar days except if such references are to "business days" which shall refer to days which are not Saturday, Sunday or a legal holiday. Notwithstanding the foregoing, if any period terminates on a Saturday, Sunday or a legal holiday, under the laws of the State of Georgia, the termination of such period shall be on the next succeeding business day.

15. Construction. This Agreement shall be construed and performed in accordance with the laws of the State of Georgia. Any action to protect or enforce rights under the provisions of this contract shall be brought in the Superior Court of Jackson County, Georgia.

16. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which together shall be deemed to constitute one and the same instrument. For purposes of the execution of this Agreement, the signature of a party on a counterpart hereof transmitted by facsimile or electronic mail shall be binding with the same force and effect as if it was manually affixed to a hard copy original of this Agreement.

17. Relocation of Water and Sewer Lines. The City anticipates that the Georgia Department of Transportation ("GDOT") will proceed with improvements to State Highway 53. Therefore, the City and Rocklyn agree that Rocklyn shall use commercially reasonable efforts to minimize the installation of water or sewer lines serving the Development Project within GDOT right-of-way along and including State Highway 53. The parties hereto recognize that GDOT may, pursuant to O.C.G.A. Section 32-6-170, et seq., seek payment from the City for all expenses related to the relocation of water and sewer infrastructure out of GDOT right-of-way along and including State Highway 53. In the event that (i) GDOT approves a roadway improvement project to State Highway 53, (ii) said project necessitates the relocation of water or sewer lines installed by Rocklyn within the right-of-way of State Highway 53, and (iii) GDOT pursues collection of such expenses by sending the City formal written notice or demand within twenty (20) years of payment of the Sewer Connection Fee, Rocklyn, and Rocklyn's successors and assigns, agree to pay all such expenses sought by GDOT relating specifically in any way to water and sewer infrastructure serving the Development which was installed by Rocklyn.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have each executed and delivered this Agreement as of the day and year first above written.

ROCKLYN:

ROCKLYN HOMES, INC.,
A Florida corporation

By: _____

Name: David Jenkins

Title: President

Attest: Timothy a. Jenkins

Name: Timothy Jenkins

Title: V.P.

CITY: Duluth

CITY OF HOSCHTON

By: _____
James Lawson, Acting Mayor

Attest: _____ Date: _____
Jennifer Kidd-Harrison, City Clerk

CITY SEAL

Approved as to form:

_____
Abbott S. Hayes, Jr., City Attorney

IN WITNESS WHEREOF, the parties hereto have each executed and delivered this Agreement as of the day and year first above written.

ROCKLYN:

ROCKLYN HOMES, INC.,
A Florida corporation

By: _____

Name: _____

Title: _____

_____ Attest: _____

_____ Name: _____

_____ Title: _____

CITY:

CITY OF HOSCHTON

By: _____
Debbie Martin, Mayor

Attest: _____
Jennifer Kidd-Harrison, City Clerk

Date: 12-18-2023

CITY SEAL

Approved as to form:

_____
Abbott S. Hayes, Jr., City Attorney

CITY OF HOSCHTON, GEORGIA
SEAL

EXHIBIT A – LEGAL DESCRIPTION OF THE PROPERTY

ALL THAT TRACT OR PARCEL OF LAND lying and being in GMD 1407, Jackson County, Georgia and being more particularly described as follows:

BEGIN at a found 1/2 inch rebar, said rebar having coordinates of North: 1,485,399.1 and East: 2,424,919.5, coordinates based on NAD83 State Plane Coordinate system, Georgia West zone, said rebar located on the easterly right of way of GA. Highway 53 (variable public right of way), said rebar being the TRUE POINT OF BEGINNING;

THENCE leaving said easterly right of way of GA. Highway 53 and proceed North 87 degrees 09 minutes 44 seconds East a distance of 978.40 feet to a found axle; thence South 83 degrees 36 minutes 34 seconds East a distance of 46.57 feet more or less to a point at the centerline of a branch, said point being referred to as Point "A" (the commencement point of a tie-in line "A"-"B"); thence following the centerline of said branch and the meanderings thereof, 769 feet more or less to a point, said point being referred to as point "B", (the terminus of said tie-in line "A"-"B"), said tie-in line from point "A" and to point "B" having the course of South 46 degrees 28 minutes 58 seconds East a distance of 668.70 feet more or less to a point; thence leaving said centerline of a branch and proceed South 31 degrees 06 minutes 00 seconds East a distance of 736.43 feet to a found 1 inch rebar; thence South 87 degrees 07 minutes 18 seconds East a distance of 1543.43 feet to a set 1/2 inch rebar with cap; thence North 05 degrees 53 minutes 48 seconds East a distance of 1399.97 feet to a found 1 inch rebar; thence South 81 degrees 59 minutes 28 seconds East a distance of 98.66 feet to a found 1/2 inch open top pipe; thence North 89 degrees 00 minutes 55 seconds East a distance of 368.19 feet more or less to a point at the centerline of a Indian Creek, said point being referred to as Point "C" (the commencement point of a tie-in line "C"-"D"); thence following the centerline of said creek and the meanderings thereof, 4747 feet more or less to a point, said point being referred to as point "D", (the terminus of said tie-in line "C"-"D"), said tie-in line from point "C" and to point "D" having the course of South 23 degrees 58 minutes 42 seconds East a distance of 3886.20 feet more or less to a point; thence leaving said centerline of said creek and proceed South 68 degrees 58 minutes 23 seconds West a distance of 1587.00 feet to a set 1/2 inch rebar with cap; thence South 68 degrees 57 minutes 58 seconds West a distance of 836.71 feet to a marked hole in concrete located on northerly right of way of said GA. Highway 53; thence along said northerly and easterly right of way of GA. Highway 53 the following courses and distances: North 63 degrees 27 minutes 00 seconds West a distance of 185.79 feet to a found right of way monument; North 62 degrees 37 minutes 44 seconds West a distance of 1263.78 feet to a set 1/2 inch rebar with cap; North 62 degrees 31 minutes 30 seconds West a distance of 62.00 feet to a point; along a curve turning to the right with an arc length of 465.41 feet, having a radius of 940.65 feet, being subtended by a chord bearing of North 48 degrees 07 minutes 01 seconds West, and a chord length of 460.68 feet to a point; North 34 degrees 01 minutes 31 seconds West a distance of 897.29 feet to a set 1/2 inch rebar with cap; North 34 degrees 01 minutes 31 seconds West a distance of 192.98 feet to a set 1/2 inch rebar with cap; South 55 degrees 24 minutes 28 seconds West a distance of 9.27 feet to a found right of way monument; North 34 degrees 13 minutes 12 seconds West a distance of 398.97 feet to a point; North 33 degrees 15 minutes 40 seconds West a distance of 174.95 feet to a point; North 33 degrees 04 minutes 42 seconds West a distance of 146.52 feet to a point; North 30 degrees 30 minutes 46 seconds West a distance of 54.72 feet to a point; North 29 degrees 03 minutes 57 seconds West a distance of 50.52 feet to a point; North 27 degrees 06 minutes 11 seconds West a distance of 45.05 feet to a point; North 23 degrees 33 minutes 33 seconds West a distance of 78.81 feet to a point; North 21 degrees 22 minutes 03 seconds West a distance of 80.44 feet to a point; North 20 degrees 51 minutes 23 seconds West a distance of 79.49 feet to a point; North 20 degrees 35 minutes 55 seconds West a distance of 339.35 feet to a point; North 20 degrees 21 minutes 46 seconds West a distance of 406.85 feet to a set 1/2 inch rebar with cap; thence North 20 degrees 35 minutes 57 seconds West a distance of 605.79 feet to a found 1/8" open top pipe; thence North 20 degrees 25 minutes 49 seconds West a distance of 47.15 feet to a found 1/2 inch rebar, said rebar being the TRUE POINT OF BEGINNING.

Tract or parcel contains 287.14 acres, more or less.

EXHIBIT B – SITE PLAN

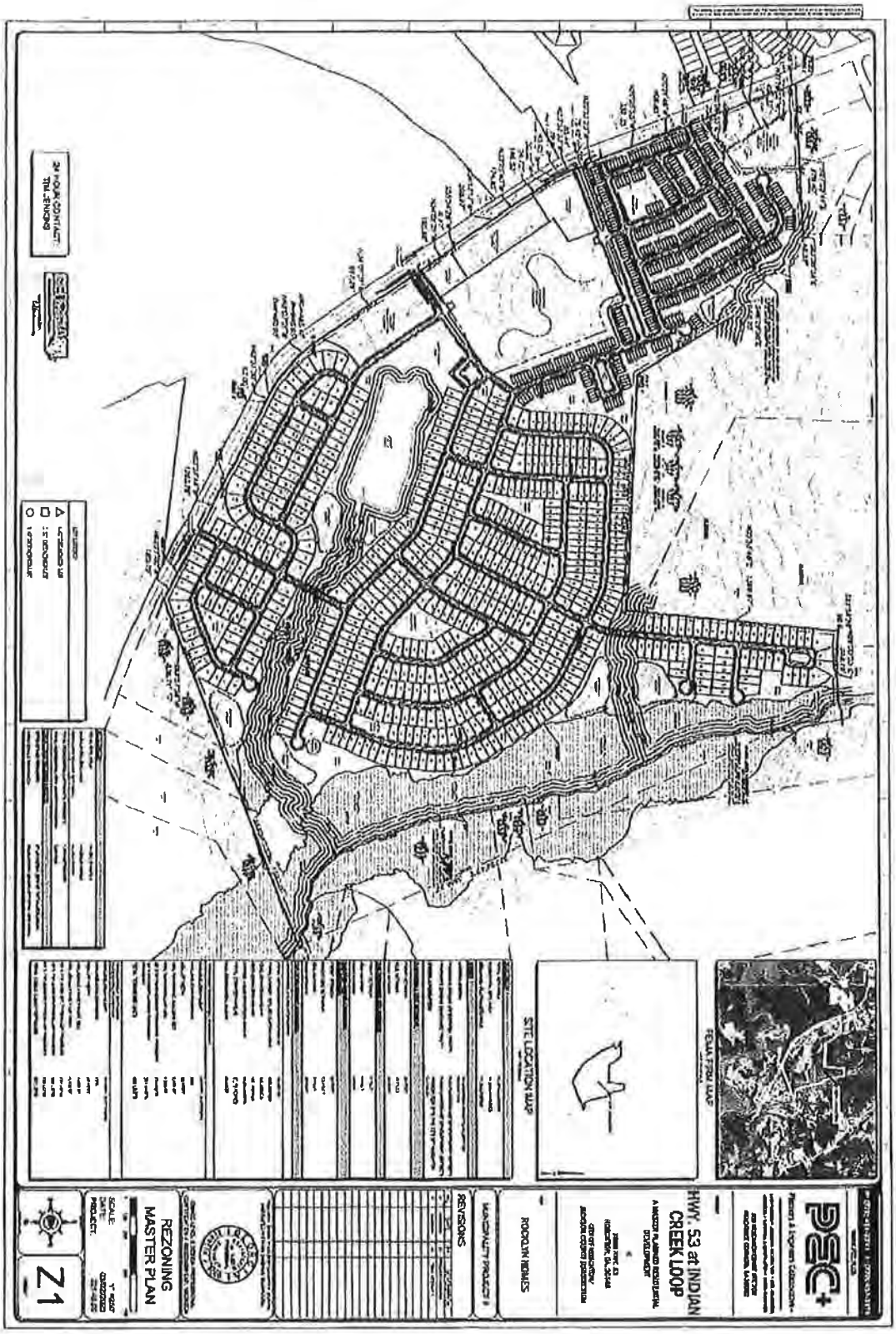


EXHIBIT C – ORDINANCE

CITY OF HOSCHTON
STATE OF GEORGIA

ORDINANCE Z-23-03

AN ORDINANCE TO PROVIDE FOR THE ANNEXATION OF LAND TO THE EXISTING CORPORATE LIMITS OF THE CITY OF HOSCHTON, GEORGIA; TO PROVIDE FOR THE ZONING CLASSIFICATION FOR SUCH ANNEXED PROPERTY; TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF HOSCHTON TO REFLECT ANNEXATION AND ZONING; TO PROVIDE NOTICE OF THE APPROVED ANNEXATION TO THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS AND JACKSON COUNTY AS WELL AS THE LEGISLATIVE AND CONGRESSIONAL REAPPORTIONMENT OFFICE OF THE GENERAL ASSEMBLY; TO PROVIDE FOR AN EFFECTIVE DATE FOR AD VALOREM TAX AND OTHER PURPOSES; TO LIMIT REZONING OF THE PROPERTY ANNEXED TO A HIGHER DENSITY OR INTENSITY FOR A SPECIFIED PERIOD; AND FOR OTHER PURPOSES

WHEREAS, Rocklyn Homes, Inc., applicant, Mary Ann Kenerly and New Hope AME Church, property owners, have filed complete applications to annex and zone approximately 287.14 acres with PUD (Planned Unit Development) District zoning classification, said property proposed to be annexed consisting of Map/Parcel 114/001A (approximately 2.54 acres) (New Hope AME Church, owner), Map/Parcel 114/001B1 (approximately 0.12 acres) (New Hope AME Church, owner), Map/Parcel 114/002A (approximately 229.46 acres) (Mary Ann Kenerly, owner), and Map/Parcel 114/001B (approximately 55.76 acres) (Mary Ann Kenerly, owner) said property proposed to be annexed fronting approximately 5,571 feet on the north/east side of State Route 53 south of Pearl Industrial Avenue (the "Subject Property"); and

WHEREAS, said annexation application includes the written and signed applications of all (100%) of the owners of all of the Subject Property, except the owners of any public street, road, highway, or right of way, proposed to be annexed, as required by O.C.G.A. § 36-36-21; and

WHEREAS, additionally, the applicant seeks to zone the Subject Property to PUD (Planned Unit Development) District zoning classification; and

WHEREAS, the Subject Property is more particularly described in Exhibit A which by reference is incorporated herein;

WHEREAS, the property to be annexed is a "contiguous area" to the existing city limits of Hoschton as that term is defined by O.C.G.A. § 36-36-20(a); and

WHEREAS, the Property to be annexed does not result in an "unincorporated island" as that term is defined in O.C.G.A. § 36-36-4; and

WHEREAS, pursuant to O.C.G.A. § 36-36-6, the city provided written notice of the proposed annexation to the governing authority of the County (the Jackson County Board of Commissioners) as required by law; and

WHEREAS, pursuant to O.C.G.A. § 36-36-111, notice by verifiable delivery of the proposed annexation and the proposed zoning district or districts by the city was sent to the county governing authority and the affected school system, said notice having been accomplished by certified mail or statutory overnight delivery, return receipt requested, as required; and

WHEREAS, the Jackson County Board of Commissioners objected to the proposed annexation pursuant to O.C.G.A. § 36-36-113, and served the city with proper notice of such objection; and

WHEREAS, pursuant to O.C.G.A. §36-36-114, an arbitration panel was appointed to hear the annexation dispute; and

WHEREAS, pursuant to O.C.G.A. §36-36-115(a), the arbitration panel met on August 28, 2023 to receive evidence from the parties to the annexation dispute and rendered its findings on August 29, 2023; and

WHEREAS, none of the parties to the annexation dispute have appealed the decision of the arbitration panel; and

WHEREAS, the Hoschton City Council has authority pursuant to O.C.G.A. § 36-36-1 *et seq.* to annex certain property and authority pursuant to the Hoschton Zoning Ordinance to amend the City of Hoschton's Official Zoning Map; and

WHEREAS, the annexation and zoning application constitute a "development of regional impact;" and

WHEREAS, the City has complied with administrative rules of the Georgia Department of Community Affairs regarding the filing and processing of development of regional impact applications; and

WHEREAS, the Hoschton City Council held two public hearings on the application and has complied with all applicable laws and ordinances with respect to the public notice for public hearings and for the processing of such application; and

WHEREAS, the city's consulting planner has prepared a report on the annexation and zoning request, and such report provides findings with regard to the application and the extent to which the application is consistent with standards governing the exercise of zoning power articulated in the Hoschton zoning ordinance; and

WHEREAS, it has been determined by the Mayor and Council that such application meets the requirements of law pertaining to said application as required by applicable provisions

in Chapter 36 of Title 36 of the Georgia Code and that it is desirable, necessary and within the public's interest to approve the annexation application and zoning application of the applicant and to amend the City of Hoschton's Official Zoning Map accordingly; and

WHEREAS, per the requirements of HB 1385 (amending O.C.G.A. § 36-36-3), effective July 1, 2022, the city is required to file a report identifying any property annexed with the Legislative and Congressional Reapportionment Office of the General Assembly, in addition to the Georgia Department of Community Affairs and the county wherein the property annexed is located;

Now, Therefore, The Council of the City of Hoschton HEREBY ORDAINS as follows:

Section 1.

The property proposed for annexation, described in Exhibit A, is hereby annexed to the existing corporate limits of the City of Hoschton, Georgia, and is hereby zoned PUD, Planned Unit Development, conditional, subject to conditions of zoning specified in Exhibit B attached to this ordinance.

Section 2.

An identification of the property annexed by this ordinance shall be filed with the Georgia Department of Community Affairs and with the governing authority of Jackson County (Jackson County Board of Commissioners) in accordance with O.C.G.A. § 36-36-3, as well as with the Legislative and Congressional Reapportionment Office of the General Assembly as required by HB 1385 (amending O.C.G.A. § 36-36-3), effective July 1, 2022. The city clerk is directed to coordinate the submission of Geographic Information System (GIS) shape files by the Jackson County Geographic Information System (GIS) Department to the City of Hoschton for transmittal to said Reapportionment office as required by law. The city clerk is further directed to enter the annexation information and signed annexation ordinance into the Georgia Department of Community Affairs' online annexation reporting system.

Section 3.

For ad valorem tax purposes, the effective date of this annexation and zoning shall be on December 31 of the year during which such annexation occurred.

Section 4.

For all purposes other than ad valorem taxes, the effective date of this annexation and zoning shall be the first day of the month following the month during which this ordinance approving the annexation and zoning was adopted.

Section 5.

The zoning administrator is directed to update the official zoning map of the city to reflect the new city limits and the zoning classification of the property annexed as well as the property rezoned by this ordinance.

Section 6.

By no later than the next five-year update of the comprehensive plan, the zoning administrator is directed to show the area annexed on the future land use plan map of the city's comprehensive plan with a land use category that most closely approximates the zoning district or districts assigned to the annexed area.

Section 7.

Pursuant to O.C.G.A. § 36-36-117, the city shall not change the zoning, land use, or density of the annexed property for a period of two years unless such change is made in the service delivery agreement or comprehensive plan and adopted by the affected city and county and all required parties.

So ORDAINED, this the 18th Day of September, 2023.

James Lawson, Acting Mayor

This is to certify that I am City Clerk of the City of Hoschton. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this ordinance was adopted as stated and will be recorded in the official minutes.

ATTEST:

Jennifer Kidd-Harrison, City Clerk

CITY OF HOSCHTON, GEORGIA SEAL

APPROVED AS TO FORM

Abbott S. Hayes, Jr., City Attorney

EXHIBIT A
DESCRIPTIONS OF PROPERTY

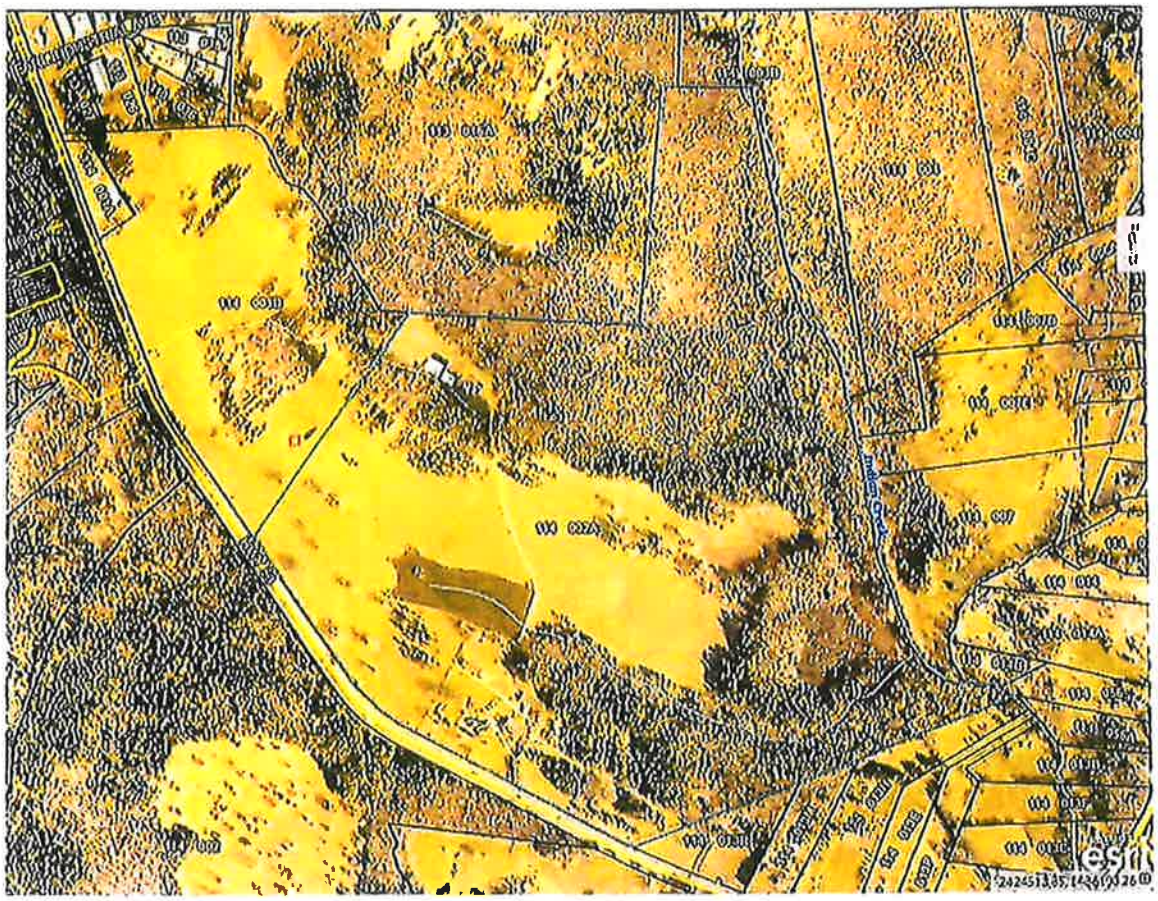
ALL THAT TRACT OR PARCEL OF LAND lying and being in GMD 1407, Jackson County, Georgia and being more particularly described as follows:

BEGIN at a found 1/2 inch rebar, said rebar having coordinates of North: 1,485,399.1 and East: 2,424,919.5, coordinates based on NAD83 State Plane Coordinate system, Georgia West zone, said rebar located on the easterly right of way of GA. Highway 53 (variable public right of way), said rebar being the TRUE POINT OF BEGINNING;

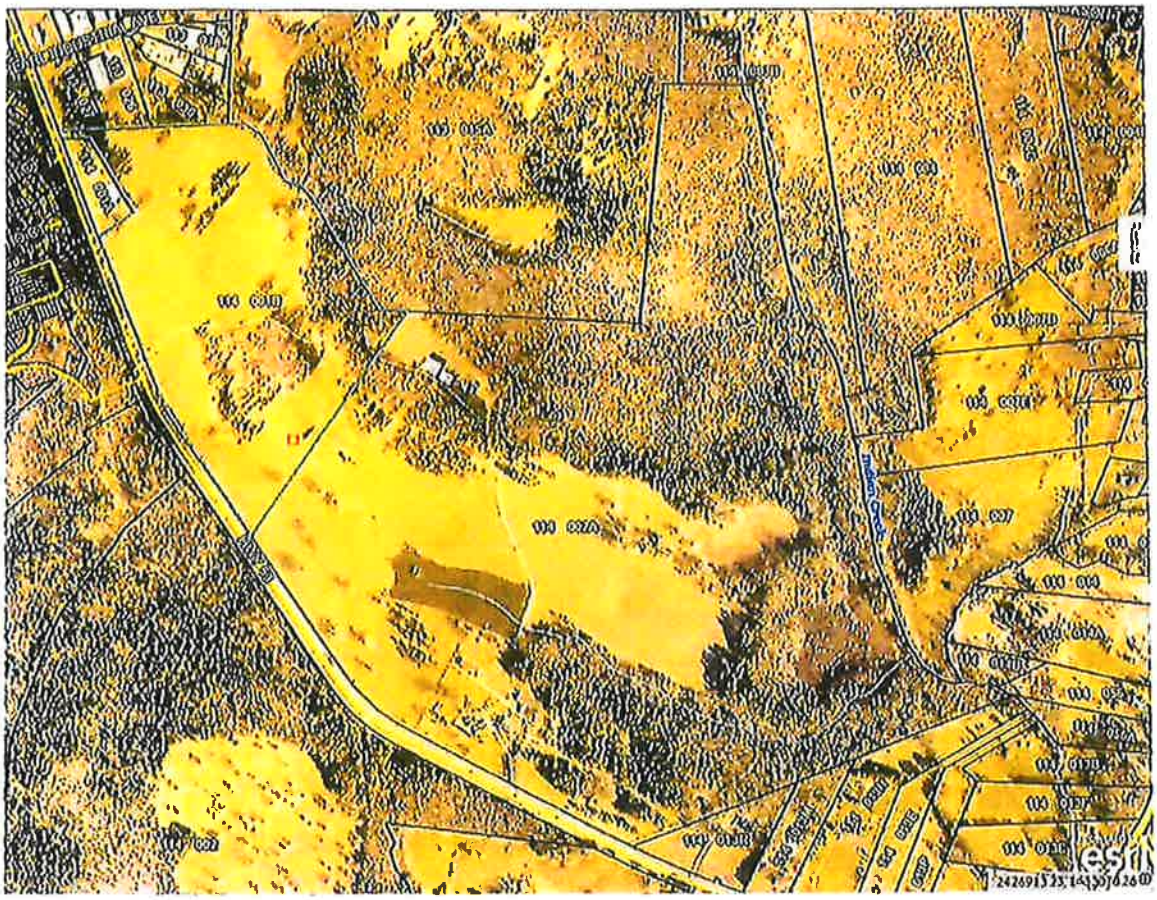
THENCE leaving said easterly right of way of GA. Highway 53 and proceed North 87 degrees 09 minutes 44 seconds East a distance of 978.40 feet to a found axle; thence South 83 degrees 36 minutes 34 seconds East a distance of 46.57 feet more or less to a point at the centerline of a branch, said point being referred to as Point "A" (the commencement point of a tie-in line "A"-"B"); thence following the centerline of said branch and the meanderings thereof, 769 feet more or less to a point, said point being referred to as point "B", (the terminus of said tie-in line "A"-"B"), said tie-in line from point "A" and to point "B" having the course of South 46 degrees 28 minutes 58 seconds East a distance of 668.70 feet more or less to a point; thence leaving said centerline of a branch and proceed South 31 degrees 06 minutes 00 seconds East a distance of 736.43 feet to a found 1 inch rebar; thence South 87 degrees 07 minutes 18 seconds East a distance of 1543.43 feet to a set 1/2 inch rebar with cap; thence North 05 degrees 53 minutes 48 seconds East a distance of 1399.97 feet to a found 1 inch rebar; thence South 81 degrees 59 minutes 28 seconds East a distance of 98.66 feet to a found 1/2 inch open top pipe; thence North 89 degrees 00 minutes 55 seconds East a distance of 368.19 feet more or less to a point at the centerline of a Indian Creek, said point being referred to as Point "C" (the commencement point of a tie-in line "C"-"D"); thence following the centerline of said creek and the meanderings thereof, 4747 feet more or less to a point, said point being referred to as point "D", (the terminus of said tie-in line "C"-"D"), said tie-in line from point "C" and to point "D" having the course of South 23 degrees 58 minutes 42 seconds East a distance of 3886.20 feet more or less to a point; thence leaving said centerline of said creek and proceed South 68 degrees 58 minutes 23 seconds West a distance of 1587.00 feet to a set 1/2 inch rebar with cap; thence South 68 degrees 57 minutes 58 seconds West a distance of 836.71 feet to a marked hole in concrete located on northerly right of way of said GA. Highway 53; thence along said northerly and easterly right of way of GA. Highway 53 the following courses and distances: North 63 degrees 27 minutes 00 seconds West a distance of 185.79 feet to a found right of way monument; North 62 degrees 37 minutes 44 seconds West a distance of 1263.78 feet to a set 1/2 inch rebar with cap; North 62 degrees 31 minutes 30 seconds West a distance of 62.00 feet to a point; along a curve turning to the right with an arc length of 465.41 feet, having a radius of 940.65 feet, being subtended by a chord bearing of North 48 degrees 07 minutes 01 seconds West, and a chord length of 460.68 feet to a point; North 34 degrees 01 minutes 31 seconds West a distance of 897.29 feet to a set 1/2 inch rebar with cap; North 34 degrees 01 minutes 31 seconds West a distance of 192.98 feet to a set 1/2 inch rebar with cap; South 55 degrees 24 minutes 28 seconds West a distance of 9.27 feet to a found right of way monument; North 34 degrees 13 minutes 12 seconds West a distance of 398.97 feet to a point; North 33 degrees 15 minutes 40 seconds West a distance of 174.95 feet to a point; North 33 degrees 04 minutes 42 seconds West a distance of 146.52 feet to a point; North 30 degrees 30 minutes 46 seconds West a distance of 54.72 feet to a point; North 29 degrees 03 minutes 57 seconds West a distance of 50.52 feet to a point; North 27 degrees 06 minutes 11 seconds West a distance of 45.05 feet to a point; North 23 degrees 33 minutes 33 seconds West a distance of 78.81 feet to a point; North 21 degrees 22 minutes 03 seconds West a distance of 80.44 feet to a point; North 20 degrees 51 minutes 23 seconds West a distance of 79.49 feet to a point; North 20 degrees 35 minutes 55 seconds West a distance of 339.35 feet to a point; North 20 degrees 21 minutes 46 seconds West a distance of 406.85 feet to a set 1/2 inch rebar with cap; thence North 20 degrees 35 minutes 57 seconds West a distance of 605.79 feet to a found 1/8" open top pipe; thence North 20 degrees 25 minutes 49 seconds West a distance of 47.15 feet to a found 1/2 inch rebar, said rebar being the TRUE POINT OF BEGINNING.

Tract or parcel contains 287.14 acres, more or less.

Map/Parcel 114/002A



Map/Parcel 114/001B



Map/Parcel 114/001A

Map/Parcel 114/001B1

EXHIBIT B
CONDITIONS OF ZONING APPROVAL

The Planned Unit development (PUD) zoning approved per this ordinance shall be subject to the following conditions of approval:

CONDITIONS OF APPROVAL
Z-23-03 PUD ZONING
9-18-23

1. **Substantial accordance with final development plan book.** Unless otherwise required by these conditions of zoning approval, the property shall be developed in substantial accordance with "Exhibit A: Site Plan" and the final development plan book submitted to the City of Hoschton on September 1, 2023 (the "Final Plan Book").

2. **Permitted and required uses.**

   (a) **Open space.** The PUD must consist of at least 20 percent open space. Any real property within the PUD dedicated to the City of Hoschton shall be subtracted from the total site area of the PUD for purposes of calculating the 20 percent requirement.

   (b) Only ½ of any open waterway within the PUD can be counted toward meeting the open space requirement. Open space tracts shall be required to be delineated separately from stormwater detention tracts, unless the zoning administrator accepts calculations of open space that separate stormwater facilities from lands authorized to be counted as open space per the PUD requirement for open space in the city's zoning ordinance.

   (c) **Civic space and recreational amenities.** There shall be civic space and recreational amenities for the PUD provided by the owner/ developer in substantial accordance with those described in the Final Plan Book. There shall be at least three "pocket" parks integrated in the detached, single-family portion of the PUD. There shall be at least one amenity integrated into the townhouse portion of the PUD. There shall be a master amenity which shall be accessible by pedestrians and vehicles from all uses in and areas of the PUD. A trail system shall be incorporated along or within the Indian Creek floodplain/ stream corridor area, and it shall connect to the existing lake which shall be incorporated into the PUD as an amenity feature.

   (d) **Residential uses.** The PUD shall be authorized to have detached, single-family residential dwelling units (lots) and fee-simple townhouses (lots), as specified in greater detail in these conditions of approval. There shall be no attached or multiple-family residential units authorized (e.g., apartments, condominiums) other than fee simple townhouse units.

   (e) **Churches and institutional uses.** Churches, cemeteries accessory to churches, and institutional uses shall be permitted within the PUD.

   (f) **Commercial uses minimum area. generally.** There shall be a minimum of 3.0 acres within the PUD for commercial uses. Commercial uses shall be limited to the +/-3.0

acres depicted as Outparcel #1 and Outparcel #2 on the Final Plan Book. The minimum 3.0 acres excludes the existing church site, cemetery and church expansion area proposed in the PUD application.

(g) **Commercial uses permitted.** Unless specifically prohibited by these conditions of zoning approval, uses permitted in the C-2 zoning district of the Hoschton zoning ordinance generally shall be permitted in commercial areas of the PUD, and uses listed as conditional in the C-2 zoning district may be authorized as conditional uses following conditional use procedures of the Hoschton zoning ordinance.

(h) **Commercial uses prohibited:** That following commercial uses shall be prohibited in the PUD: Adult establishment, automobile-oriented use (sales, service, repair), check cashing/ payday loan facility, gas station, dollar store, fireworks sales, funeral home, hookah/vapor bar or lounge, self-storage or mini-warehouse; smoke or vape shop, tattoo or body piercing parlor, and title loan facility.

(i) **Conditional use(s).** One or more uses not authorized by these conditions may (unless specifically prohibited by these conditions) be considered for approval and approved by the Hoschton City Council after the filing of a conditional use permit application in accordance with requirements of the City's zoning ordinance.

3. **Dedication of land**. Subject to the approval of the City of Hoschton, the owner/ developer shall donate, transfer, and convey at no cost to the City of Hoschton the following:

(a) approximately 3.3 acres of property located along Highway 53 and depicted as "Civic Space #1 Fire/Police/Safety" on Exhibit A: Site Plan for any public purpose deemed appropriate in the sole judgment of the City of Hoschton;

(b) approximately 4.0 acres of property located along Highway 53 and depicted as "Civic Area #2 Community Gathering Space" on Exhibit A: Site Plan for any public purpose deemed appropriate in the sole judgment of the City of Hoschton; and

(c) approximately 16.35 acres of land adjacent to the Public Safety Complex area and labeled as "School/Civic" on Exhibit A: Site Plan for any public purpose deemed appropriate in the sole judgment of the City of Hoschton.

(d) **Timing and condition of dedications**. At the time of conveyance, owner/developer shall deliver the real property in a pad ready condition. Owner/developer shall donate, transfer, and convey said parcels of land no later than one year from the approval of any land disturbance permit.

4. **Residential development; housing units; housing unit mix;**

(a) The maximum number of dwelling units/lots shall be 1,055.

(b) Of the total 1,055 units authorized, at least 60 percent shall be detached, single-family dwellings (i.e., 633 units minimum, if the total number of units authorized are constructed).

(c) No more than 40 percent of the total units authorized may be fee simple townhouse units (i.e., 422 units maximum, if the total number of units authorized are constructed).

5. **PUD Dimensional requirements generally.**

   (a) **Buffer abutting light industrial**. A 25-foot wide buffer, which may be graded and replanted, shall be required to be provided and maintained along the entire north property line of Map/Parcel 114/ 001B abutting the light industrial area.

   (b) **Landscape strip along SR 53 in front of church**. A 25-foot wide landscape strip shall be required to be planted and maintained along the church property frontage abutting SR 53 (Map/Parcel 114/001A).

   (c) A 25-foot wide buffer, which may be graded and replanted to meet the screening requirements of the Hoschton zoning ordinance, shall be provided and maintained along the PUD's south external property line abutting parcels 114/013R, 114/013M, and 114/013H in unincorporated Jackson County. Unless otherwise approved by the zoning administrator, screening tree species shall consist of savannah holly, southern magnolia, and red cedar or combination thereof.

   (d) A natural vegetative buffer shall be maintained for fifty (50) feet, measured horizontally on both banks (as applicable) of streams as measured from the top of the stream bank. An additional setback shall be maintained for twenty-five (25) feet, measured horizontally beyond the undisturbed natural vegetative buffer in which all impervious cover shall be prohibited.

   (e) The principal building setback from a PUD exterior property line shall be 30 feet.

6. **Residential dimensional requirements.** The residential land uses in the PUD shall be subject to the following dimensional requirements:

   (a) **Maximum building height, all units**: 40 feet and 3 stories.

   (b) **Maximum lot coverage:** 75% detached homes; 90% attached townhomes.

   (c) **Minimum driveway length measured from back of sidewalk** (front loading) or alley (rear loading) to face of garage, all units: 20 feet.

   (d) **Parking, all units:** A minimum two-car garage is required for each unit.

   (e) **Street trees:** 1 per lot.

   (f) **Dimensional requirements by lot type:** The following dimensional requirements and limitations shall apply to residential lots, and the maximum number of the 40-foot detached lots shall not exceed those shown in the Final Plan Book:

Residential Lot Type	Minimum Lot Size (sq. ft.)	Minimum Lot Width (ft.)	Minimum Front, Side, Major Side/Corner, Rear Building Setbacks (ft.)
60-foot Detached	6,100	60	15, 5, 7.5, 20
50-foot Detached	5,100	50	15, 5, 7.5, 20

40-foot Detached	4,100	40	15, 5, 7.5, 20
Attached (townhouses)	1,300	22	0, 0, 0,0

(g) **Minimum heated floor area per dwelling unit:** 1,600 square feet (townhouses); 1,600 square feet (one-story detached homes) 1,800 square feet (two-story detached homes)

(h) **Minimum separation between townhouse buildings:** 20 feet.

7. **Residential architectural elevations and external building material finishes.** The architectural style of homes shall be in general accordance with the renderings included in the Final Plan Book. Front facades of homes shall be constructed primarily (50% or more) of brick and/or stone. The sides and rear shall be the same or of fiber cement shake, siding, and/or board and batten.

8. **Residential development dimensional requirement not specified.** Where the Final Plan Book or these conditions of zoning fail to articulate a given regulation for residential development, such as accessory building setbacks and the like, the project shall be required to adhere to dimensional requirements of the MFR (Multi-family Residential) zoning district and general provisions of the Hoschton zoning ordinance, unless a variance is applied for and obtained.

9. **Commercial dimensional requirements.**

(a) **Maximum building height:** 40 feet.

(b) **Maximum building coverage (% of site area):** 80%

(c) **Principal building setbacks:** 20' front, 20' side, 20' rear.

(d) **Frontage landscape strip (width):** 10'.

(e) **Minimum tree canopy and minimum landscaped open space (% of lot):** 20%.

10. **Commercial architectural elevations and external building material finishes.** The owner/developer shall submit for City Council's consideration and approval, prospective front, side and rear elevations of commercial architecture included in the PUD, prior to issuance of a building permit for any such building. In addition, the owner/developer shall submit as a part of this package uniform standards and guidelines for commercial signage and PUD project entrances. Once approved the elevation drawings and standards and guidelines shall be binding on all builders and enforceable at the time of commercial building permit issuance.

11. **Commercial development dimensional requirement not specified.** Where the approved PUD application and these conditions of zoning fail to articulate a given regulation for commercial development, such as accessory building setbacks, maximum lot coverage, and the like, the project shall be required to adhere to dimensional requirements of the C-2 zoning district and general provisions of the Hoschton zoning ordinance, unless a variance is applied for and obtained.

12. **Internal subdivision street standards.** All local subdivision streets serving residential development within the PUD shall be required to meet or exceed the following requirements:
    (a) Minimum right of way width: 50 feet
    (b) Minimum pavement width: 26 feet as measured from back-of-curb to back-of-curb
    (c) Minimum centerline horizontal radius: 125 feet
    (d) Minimum alley right-of-way or access/utility easement width: 25 feet
    (e) Minimum alley pavement width: 18 feet
    (f) Rolled curbs shall be authorized
    (g) Sidewalk standards: Minimum sidewalk width: 5 feet; Minimum landscape strip between back of curb and sidewalk: 2 feet
    (h) Minimum radius for cul-de-sac right of way: 50 feet
    (i) Minimum radius for cul-de-sac roadway: 40 feet (measured to face of curb)
    (j) Hammerhead turnarounds shall be a permitted turnaround design, so long as they are less than 150 feet meeting Appendix D of the Fire Code

13. **Improvement of State Route 53.**

    (a) Prior to any final plat approval for the respective property with frontage, or prior to the issuance of a development permit in the case of commercial use, the owner/developer shall be required to install at owner/developer's expense improvements as may be required by the Georgia Department of Transportation (GDOT).

    (b) Unless otherwise approved by the GDOT, the entrances/exits onto SR 53 shall be limited to the number and shall be improved to the standards recommended by the traffic engineer in the traffic study submitted with the application for Development of Regional Impact (DRI) and the Planned Unit Development (PUD) zoning.

    (c) The owner/developer shall install a traffic signal at the PUD project entrance aligning with Crystal Lake Parkway, if and when warranted and approved by GDOT.

    (d) Construction of multi-use trail/Life Path. The owner/developer shall at no cost to the city construct an 8-foot wide multi-use path along the subject property's frontage on Highway 53.

14. **Sewage system lift station requirements.**

    (a) The PUD shall be designed so that there is no more than one sanitary sewer lift station to serve the entire development. In the event that it is impossible or impracticable to serve the entire development with a single sanitary sewer lift station, a second sanitary sewer lift station may be provided, if approved by the Director of the City of Hoschton Water and Utilities Department.

(b) The sewage lift station(s) shall be constructed by the owner/developer at no cost to the city, except as otherwise conditionally provided in this zoning condition.

(c) The sewage lift station shall be located on a lot with a minimum area of 10,000 square feet. Said lot shall have at least 30 feet of frontage on a public street and shall be deeded, in fee simple title to the city of Hoschton, within one year of final construction approval.

(d) After construction of the sewage lift station by the owner/developer and dedication to the city, if determined in the public interest by the city, the city may on its own initiative initiato a capital project to oversize the lift station to serve subsequent additional development upstream of the sewer lift station.

15. **Pedestrian connection to Sell's Mill Park.** Prior to the issuance of the final certificate of occupancy the owner/developer shall, if authorized by the county, construct a pedestrian connection from the PUD and its open space and pedestrian access network (i.e, trail network along Indian Creek) to county-owned Sell's Mill Park (Map/Parcel 114/ 003B). Said trail connection shall be provided as a natural surface (i.e., mulch or gravel) trail.

16. **Arbitration Panel Finding.** The City of Hoschton shall levy the Jackson County impact fees at the time of building permit issuance and remit the impact fees to Jackson County.

17. **Collection of Jackson County impact fees.** Collection of Jackson County impact fees as set forth in the preceding section shall be subject to the negotiation and finallzation of an intergovernmental agreement between the City of Hoschton and Jackson County, in a form satisfactory to the City Council of the City of Hoschton.

18. **Sewer connection fees and capacity**.

(a) In order to have the capital funds needed to construct wastewater treatment plant capacity to serve the subject PUD, the city will, prior to and as a condition of preliminary plat approval require the owner/ developer to pay in advance of building permitting the amount of $6,330,000.00, which is the prepayment of sewer connection fees for the development of 1,055 residential units.

(b) The condition set forth in this section shall be further outlined in an agreement between the owner/developer and the City of Hoschton. As part of said agreement, the owner/developer shall acknowledge that the PUD project shall not be vested with rights to connect to sanitary sewer until the connection fees are paid and until an agreement between the owner/developer and the City of Hoschton as to this condition is approved and executed by both the owner/developer and the City of Hoschton.

19. **Water line(s) serving the PUD.**

(a) The owner/ developer shall at no cost to the city extend a water trunk main (size and type to be determined and approved by the city engineer) to the PUD and provide for all water lines necessary to serve the PUD with city water.

(b) The city engineer may require any such water lines to be looped for adequate water pressure.

(c) The city engineer may require any such water lines to be connected or interconnected to other water system components, including future water supplies and as may be determined appropriate and as may be required by these zoning conditions.

20. **Water supply.**

(a) The owner/ developer agrees to authorize the city to explore the subject property for potential tapping of groundwater supply via a public well or wells.

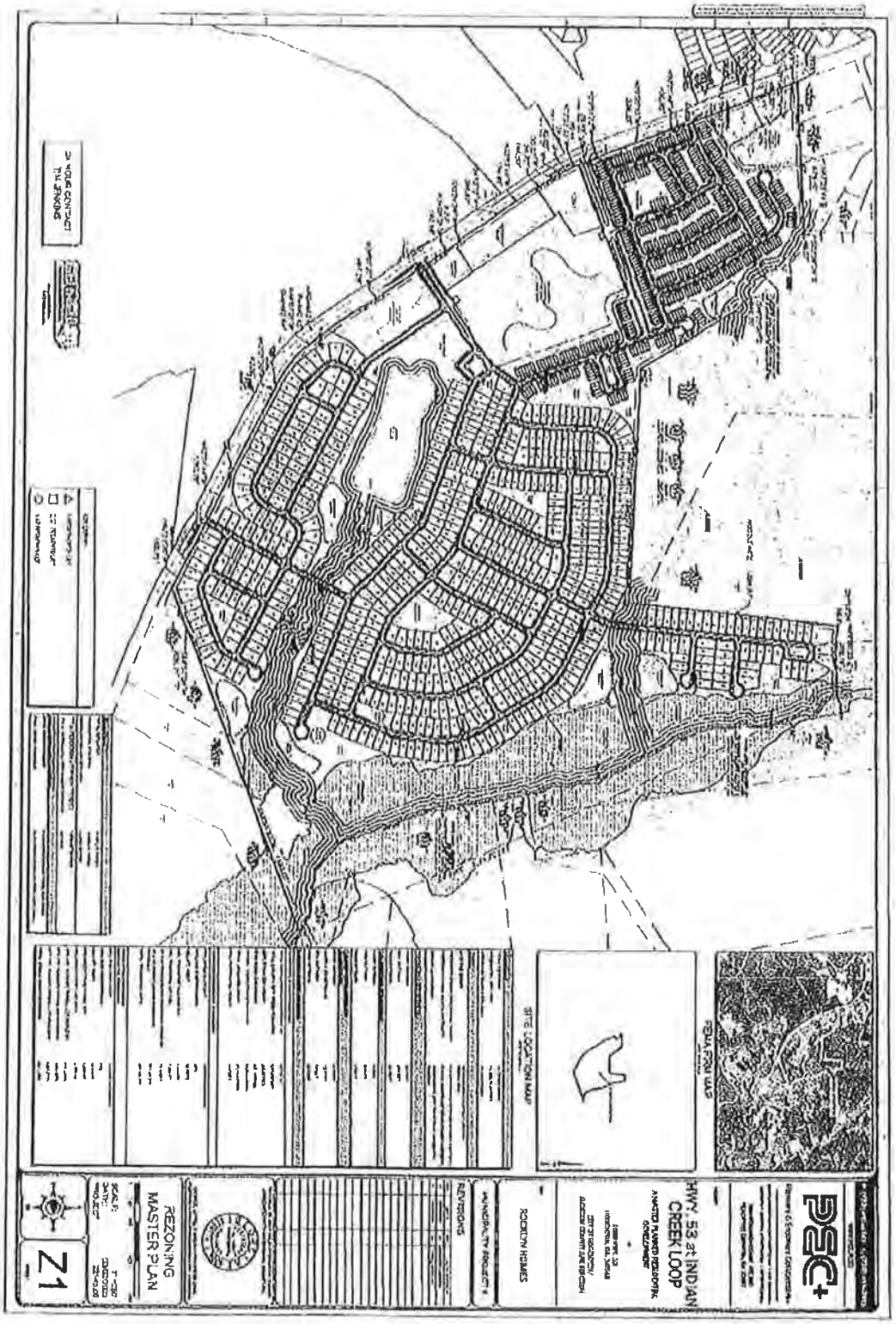
(b) If one or more well water sites are considered appropriate by the city and the owner/developer after such explorations or studies, the owner/ developer agrees to negotiate with the city in good faith for the dedication of such water well site(s) at no cost to the city or in exchange for reduction, waiver or credit of certain subsequent water connection fees.

(c) The city may require the participation of the owner/ developer in the construction of water well capital facilities in exchange for the reduction, waiver, or credit of subsequent water connection fees, subject to the approval of and acceptance by the owner/ developer.

(d) This condition shall be satisfied prior to the issue of any development permit involving connection to the city or other public water system.

21. Public street connection. To provide for a potential future public (local) through street connection, the owner/developer shall provide a publicly dedicated street right of way with a minimum 50-foot wide right of way and a local street with a pavement width of at least 26 feet from back of curb to back of curb within the Planned Unit Development, connecting SR 53 to the common property line between Map/Parcel 114/001B and 113/015A. The right of way shall extend to said common property line, and the pavement shall extend to within 25 feet of said common property line.

EXHIBIT "A": SITE PLAN



October 31, 2023

Tim Jenkins
Rocklyn Homes
3505 Koger Blvd, Suite 275
Duluth, GA, 30548

Re: ***(1514) Hwy 53 @ (145) Indian Creek Loop***
Stream and Wetland Delineation
City of Hoschton, Georgia
Planners and Engineers Collaborative, Inc. Project No. 22145.00

Dear Mr. Jenkins,

A site visit was conducted by representatives from Planners and Engineers Collaborative, Inc. (PEC+) on October 11th, 2023, to verify the presence and location of jurisdictional streams, open waters and wetlands. The evaluation included a preliminary investigation of previously surveyed aquatic resources using third party sources, online databases, and a site visit to delineate and locate all aquatic features within the project area. This report summarizes the findings and future permitting considerations. The data collected is necessary documentation that would be required by the US Army Corps of Engineers for permitting falling under the 404 Clean Water Act.

Site Description

The project is located on tax parcels 114 001B, 114 002A, and 113 015A, in the City of Hoschton, Ga (Jackson County). This property is located on the in between two residential developments in a large undeveloped region of Jackson County. There is an approximately six acre, man-made pond onsite with a small pier that is in disrepair. There is also an existing residential structure onsite with inhabitants. The total acreage of the property is approximately 286 acres.

The subject property is located within the Cedar Creek – Mulberry River Watershed, Hydrologic Unit Code (HUC) 030701010204. Indian Creek forms the site's western border and is listed on the 2022 Georgia EPD integrated 305(b)/303(d) list, however, its assessment has not been completed. Indian Creek is a significant tributary to the Mulberry River. (Source: epd.georgia.gov).

Aquatic Resources

PEC+ utilized the 1987 *Corps of Engineers Wetlands Delineation Manual* methodology to identify potential wetlands on the site. Streams were identified using the parameters described in the NCDWQ Stream ID version 4.11. Additional data collection will be necessary to obtain the submittal evidence required by the EPD and the USACE.

The following table is a list of jurisdictional features that PEC+ identified during the field investigation. See also the attached Delineation Survey.

FEATURE	TYPE	CLASSIFICATION	CODE	LENGTH (lf)	AREA (sf)	AREA (ac.)
PS-N	Indian Creek	RIVERINE	R5SBC	4280.5896	85,611.7920	1.9654
IS-1	Intermittent Stream 1	RIVERINE	R4SBC	2973.0647	22,297.9852	0.5125
IS-2	Intermittent Stream 2	RIVERINE	R4SBC	941.5822	4,707.9110	0.1081
IS-3	Intermittent Stream 3	RIVERINE	R4SBC	1271.2801	9534.6008	0.2189
WL-1	Wetland 1	PALUSTRINE	PFO1C	N/A	6,828.9525	0.1568
OW-1	Open Water 1	PALUSTRINE	PUBHh	N/A	239,371.6924	5.4952

Threatened and Endangered Species

One "Candidate" species was listed by the US FWS IPaC as potentially occurring within the project location, the Monarch Butterfly(*Danaus plexippus).* Adherence to the 25-foot undisturbed vegetative stream buffer and providing stream protection through runoff reduction practices should mitigate impacts of construction activity on these species, however, Candidate Conservation Status, outlined under the Endangered Species Act(ESA), states "Candidate species receive no statutory protection…" and as such no additional conservation efforts are required.

Permitting Considerations

USACE Permitting: A nationwide permit (NWP) 29 would be required for impacts to streams and wetlands associated with a residential development. This permit authorizes impacts to Waters of the U.S. up to 0.5-acres. A pre-construction notification (PCN) would be required for any impacts to jurisdictional streams and wetlands. A compensatory mitigation plan is required for all impacts that are equal to or greater than 0.1 acre of wetlands and 0.01 acres of jurisdictional streams while stream disturbance is limited to 0.05 acres per project.

EPD Stream Buffer Variance: Per the requirements of O.C.G.A. § 12-7-6(15), there is an established a 25-foot buffer along the banks of all state waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action. Encroachments within this buffer may require a variance from EPD. Road crossings are exempt from a variance, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream.

LIA Stream Buffer Variance: The City of Hoschton is the Local Issuing Authority(LIA) for the project area and maintains an additional 25-foot prohibiting land-disturbing practices for all trout streams as measured outwardly from and perpendicular to the 25-foot State EPD Stream Buffer(Code 2016, § 34-104.3.P)

Should you have any questions, please feel free to contact me at 770.451.2741 or bmurphy@pec.plus
Sincerely,

Billy Murphy, ISA, TRAQ
Planners and Engineers Collaborative
350 Research Court, Peachtree Corners, GA 30092
Main Office: 770-451-2741 | Direct Line: 678-684-6202 | Fax: 770-451-3915

Appendices:

App. 1: Aquatic Resource Map

App. 2: NWI Map

App. 3: USDA Soil Survey

App. 4: Photographic Logs

App. 5: IPaC Report

Appendix 1: Aquatic Resources Map


FEATURE IS-3
INTERMITTENT STREAM
1271.2801 LF / 0.2189 AC
FEATURE
INDIAN C
4280.589

Appendix 2: NWI Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

22145.00 - Hwy 53

October 31, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Appendix 3: USDA Soil Survey

Hydric Rating by Map Unit—Barrow, Hall, and Jackson Counties, Georgia
(22145.00 - Hwy 53)

Map Scale: 1:12,200 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barrow, Hall, and Jackson Counties, Georgia
Survey Area Data: Version 18, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 19, 2022—Apr 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ApC	Appling sandy loam, 6 to 10 percent slopes	0	0.8	0.3%
CeB	Cecil sandy loam, 2 to 6 percent slopes	0	19.3	6.4%
CeC	Cecil sandy loam, 6 to 10 percent slopes	0	24.1	8.0%
CfC2	Cecil sandy clay loam, 6 to 10 percent slopes, eroded	0	108.5	35.8%
ChE	Chestatee stony sandy loam, 15 to 25 percent slopes	0	10.8	3.6%
Cw	Chewacla-Wehadkee complex	30	56.8	18.7%
MdB	Madison sandy loam, 2 to 6 percent slopes	0	6.7	2.2%
MdC	Madison sandy loam, 6 to 10 percent slopes	0	10.2	3.4%
MlC2	Madison sandy clay loam, 6 to 10 percent slopes, moderately eroded	0	2.1	0.7%
PuD2	Pacolet soils, 10 to 15 percent slopes, eroded	0	54.1	17.9%
To	Toccoa soils	0	4.6	1.5%
W	Water	0	5.0	1.6%
Totals for Area of Interest			**303.0**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Appendix 4: Photographic Log

Photo 1: Indian Creek (PS-N)

Photo 2: Intermittent Stream 1 (IS-1)

Photo 3: Wetland Area 1 (WL-1)

Photo 3: Open Water 1 (OW-1)

Appendix 5: IPaC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601-2523
Phone: (706) 613-9493 Fax: (706) 613-6059

In Reply Refer To:
Project Code: 2024-0011132
Project Name: 22145.00 - Hwy 53

October 31, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design if you determine those species or designated critical habitat may be affected by your proposed project.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency, project proponent, or their designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make “no effect” determinations. If you determine that your proposed action will have “no effect” on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally listed threatened or endangered fish or wildlife species without the appropriate permit. If you need additional information to assist in your effect determination, please contact the Service.

If you determine that your proposed action may affect federally listed species, please consult with the Service. Through the consultation process, we will analyze information contained in a biological assessment or equivalent document that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a Habitat Conservation Plan) may be necessary to exempt harm or harass federally listed threatened or endangered fish or wildlife species. For more information regarding formal consultation and HCPs, please see the Service's Section 7 Consultation Library and Habitat Conservation Plans Library Collections.

Action Area. The scope of federally listed species compliance not only includes direct effects, but also any indirect effects of project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations). The action area is the spatial extent of an action's direct and indirect modifications or impacts to the land, water, or air (50 CFR 402.02). Large projects may have effects to land, water, or air outside the immediate footprint of the project, and these areas should be included as part of the action area. Effects to land, water, or air outside of a project footprint could include things like lighting, dust, smoke, and noise. To obtain a complete list of species, the action area should be uploaded or drawn in IPaC rather than just the project footprint.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. An updated list may be requested through IPaC.

ESA Section 7 consultation (and related tools such as the EDGES and/or DKeys) apply to projects being permitted or funded by a Federal agency. However, please note that a lead federal agency may consider an action area that excludes portions of the project footprint. In these cases, further coordination with our office may be required to ensure compliance with the ESA. It is the responsibility of the project proponent to coordinate with the lead federal agency to understand the action and action area being reviewed as part of ESA Section 7 consultation.

How to Submit a Project Review Package. If you determine that your action may affect any federally listed species and would like technical assistance from our office, please send us a complete project review package. A step by step guide is available at the Georgia Ecological Services Project Planning and Review page (https://www.fws.gov/office/georgia-ecological-services/project-planning-review).

Beginning April 1, 2023, requests for threatened and endangered species project reviews must be submitted to our office using the process described below. (If you are not emailing us to submit a project for review, your email will be forwarded to the appropriate staff.) This is a three-step process. All steps must be completed to ensure your project is reviewed by a biologist in our office and you receive a timely response. In brief the steps are:

Step 1. Request an official species list for your project through IPaC (Done!)
Step 2. Complete applicable Determination Keys
Step 3. Send your complete project project review package to **GAES_Assistance@FWS.gov** for review if no DKey is applicable or all aspects of the project are not addressed by DKeys, i.e. a species returned by IPaC does not have a DKey to address impacts to it. A complete project review package should include:

1. A description of the proposed action, including any measures intended to avoid, minimize, or offset effects of the action. The description shall provide sufficient detail to assess the effects of the action on listed species and critical habitat, such as the purpose of the action; duration and timing of the action; location (latitude and longitude); specific activities involving disturbance to land, water, and air, and how they will be carried out; current description of areas to be affected directly or indirectly by the action; and maps, drawings, or similar schematics of the action.
2. An updated Official Species List and DKey results
3. Biological Assessments (may include habitat assessments and information on the presence of listed species in the action area);
4. Description of effects of the action on species in the action area and, if relevant, effect determinations for species and critical habitat;
5. Conservation measures and any other available information related to the nature and scope of the proposed action relevant to its effects on listed species or designated critical habitat (e.g., management plans related to stormwater, vegetation, erosion and sediment plans). Visit the Georgia Conservation Planning Toolbox (https://www.fws.gov/story/conservation-tools-georgia) for information about conservation measures.
6. In the email subject line, use the following format to include the Project Code from your IPaC species list and the county in which the project is located (Example: Project Code: 2023-0049730 Gwinnett Co.). For Georgia Department of Transportation related projects, please work with the Office of Environmental Services ecologist to determine the appropriate USFWS transportation liaison.

The Georgia Ecological Services Field Office will send a response email within approximately 30 days of receipt with technical assistance or further recommendations for specific species.

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value. We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website (https://www.fws.gov/program/national-wetlands-inventory) integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for

permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Birds Program (https://fws.gov/program/migratory-birds). To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction. It can be found at the Service's Migratory Birds Conservation Library Collection (https://fws.gov/library/collections/migratory-bird-conservation-documents).

Information related to best practices and migratory birds can be found at the Service's Avoiding and Minimizing Incidental Take of Migratory Birds Library Collection (https://fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds).

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at the Service's Bald and Golden Eagle Management Library Collection (https://fws.gov/library/collections/bald-and-golden-eagle-management).

NATIVE BATS

If your species list includes Indiana bat (*Myotis sodalis*) or northern long-eared bat (*M. septentrionalis*) and the project is expected to impact forested habitat that is appropriate for maternity colonies of these species, forest clearing should occur outside of the period when bats may be present. Federally listed bats could be actively present in forested landscapes from April 1 to October 15 of any year and have non-volant pups from May 15 to July 31 in any year. Non-volant pups are incapable of flight and are vulnerable to disturbance during that time.

Indiana, northern long-eared, and gray (*M. grisescens*) bats are all known to utilize bridges and culverts in Georgia. If your project includes maintenance, construction, or any other modification or demolition to transportation structures, a qualified individual should complete a survey of these structures for bats and submit your findings via the Georgia Bats in Bridges cell phone application, free on Apple and Android devices. Please include these findings in any biological

assessment(s) or other documentation that is submitted to our office for technical assistance or consultation.

Additional information can be found at Georgia Ecological Services' Conservation Planning Toolbox and Bat Conservation in Georgia pages.

MONARCH BUTTERFLY

On December 20, 2020, the Service determined that listing the Monarch butterfly (*Danaus plexippus*) under the Endangered Species Act is warranted but precluded at this time by higher priority listing actions. With this finding, the monarch butterfly becomes a candidate for listing. The Service will review its status each year until we are able to begin developing a proposal to list the monarch.

As it is a candidate for listing, the Service welcomes conservation measures for this species. Recommended, and voluntary, conservation measures for projects in Georgia can be found at our Monarch Conservation in Georgia (https://www.fws.gov/project/monarch-conservation-georgia) page.

EASTERN INDIGO SNAKE

Our office has published guidance documents to assist project proponents in avoiding and minimizing potential impact to the eastern indigo snake. The Visual Encounter Survey Protocol for the Eastern Indigo Snake (*Drymarchon couperi*) in Georgia is recommended for project proponents or their designees to evaluate the possible presence of the Eastern indigo snake at a proposed project site. The Standard Protection Measures for the Eastern Indigo Snake (*Drymarchon couperi*) include educational materials and training that can help protect the species by making staff working on a project site aware of their presence and traits. In Georgia, indigo snakes are closely associated with the state-listed gopher tortoise (*Gopherus polyphemus*), a reptile that excavates extensive underground burrows that provide the snake shelter from winter cold and summer desiccation.

SOLAR ENERGY DEVELOPMENT

The Recommended Practices for the Responsible Siting and Design of Solar Development in Georgia were published in September 2023 and are intended to provide voluntary guidance to support consideration of natural resources during the development of photovoltaic solar in Georgia. Furthermore, the Georgia Low Impact Solar Siting Tool (LISST) is available as a web application and as a map layer in IPaC (Find it in the "Layers" Box > "Environmental Data") to provide project managers with the data to identify areas that may be preferred for low-impact development. The tool seeks to support the acceleration of large-scale solar development in areas with less impact to the environment.

STATE AGENCY COORDINATION

Additional information that addresses at-risk or high priority natural resources can be found in the State Wildlife Action Plan (https://georgiawildlife.com/WildlifeActionPlan), at Georgia Department of Natural Resources, Wildlife Resources Division Biodiversity Portal (https://georgiawildlife.com/conservation/species-of-concern), Georgia's Natural, Archaeological, and

Historic Resources GIS portal (https://www.gnahrgis.org/gnahrgis/index.do), and the Georgia Ecological Services HUC10 Watershed Guidance page.

Thank you for your concern for endangered and threatened species. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please email gaes_assistance@fws.gov and reference the project county and your Service Project Tracking Number.

This letter constitutes Georgia Ecological Services' general comments under the authority of the Endangered Species Act.

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601-2523
(706) 613-9493

PROJECT SUMMARY

Project Code: 2024-0011132
Project Name: 22145.00 - Hwy 53
Project Type: Acquisition of Lands
Project Description: Land Research
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.07743835,-83.73363844173826,14z

Counties: Jackson County, Georgia

ENDANGERED SPECIES ACT SPECIES

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

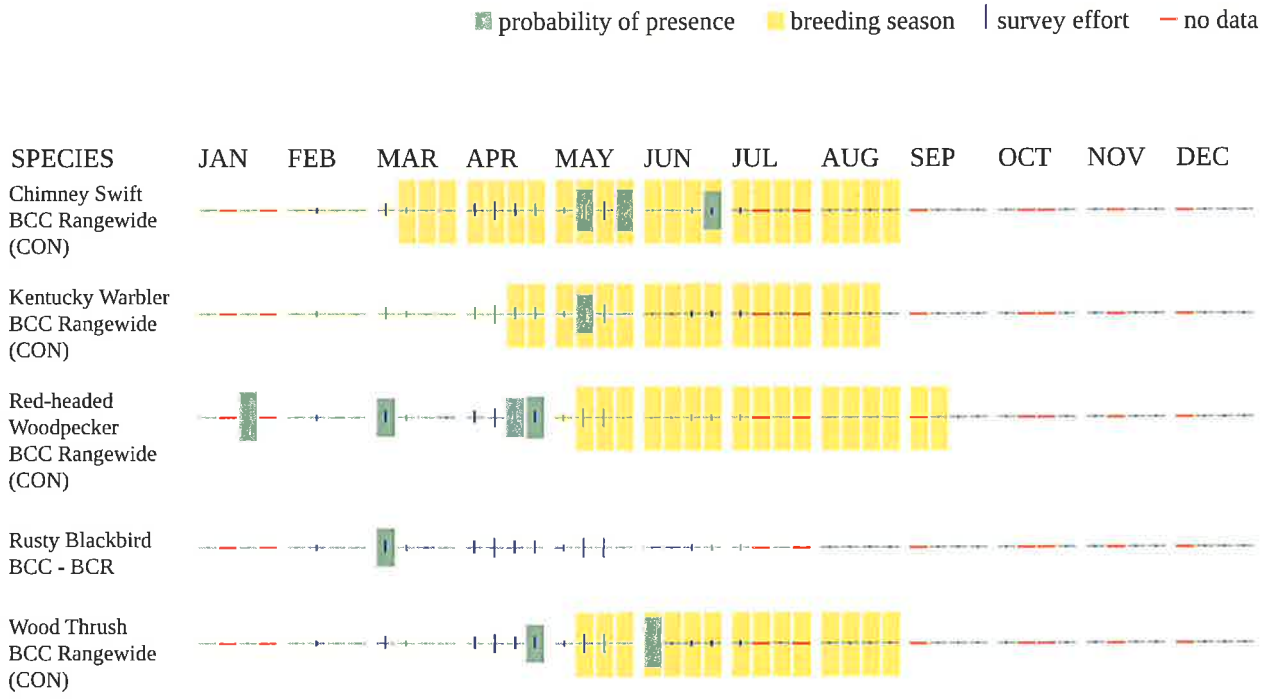
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PSS1C
- PFO1C

RIVERINE

- R2UBH
- R5UBH
- R4SBC

IPAC USER CONTACT INFORMATION

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