

# **PROJECT CONNECT**

## **REVISED ALTERNATIVES ANALYSIS**<sup>1</sup>

This document is prepared and submitted pursuant to the permitting jurisdiction of the Department of the Army, U.S. Army Corps of Engineers (USACE or Corps) under Section 404 of the Clean Water Act (CWA) and certain requirements set forth under the National Environmental Policy Act, 42 U.S.C.A. §§ 4321 *et seq.* (NEPA).

### **1.0 INTRODUCTION**

The South Carolina Department of Commerce (Commerce) and Richland County (County) (collectively, the Applicant), for and on behalf of an economic development client of the State of South Carolina (Client),<sup>2</sup> submits an application for a project that would result in an impact on the environment and involve the discharge of dredge and fill material into waters of the United States. Section 404 of the CWA establishes a regulatory program over such discharges, including wetlands, through issuance of Department of Army (DA) permits. The Applicant proposes to develop an approximately 2,581-acre site to include the construction and operation of a new rail-served advanced manufacturing facility for an original equipment manufacturer (OEM) in the automotive industry, with a dedicated interstate interchange for project connectivity. The site is located partially in the unincorporated part of Richland County and partially within the corporate limits of the Town of Blythewood, South Carolina, also in Richland County (Proposed Project). This analysis is drafted to aid and assist compliance with the guidelines promulgated by the United States Environmental Protection Agency (USEPA) in conjunction with the Secretary of the Army under the authority of Section 404(b)(1) of the CWA (Guidelines)<sup>3</sup> and NEPA.

#### **1.1 Project Background**

Commerce is an instrumentality of the State of South Carolina, whose statutory purpose, as set forth in set forth in S.C. Code Ann. § 13-1-20, is to implement a statewide program for the stimulation of economic activity to develop the potentialities of the State, and enhance the economic growth and development of the State through strategic planning and coordinating activities, among other

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<sup>1</sup> This document has been updated to address comments received during the public comment period. Additionally, this document is supplemented, as described below, by additional memoranda specific to the interchange and roadway components of the project, enclosed as Exhibits A, B, and C, respectively.

<sup>2</sup> Client is an advanced manufacturer in the automotive sector interested in constructing and operating the proposed project set forth herein and in the accompanying application. As frequently occurs in recruiting economic development projects to the State, and consistent with the Cooperative Agreement between Commerce and the Corps, dated October 1, 2016, as amended, Commerce and the County will serve as co-applicants on the application. Upon the issuance of a Section 404 Permit, it is anticipated that the Permit and its attendant responsibilities will be transferred to the Client.

<sup>3</sup> 40 C.F.R. Part 230.

activities. The County is a body corporate and politic existing under S.C. Const. art. VIII and Title 4 of the Code of Laws of South Carolina, located in the Midlands of South Carolina. By and through the County's Economic Development Office, the County seeks to expand, diversify and sustain the local economy in Richland County by assisting companies that provide meaningful job opportunities and generate new wealth for its citizens. Client is one of the world's leading OEM companies specializing in automotive production with existing North American sister-facilities.

In accordance with Commerce's statutory authority and the County's economic development mission, for and on behalf of Client, the Applicant proposes to develop a site for the construction and operation of a new rail-served advanced manufacturing facility in the automotive industry for an OEM, with dedicated interchange access, that will take advantage of South Carolina's transportation, distribution, and logistics (TDL) cluster and initiatives.<sup>4</sup> The Proposed Project facilities will serve as the new worldwide production site for automotive vehicles within the burgeoning electric vehicle (EV) automotive industry sector. The fully constructed facilities and support operations will allow Client to source, stage, assemble, produce, and manufacturer fully-assembled automobiles in scalable manner that meets the growing demand and needs of end-users. The Proposed Project is planned to include up to \$2 billion in private capital investment in the State and create approximately 4,900 high-wage advanced manufacturing jobs in the Midlands of South Carolina during Phase I. As subsequent phases of the project are implemented, the total permanent new jobs is expected to scale to approximately 9,800. In addition, the Proposed Project is projected to create approximately 3,535 temporary construction-related job supported (directly or indirectly) during the construction phase, creating an additional total of \$1.1 billion in labor income growth over that period. The temporary and permanent cumulative economic impacts of the Proposed Project is estimated to be nearly \$15.3 billion by year 2029. In sum, the Proposed Project is expected to provide a significant economic impact on Richland County, the greater Columbia area, and the State of South Carolina.

The design of the Proposed Project has been developed under a master plan concept that will be constructed in phases to support existing demand, while allowing for planned expansion within the available acreage to address future growth opportunities to meet projected and new demand. The onsite work for the Proposed Project facilities is planned to be built in two or more phases. Ground-clearing activities on the site have begun in non-wetland areas. Activities in the wetland areas would begin immediately upon issuance of the Section 404 permit. Construction of Phase I of the Proposed

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<sup>4</sup> South Carolina has a robust TDL cluster infrastructure providing a base for reliant advanced manufacturing facilities, as evidenced by the active involvement and support of public and private institutions of these industry sectors. In particular, the South Carolina Automotive Council, a division of the South Carolina Manufacturers Alliance, acts as a leading organization dedicated to enhancing the state's automotive manufacturing sector's position, including fostering collaboration, promoting innovation, and maintaining a business environment conducive to growth and success in a global marketplace. South Carolina further boasts successful public-private partnerships within the industry, including between the South Carolina Council on Competitiveness (SCCC) and Commerce in the form of the TDL Council, a division of the SCCC that aims at improving the TDL cluster in South Carolina to ensure adequate infrastructure support all industry clusters in South Carolina.



Project would begin upon the completion of the necessary site work and is contemplated to include construction of the necessary facilities to produce EV automobiles starting in 2026. Specifically, Phase I of the Proposed Project will consist of site preparation work and the cumulative construction of 16 buildings, totaling approximately 5,250,000/sf in buildings to stage materials and house facilities for the production of automobiles, including assembly and finish (1,520,000/sf), paint (432,480/sf), body (1,303,000/sf), a central control building (113,660/sf), SQM2 (36,630/sf), utility (59,960/sf), truck gate/security control center (8,925/sf), fire station (9,215/sf), recycle center (15,275/sf), main gate/welcome center (6,438/sf), tank farm (15,790/sf), factory substation (290,727/sf), supplier substation (290,725/sf), outbound building (1,344/sf), battery assembly shop (833,418/sf), and the axle shop (320,865/sf). Phase I will also entail construction of attendant infrastructure, including a new interchange on I-77, interior roadways, a rail spur and rail loading areas, truck and personal vehicle (POV) parking, and stormwater detention basins.

Below is a brief description of the automotive assembly manufacturing processes that are expected to occur in certain of the aforementioned Phase I buildings:

- i. Body Shop: In the body shop, parts are assembled to form the “body-in-white”, including stamped parts, the front-end subassembly, the rear-end subassembly, the side frame subassembly, the underbody subassembly, the mid-and upper-body assembly, and panels. Parts are joined using welds, solder, adhesives, and rivets. At the end of the body shop process, the “body-in-white” is lifted onto a conveyor and sent to the paint shop.
- ii. Paint Shop: The paint shop will be designed as a full, high volume operation to meet the Client’s requirements. The maximum production rate will be 45 vehicles per hour (45 jobs per hour or 45 JPH) during the first phase of the project and an additional 45 JPH during the second phase of the project, for a throughput capacity of 90 JPH. The facility will be designed to operate up to three shifts per day with a potential production level of 470,000 vehicles annually. The paint shop will receive vehicle bodies from the body shop and will deliver coated bodies to the assembly shop. The paint shop will include the operations described below:
  - a. *Degreasing and Pretreatment*: As the first step in the coating process, all vehicle body surfaces must be cleaned and treated in degreasing and pretreatment operation to maximize paint adhesion. Vehicle bodies are cleaned with alkaline cleaners followed by water rinses. The vehicle bodies are then pre-treated in a tri-cation phosphate solution followed by additional water rinses. The pretreatment solution prepares the metal (aluminum and steel) surfaces for the subsequent coating operations. The pretreatment tanks are exhausted to vent water vapor.
  - b. *E-Coat Tank and Oven*: The first coating applied to the vehicle bodies is electrocoat primer (E-coat). Vehicle bodies are dipped into one (1) of two (2) E-coat dip tanks of the water-borne E-coat made up of mixed pigment and resin components. While the bodies are in the tank, an electrical charge is applied that assists in the adhesion of

paint solids onto all portions of the vehicle body (interior and exterior surfaces). Following the coating application, the vehicle bodies are rinsed with water to remove and recover any excess or additional coating solids. The vehicle bodies are then directed to an electric E-coat oven. The vehicle bodies are cured in the oven to prepare for the next coating application. Each E-coat process line will have two (2) electric E-coat ovens with a capacity of 22.5 JPH.

- c. *PVC Deck:* A polyvinyl chloride (PVC) anti-chip material is applied to the vehicle lower body to prevent paint chipping due to stones or other objects hitting the vehicle. The PVC material is a low-VOC, high-solids material that is robotically applied to the vehicle body and air dried. Following PVC application, the vehicle bodies pass through the sealer ovens.
- d. *Paint Sealer and Deadener Deck and Oven:* The paint sealer and deadener application decks consist of several sealer application stations where various high-solids, low-VOC sealers and liquid sound deadeners are applied via manual or robotic applications. All applications are pumped directly onto the vehicle bodies (flow coating) to seal seams in the vehicle body to eliminate water or air leaks into the vehicle body. To prepare the sealer prior to topcoat application, the vehicle bodies are directed to electric sealer ovens to gel the sealers.
- e. *Topcoat Preparation (Workdeck):* After the sealer ovens, the vehicle bodies pass to a topcoat preparation area where the vehicle surface is cleaned using emu feathers and sword brushes.
- f. *Topcoat Operations:* Following the E-coat, sealer, and PVC operations, the vehicle bodies are directed to basecoat booths (two booths at 22.5 JPH for each line, for a total of four booths) where basecoat is applied to the vehicle body. This process is unique within the industry, as no primer (guidecoat) is applied to the vehicles prior to the application of basecoat. Following the basecoat booths, the vehicles are dried in a heated flash-off zone, and then move into clearcoat booths (two booths at 22.5 JPH for each line, for a total of four booths). The materials applied to the vehicle body will be high-solids, solvent-based coatings which allow for the painting application in smaller booths. The topcoat (basecoat and clearcoat) booths will apply two (2) basecoats and one (1) clearcoat to all exterior portions of the vehicle body as well as the door, decklid, and hood openings. All paint application will be performed by robotic and bell applicators. The air passing through each of the automated paint spray application zones will pass through a dry filtration system (inherent) and will then be recirculated through the zones to minimize the need to condition air (heating/cooling) before entering the booth. At all times during production, the air passing through the active spray zones will be recirculated and a portion of the air will be directed to abatement equipment (the concentrators and RTOs). The make-up air to replace the air directed to control will be cascaded from the air supplied to the back-up zones

where available. Therefore, the air passing through all flash and back-up zones where no painting occurs is also directed to the abatement equipment. As a result, all of the VOC emissions emitted from the active spray zones as well as the VOC emitted from vehicle bodies as they pass through the flash or back-up zones will be directed to the abatement equipment. Each painting robot station will be equipped with a purge pot collection system to capture and recover paint and solvents from the application equipment during color changes and applicator cleaning operations. The vehicle bodies will then be directed to the electric topcoat ovens (two ovens for each topcoat line, for a total of four ovens) where the applied coatings will be cured. All exhaust air from the ovens will be directed to the RTOs.

- g. *Finesse, Rework and Heavy Repair (Workdecks)*: After the topcoat ovens, the vehicle bodies move to inspection areas and then finesse decks where any imperfections in the cured topcoat are lightly sanded. Further rework is completed in the designated rework line. Larger repairs are completed in a heavy repair workdeck.
- h. *Tutone Operations*: In addition to the above described operations, a number of vehicles will receive additional coatings in the Tutone booths. Following E-coat, PVC, sealer, and topcoat operations, those vehicles slated for Tutone will receive a basecoat and Tutone application on limited portions of the vehicle, cure in a heated basecoat flash off zone, and receive a clearcoat application on limited portions of the vehicle. The Tutone process uses applicators that directly apply the coating to the vehicles without atomization or spray, resulting in nearly 100% transfer efficiency. This technology can only be used for the larger surfaces that require the Tutone coating. The air passing through each of the Tutone application zones will pass through a dry filtration system and will then be recirculated through the zones to minimize the need to condition air (heating/cooling) before entering the booth. At all times during production, air passing through the Tutone active spray zones will be recirculated and a portion will be directed to abatement equipment (the concentrators and RTOs). The make-up air to replace the air directed to control will be cascaded from the air supplied to the back-up zones where available. Therefore, the air passing through the flash tunnels and back-up zones where no painting occurs is also directed to the abatement equipment. The vehicle bodies will then be directed to the Tutone oven where the applied coatings will be cured.
- i. *Purge Solvent*: Purge solvent is used to remove coating material from application equipment. A purge solvent collection system is required to collect purge solvent from the application areas. The system then pumps the recovered solvent to the paint mix room for reuse or shipment off-site.
- j. *Spot Repair*: If a body panel or spot requires painting prior to existing the paint shop, the vehicle is sent to spot repair. In the spot repair process, primer, basecoat, and

clearcoat are manually applied, and the coatings are cured with portable lamps within the booth.

- k. *Cavity Wax*: After inspection and any necessary repairs, vehicle bodies are transferred to booths where cavity wax is applied to inner recesses of the vehicle bodies.
- l. *Paint Mix Room*: Paints, reducing solvents, purge solvents, and cleaning solvents will be stored, mixed, and dispensed in the paint mix room. These materials are supplied in drums or totes and fed to closed mix tanks for viscosity adjustment. The paints are pumped through continuously circulating paint lines from the mix tanks to the application equipment.
- m. *Abatement Equipment*: The VOC emissions from the E-coat tank and oven, topcoat booths, topcoat booths, Tutone booths, and Tutone ovens as described above will be directed to two (2) RTOs for VOC destruction as follows:
  - i. Booth Concentrators (2) – topcoat booths, Tutone booths
  - ii. RTOs (2) – E-coat oven, topcoat booths, topcoat ovens and flash off areas, Tutone booths, Tutone ovens and flash off areasEach RTO will operate with a minimum destruction efficiency of 95%. The RTOs will be electric and will not require fuel combustion.
- iii. Assembly Shop: The assembly shop is a series of conveyors where mechanical, electrical, and trim parts are installed on the painted bodies received from the paint shop. The major areas of the assembly shop operations include the floor line, trim line, chassis/battery line, and final repair. Most operations conducted in these areas do not generate any air emissions, including installation of sound-deadeners, and brake lines, as well as installation of various small parts, carpeting, seats, windows, bumpers and wheels. The air emission sources in the assembly shop are described below:
  - a. *Windshield Installation*: Windshield glazing activities include the application of primers and adhesives. A primer is used in the direct glazing process and an adhesive binds the windshield to the car body.
  - b. *Final Repair*: Final inspection may reveal damage to the painted surface. If a body panel or spot requires painting, the vehicle is sent to final repair. This repair operation differs from the repair operations in the paint shop in that it is designed to repair finished vehicles. Small spot repairs will be conducted in various areas within the assembly shop, while larger repairs will be conducted within a repair booth. In final repair, primer, basecoat, and clearcoat are applied using high volume low pressure (HVLP) spray guns. After necessary repairs have been completed, vehicles are buffed, polished and sent to staging for delivery to dealers.
  - c. *Fluid Filling*: After the installation of mechanical, electrical, and trim components, the vehicle is sent for the addition of necessary fluids. Fugitive emissions from ethanol-

based windshield washer fluid filling are exhausted through general facility ventilation and represent the only fluid filling emissions. Any other fluids have negligible vapor pressure and do not emit VOCs.

As further information on Phase I, the Proposed Project is expected to operate on three shifts, with shift one from 5:45 A.M. to 2:00 P.M., shift two from 1:45 P.M. to 10 P.M., and shift three from 9:45 P.M. to 6:00 A.M. Personal vehicle counts (POV) for each of the shifts is estimated to be 1,440 inbound, and 1,440 outbound, representing total estimated daily POV movements of 8,640. Truck movements associated with the operation of the Proposed Project is estimate to be 334 inbound, and 334 outbound for each shift, representing total estimated daily truck movements of 2,004. As a further general assumption, the typical commuter hours are estimate to be 10% of the facility's peaks.

The Proposed Project also includes a new, onsite rail spur from an existing Norfolk Southern rail line to the East of U.S. Highway 21 on the Eastern border of the project site (on the East side of I-77). The proposed rail spur would cross over I-77 to the South of the new proposed Exit 26 interchange, discussed below, enter the project site to the South of the facility, looping around the Southeastern corner of the facility, and terminating in a rail yard on the Western side of the facility, servicing the batter, axel shop, and press shop buildings of the facility. A new grade separated rail crossing of a re-aligned U.S. Highway 21 is also proposed to avoid an at-grade crossing. The Client estimates a need for 26,752 rail car loads per year, amounting to an estimate 2-4 train movements per day, five days a week, equaling between 520 to 1,040 train movements annually. The Client expects to source raw materials for its automotive manufacturing process domestically and internationally, including through the Port of Charleston, accomplished by a combination of truck and rail. Further, the Client expects initially to ship finished automobiles primarily domestically, through a combination of truck and rail; however, subject to demand, the Client anticipates a need to ship finished automobiles internationally as well, including through the Port of Charleston.

The remaining phases of the Proposed Project would be constructed and become operational after completion of Phase I, based on identified demand and projected growth opportunities. Specifically, the subsequent phases of the Proposed Project are projected to consist of the cumulative construction of approximately 20 additional buildings, totaling approximately 10,750,000,000/sf in buildings and facilities. The subsequent phases of the Proposed Project would largely mirror those constructed in Phase I, essentially doubling the production capacity of the overall facility, and would include additional facilities to house battery assembly, assembly, paint, finish, body, press shop, and finished automobile parking processes, as well as a two test tracks for finished automobiles, among other administrative buildings and features. Additional information regarding the acreages of the full project build-out, along with the space required for attendant infrastructure, is included below in Level 3 of this analysis.

Currently, there are two existing interchanges near the Proposed Project site: I-77 at U.S. Highway 21 (Exit 24) to the South, and I-77 at Blythewood Road (Exit 27) to the North. A traffic study has been conducted by cooperating State agency South Carolina Department of Transportation (SCDOT) that determines that these interchanges will not be able to process the traffic generated by the proposed development, resulting in a determination that there exists a need for a new, dedicated interchange in conjunction with the Proposed Project. A memorandum summarizing the traffic study and interchange justification is included as **Exhibit A**. The study determined that the existing interchanges will experience a substantial increase in traffic demand due to the Proposed Project. The proposed new interchange will be located at approximately mile marker 26 along I-77. This interchange would support future traffic demand on and off the interstate associated with the Proposed Project. The new interchange is proposed to tie into existing Community Road to the West of I-77 and to U.S. Highway 21 to the East of I-77 via construction of a new connector road. U.S. Highway 21 is proposed to be realigned to accommodate a new grade separated rail spur from an existing Norfolk Southern rail line, as discussed above, which will lead to and service the Proposed Project site. The rail spur will cross over I-77 to the South of the new proposed Exit 26 interchange. In addition, I-77 will be widened Southbound between Exits 24 and proposed Exit 26, as well as Northbound just South of Proposed Exit 26 to Exit 27. Based on its determination that a new interchange is justified and warranted, and since the submittal of the application on May 26, 2023, SCDOT has continued to evaluate multiple designs and configurations for the proposed new interchange and corresponding roadway connections to existing roads. Ultimately, SCDOT determined that, among the range of reasonable interchange alternatives considered for the Proposed Project, the Offset Interchange design was the most feasible and practicable design that met the purpose and need of the project, while limiting overall impacts to special aquatic sites. A supplemental analysis addressing the interchange concept screening process undertaken by SCDOT is included as **Exhibit B**. In addition, as SCDOT further evaluated different interchange designs, it also evaluated alternative locations for the connecting roadway between the interchange and U.S. Highway 21. These efforts were made for the express purpose of determining whether further avoidance and minimization impacts could be achieved through these modifications, as compared to the interchange design and connecting roadway connection originally put forward in the May 26, 2023 submission. Further avoidance and minimization was partially achieved, allowing the Applicant to avoid an additional 2.3 acres of wetlands; however, SCDOT's conclusion as to the most feasible and practicable alternative for the interchange and connecting roadway from a cost, logistics, and technology standpoint, resulted in additional impacts to streams of 119.09 linear feet. A memorandum addressing these avoidance and minimization measures is included as **Exhibit C**.

### 1.1.1 Proposed Project Area

The Proposed Project site is known as the Blythewood Industrial Site and is partially located in the corporate limits of the Town of Blythewood in Richland County, with the remainder of the acreage located in the unincorporated part of the County, both on the Western and Eastern sides of Interstate 77 (34°1950 N, -81.0001 W) (Property). The primary project area of the Property is approximately

bounded by Blythewood Road to the North and West, developed residential and commercial properties to the West/Southwest, commercial properties fronting on Northpoint Blvd to the South, and Community Road (which is a frontage road to Interstate 77) on the East. The Property is located approximately 0.1 miles from Exit 27 of Interstate 77, 1.2 miles from Exit 24 of Interstate 77, 74.5 miles from the Interstate 77 (Exit 9)/Interstate 85 (Exit 30) interchange, 79 miles from the Interstate 26 (Exit 169)/Interstate 95 (Exit 86) interchange, 130 miles from the Port of Charleston, 101 miles from the Inland Port Greer, and 110 miles from the Inland Port Dillon.

Today, the Property consists of two buildings on the Northern side of the Property that front on Blythewood Road; one housed the Richland County Public Works Operations for the area, and the other is formerly a Masonic Lodge, now owned by the County. Of the remainder of the Property, 968 acres are been cleared during the course of Richland County's ownership, with the remaining acreage consisting of a mix of forested property, aquatic resource features, including thirteen ponds, tributaries/streams, and wetlands, as well as other non-aquatic resources, including ephemeral drainages/swales/agricultural ditches and one detention pond. A 50-foot buffer has been maintained around all aquatic resource features. The upland site work undertaken after the submission of the application for the project was not intended to foreclose the Corps' evaluation of the relative merits of the proposed project or in any way determine subsequent development of the site or limit its consideration of alternatives. Further, the Applicants expressly acknowledge and concede that the aforementioned land disturbance activities on the project site should and shall not prejudice your office's independent determination under NEPA regarding the viability and merits of the proposed project, the feasibility and practicability of any alternative site to the project site, or the issuance of a permit under Section 404 of the Clean Water Act. The Applicants are committed to ensuring, consistent with 40 C.F.R. § 1506.1(b), that adverse impacts to the environment on the project site are avoided during the permit review and that the project team will remain in compliance with standards required of it while the Corps undertakes its required review and analysis of the project.

The Property is bisected by Locklier Road, which traverses the site on a Southwest to Northeast directional. Zoning for the parcels comprising the Property currently varies, although the majority of the parcels are zoned industrial, and applications for rezoning the remainder of the parcels are currently under consideration by the appropriate governmental bodies; the Applicant expects all parcels comprising the build site of the Property to be appropriately zoned in advance of any permit issuance. The overall acreage of the Property is approximately 2,581 acres, with the primary project area comprised of twenty-seven (27) tracts: TMS Nos. R12500-02-06, consisting of 237.56 acres; R12500-03-01, consisting of 287.63 acres; R12600-03-20, consisting of 30 acres; R12600-03-23, consisting of 80.77 acres; R15000-01-01, consisting of 4.48 acres; R15000-02-27, consisting of 466.02 acres; R15004-01-01, consisting of 90.48 acres; R15004-01-02, consisting of 1.99 acres; R15005-01-01, consisting of 107.99 acres; R15006-01-01, consisting of 178.04 acres; R15007-01-01, consisting of 41.56 acres; R15008-01-01, consisting of 97.5 acres; R15100-01-04, consisting of 27.54 acres; R15100-01-06, consisting of 117.76 acres; R15100-01-07, consisting of 80.73 acres; R15100-02-01, consisting

of 4.3 acres; R15100-03-01, consisting of 18.84 acres; R15100-03-02, consisting of 9.65 acres; R15100-03-03, consisting of 17.02 acres; R15100-03-04, consisting of 62.03 acres; R15100-03-05, consisting of 11.79 acres; R15100-03-06, consisting of 1.93 acres; R15100-03-07, consisting of 14.5 acres; R15100-03-08, consisting of 5.93 acres; R15101-01-01, consisting of 14.69 acres; R15101-01-02, consisting of 3.2 acres; R15106-01-01, consisting of 102.12 acres.<sup>5</sup> The construction limits of the planned development of the Proposed Project would comprise approximately 1,633 acres of the overall Property, with the remaining acreage consisting of avoided special aquatic sites and additional upland areas. Comprehensive due diligence consisting of wetlands, environmental, geotechnical, and archaeological studies has been performed for the Property, including a Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 Environmental Site Assessment (ESA), and a Wetlands Delineation by S&ME. Overall, the Property consists of approximately 2,384.193 acres of uplands and 196.807 acres of aquatic resources, comprised of approximately 146.215 acres of jurisdictional wetlands (between 119 wetland features), approximately 43.203 acres of non-wetland ponds (between 13 separate pond features), approximately 70,037 linear feet of streams, and approximately 9,472 linear feet of non-aquatic resources consisting of agricultural ditches and ephemeral swales (across 24 separate features). Of the approximately 1,633 acres identified as the limits of disturbance, the Proposed Project calls for 23,599 linear feet of permanent fill impacts to onsite streams, 30 linear feet of permanent clearing impacts to onsite streams, 3,043 linear feet of morphological impacts to onsite streams, 9,019 linear feet of pipe impacts to onsite streams, 38.219 acres of permanent fill impacts to non-wetland ponds, 60.649 acres of permanent fill impacts to jurisdictional wetlands, 0.317 acres of temporary excavation/permanent clearing impacts to jurisdictional wetlands, and 8.742 acres of permanent clearing impacts to jurisdictional wetlands.

The Property is located in the northern portion of Richland County and is approximately 0.75-mile southwest of the town of Blythewood. Richland County, which covers approximately 772 square miles, is bounded by Fairfield County to the north, Kershaw County to the northeast, Sumter County to the east, Calhoun County to the south, and Lexington County to the west. The Property is to the South and East of Blythewood Road, approximately 0.75 miles Southwest of the City of Blythewood. Locklier Road, which bisects the project area, is currently in the process of being abandoned. The majority of the project area is located in the Sand Hills region (physiographic province) of South Carolina, with the remainder of the acreage located in the Piedmont region of the State, both of which are characterized in this area by rolling hills of rough, sandy soil (Kovacik and Winberry 1989).

Topography in the project area ranges from 370 feet above mean sea level (AMSL) in the Southern portion of the Property, to 560 feet AMSL along Blythewood Road at the Northern boundary of the Property. The project area is located within the Broad River drainage basin, and the Lower Broad River (03050106), Crane Creek-Broad River (03050106-07), and Beasley Creek (03050106-07-05)

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<sup>5</sup> The remaining acreage of the Property consists of additional SCDOT rights-of-way associated with the roadway improvements.



watersheds. The Broad River drainage basin covers approximately 3,800 square miles (South Carolina Department of Natural Resources 2013). Beasley Creek flows through the Southwestern portion of the site, ultimately flowing into Crane Creek and traveling Southwest into the Broad River approximately 12.4 miles Southwest of the Property.

Soils on the Property consist of well drained Fuquay sand, moderately well drained Blanton sand, excessively drained Lakeland sand, and somewhat excessively drained Troup coarse sand (United States Department of Agriculture Web Soil Survey, Accessed May 6, 2022). Vegetation in the project area consists mainly of mixed pine and hardwood. Disturbances in the Proposed Project area include buildings, roadways, buried utilities, and dumping of trash and household goods.

The climate of Richland County is characterized as humid and subtropical. The average daily temperatures range from 56°F in Winter to 93°F in Summer. Precipitation is relatively evenly distributed throughout the year, averaging 47 inches annually. Rainfall is adequate for most crops during the peak-growing season of April through October. The average growing season is 229 days which is adequate for most crops (USDA 2006).

## 1.2 The USACE Authority and Scope of Analysis

### 1.2.1 Section 404 of the Clean Water Act

The Applicant understands that the Proposed Project is subject to the jurisdiction of the USACE under Section 404 of the CWA based on the contemplated placement and discharge of dredged or fill material into navigable waters and/or wetlands of the United States. The USACE administers the Section 404 program on behalf of the Secretary of the Army. The USEPA has the authority to determine the scope of Section 404 jurisdiction, has issued Guidelines on the discharge of dredged or fill material, and will generally prohibit a discharge if it determines under Section 404 that a discharge will result in unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas. The USEPA can exercise its Section 404(c) authority to veto the issuance of a Section 404 Permit of the USACE.

The USACE's review of the Proposed Project includes a determination of compliance with the Guidelines contained in 40 C.F.R. Part 230, including review of four specific requirements:

- **40 C.F.R. § 230.10(a):** An evaluation of alternatives to the Proposed Project to determine whether there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem than of the Proposed Project, so long as the alternative does not have other significant adverse environmental consequences. The alternative identified by this test is referred to as the *least environmentally damaging practicable alternative*, or the LEDPA.

- **40 C.F.R. § 230.10(b):** Whether the discharge would violate any applicable state water quality standards, Section 307 of the CWA, the Endangered Species Act (ESA), or federal laws concerning marine sanctuaries.
- **40 C.F.R. § 230.10(c):** Whether the discharge would cause or contribute to significant degradation of waters of the United States.
- **40 C.F.R. § 230.10(d):** Whether appropriate and practicable steps have been taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

Evaluation of a proposed project under all four of the requirements set forth in the Guidelines constitutes a determination of compliance with Section 404(b)(1).

The Corps' regulations also address the relationship between the Corps and state and local land use planning agencies. The regulations expressly state that "the primary responsibility for determining zoning and local land use matters rest with state and local and tribal authorities." 33 C.F.R. § 320.4(j)(2). The regulations direct that upon compliance with the Corps' rules and other applicable federal law, in the absence of "overriding national factors of the public interest" that may be revealed during a permit application, a permit "will be generally issued following receipt of a favorable state determination." 33 C.F.R. § 320.4(j)(4). While making a compliance determination, the Corps may gather information sufficient to support and make its decisions by soliciting comments from other federal, tribal, state, and local resource agencies and the public. Notwithstanding, the Corps is solely responsible for reaching a decision on the merits of the permit application, including a determination of the overall and basic project purpose, the extent of the alternatives analysis, which alternatives are practicable, the LEDPA, the amount and type of mitigation that is to be required, and all other aspects of the decision-making process.

### 1.2.2 National Environmental Policy Act

According to the Guidelines, the alternatives analysis required in a NEPA evaluation is similar to that conducted under the Section 404(b)(1):

For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines.

40 C.F.R. § 230.10(a)(4). Additionally, USACE program literature has recognized that "Districts should not conduct or document separate alternatives analyses for NEPA and the 404(b)(1) Guidelines." See USACE, *Standard Operating Procedures for the USACE's Regulatory Program* (July 2009) (USACE SOP).

To meet the requirements of the Guidelines under the USACE's regulatory program, as well as satisfy the alternative requirements under NEPA, alternatives were developed to achieve the LEDPA, and the Applicant submits that no additional alternatives are necessary as part of the USACE's Guidelines evaluation process of the Proposed Project.

### 1.3 Practicable Alternatives Framework (40 C.F.R. § 230.10 (a))

The Applicant is informed that the USACE's analysis of practicable alternatives is found in the Guidelines. The first requirement of the Guidelines provides:

(a) Except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

(1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

(i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters;

(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;

(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

(3) Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in subpart E)<sup>6</sup> does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a

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<sup>6</sup> *Special aquatic sites* are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. 40 C.F.R. § 230.3. These include sanctuaries and refuges (§ 230.40), wetlands (§ 230.41), mudflats (§ 230.42), vegetated shallows (§ 230.43), coral reefs (§ 230.44), and riffle and pool complexes (§ 230.45). Because the Proposed Project involves the discharge into and fill of wetlands, these more restrictive provisions apply to the Proposed Project.

discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

#### 1.4 Guidelines (40 C.F.R. § 230.10(a)).

As provided above, the Guidelines prohibit the discharge of dredged or fill material in a special aquatic site unless it can be shown that there is no practicable alternative which would have less adverse impact on the aquatic ecosystem. A practicable alternative is subject to reasonable interpretation; however, the Guidelines generally define a practicable alternative as one that is “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 230.10(a)(2).

Under subsection (a)(3), an initial determination must be made by the USACE with respect to whether the proposed discharges are “water dependent.” The Guidelines provide that, when an activity associated with the discharge of dredged or fill material in a special aquatic site does not require access or proximity to that special aquatic site to fulfill its basic purpose, the activity is not “water dependent.” A determination by the USACE that a proposed discharge is *not* water dependent carries with it two inherent presumptions that must be rebutted by a successful applicant.

The first presumption is that practicable alternatives that do not include impacts to special aquatic sites exist and are available to the applicant. It is thus incumbent upon the applicant to clearly demonstrate otherwise. The determination of water dependency by the USACE is preceded by a clear understanding of the purpose of the Proposed Project, both the “overall project purpose” and the “basic purpose”. After evaluating the water dependency of a proposed project, the USACE must then consider the full range of practicable alternatives that are capable of achieving the overall project purpose.

The second inherent presumption created by a non-water dependency determination is that all practicable alternatives (not including the proposed discharge) which do not involve a discharge of dredged or fill material into a special aquatic site (wetland), are presumed as having less of an adverse impact on the aquatic ecosystem than the proposed discharge, unless clearly demonstrated otherwise.

The evaluation of practicable alternatives in this analysis is based on the range of reasonable alternatives set forth below. This process was developed and implemented in a manner cognizant of the requirements of the Guidelines and NEPA. *See* USACE (Jax. Dist.), *Information for Preparing an Alternatives Analysis Under Section 404* (June 2014); USACE (Sav. Dist.), *Guidelines For Preparation of Analysis of Section 404 Permit Applications Pursuant to the Section 404(B)(1) Guidelines of The Clean Water Act (40 C.F.R., Section 230)*. Thus, the alternatives analysis forms the basis from which the USACE will identify practicable alternatives and determine whether the Applicant’s Proposed Project is the LEDPA.

## 2.0 Project Purpose

Establishing the underlying purpose and need for a project is a key initial step in the USACE's process of evaluating the Proposed Project's compliance with the Guidelines. USACE regulations establish a three-part process for developing the official purpose of a project. As described below, one statement is provided by the applicant, and the other two are determined by the USACE:

- The Applicant develops and clearly states an overall purpose and need in the application to the USACE;
- The USACE determines the "basic" purpose of the project, which informs the conclusion as to whether the project is water dependent under Section 404(b)(1) of the CWA; and
- The USACE determines the "overall" purpose of the project.

These three statements of the Proposed Project's purpose and need form the basis by which the USACE will evaluate the compliance of the Proposed Project with the Guidelines, including the range of practicable alternatives. These statements are also used as part of the analysis required under NEPA. Although the three statements were developed to meet distinct objectives within the USACE's evaluation of the Proposed Project's compliance with the Guidelines, it is expected that the alternatives analysis will overlap with and may, in most cases, provide the information required for the evaluation of alternatives under NEPA. Additionally, while consideration may be given to the Applicant's pronouncement of the Proposed Project's basic and overall purpose, the USACE is the ultimate arbiter of that conclusion and is entitled to determine the final statements without undue influence of the Applicant's views.

### 2.1 The Applicant's Purpose and Need

An applicant's stated purpose and need is an expression of the underlying goals for a proposed project. The USACE takes an applicant's purpose and need into account when determining the USACE's overall purpose. Mindful of those considerations, the Applicant respectfully submits that the purpose and need of the Proposed Project is as follows.

South Carolina has built a global reputation for its ability to attract an impressive roster of automotive OEM companies to do business in the state. Home to nearly 500 automotive-related companies and suppliers that employ over 72,000 people, South Carolina has a strong, rapidly growing automotive industry with worldwide brands. In short, we build things in South Carolina, and have the aptitude and skill level imperative for successful manufacturing operations. Many of the world's most well-known automotive brands call South Carolina home because they know that its workforce is skilled and builds vehicles and component parts with quality, loyalty and pride.

With a high concentration of engineering talent and cluster of automotive companies, South Carolina has become one of the nation's most dynamic regions for automotive production and research. A key component to that relationship is South Carolina's ability to offer a highly skilled workforce who are trained in advanced manufacturing and engineering. One such vital workforce cluster in the State is considered the Midlands area of South Carolina,<sup>7</sup> which offers access to skilled labor, training, and educational opportunities, a fully-developed TDL cluster of infrastructure, centrally-located access to all areas of the State, as well as an abundance of available properties for industrial and manufacturing development. In particular, Midlands Technical College, located in Columbia, offers a variety of relevant programs in its School of Advanced Manufacturing and Skilled Trades. These include, for example, degrees in Automotive Technology, Mechatronics, and Production. In addition, the Central Carolina Technical College (CCTC), located in Sumter, opened its Advanced Manufacturing Technology Training Center, a state-of-the-art industrial training and education center that offers classes and degrees in Mechatronics Technology, Engineering Graphics Technology, and Machining and CNC Technology. The University of South Carolina also offers a variety of bachelor's, masters, and doctoral programs in engineering and computing. These trade and advanced degree schools work collaboratively with the advanced manufacturers and suppliers to offer new technologies that further advance our automotive industry.

The relationship between the automotive industry and South Carolina continues to grow and evolve almost daily, and the EV automotive sector is one of the primary areas of growth and opportunity within the industry. Battery-powered transportation is increasingly finding South Carolina to be good fit for production, assembly, and innovation. As the world pivots toward electric vehicles, South Carolina has an opportunity to become a leader in this sector in the future. A combination of factors has led to steadily increasing growth in the EV market. Increased demand for low emission commuting, along with government policies setting targets for emission reductions and the introduction of subsidies and tax rebates designed to support long range, zero emission vehicles have compelled automobile manufacturers to bring new and ever-advancing EVs to the market around the world. Increased investments by governments across the globe to develop EV charging stations and Hydrogen fueling stations, along with incentives offered to buyers, has created opportunities for OEMs to expand their revenue stream and facilitate efficient production and assembly of EV vehicles. The EV market in North America for local sales and exports is growing due to the government initiatives and increased performance in the passenger vehicle segment. For example, the US government invested 5 billion dollars in 2017 alone to

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<sup>7</sup>The Midlands region of South Carolina is considered to include Aiken, Barnwell, Chester, Edgefield, Fairfield, Kershaw, Lancaster, Lexington, Newberry, Richland, Saluda, and York Counties. <https://sc.gov/government/midlands> (accessed July 31, 2022).

promote EV infrastructure, including charging stations. After a decade of rapid growth, in 2020, the global EV capacity hit the 10 million mark, a 43% increase over 2019, representing a 1% share passenger vehicle sales. Battery EVs accounted for two-thirds of new EV registrations and two-thirds of the overall EV capacity in 2020. And in November 2021, the US government announced an ambitious 50% electrification target for new cars by 2030, supported by the announcement of the installation of 500,000 charging points to help increase consumer confidence.

Moreover, the cost of EV batteries and production, one of the most expensive components of an EV vehicle, has been decreasing during the past decade due to technological advancements and the production of EV batteries on a mass scale in large volumes. In 2010, the price of an EV battery was approximately \$1,100 per kWh. However, by 2021, the price fell to approximately \$120 per kWh. The prices of EV batteries are expected to fall to approximately \$60 per kWh by 2030, which would significantly reduce the prices of EVs, making them cheaper than conventional internal combustion engine vehicles.

Consequently, the Applicant respectfully submits that the need for the Proposed Project is demonstrated by the growing market requirements for the efficient production and assembly of EV automobiles. The foregoing demand would be met by a site with the minimum primary characteristics and criteria for the Proposed Project in the Midlands of South Carolina, including sufficient contiguous acreage to locate the size and scale of the necessary facilities to fulfill the above-stated purpose and need of Client, direct access to an interstate within the area's existing TDL cluster, immediate onsite or adjacent rail access to a Class I rail carrier, and a site that is located within a combined 180 miles of both Interstate 85 and Interstate 95. The corresponding purpose of the Proposed Project is to develop and operate a new rail-served advanced manufacturing facility in the automotive industry, with direct interchange access to an interstate, to support the Client's continued implementation of its electromobility plans in the burgeoning EV automotive sector and meet the needs of end-users. The use of a master plan development for the Proposed Project will allow Client to meet existing demand in the short-term, while providing much needed operational flexibility to innovate with new products, explore vertical integration opportunities, and meet expected and potential demand and growth in the future.

Under NEPA regulations, alternatives to be evaluated must be reasonable. The Guidelines also require evaluation of practicable alternatives. The Corps uses the overall project purpose to identify the range of potential alternatives that will be evaluated. If an alternative does not meet the applicant's need, as determined by the Corps, it may be rejected from further consideration.

The Corps' regulatory guidelines further provide:

[T]he applicant's needs, and the type of project being proposed should be considered. The overall project purpose should be specific enough to define the applicant's needs, but not so restrictive as to constrain the range of alternatives that must be considered under the 404(b)(1) guidelines.

USACE SOP.

In consideration of the above criteria, the Applicant respectfully submits that the overall purpose of the Proposed Project is:

To develop the Blythewood Industrial Site by locating, building, and operating a new rail-served advanced manufacturing facility, with new dedicated interchange access, in the automotive industry for an OEM to service the burgeoning EV automotive sector, based on the sufficiency of its acreage to meet current and anticipated demand within the area's existing TDL cluster and location within 180 combined miles of both Interstate 85 and Interstate 95.

As further provided above, the Guidelines require that the USACE determine whether a project is water dependent. *Water dependent* means that the project by its very nature requires access or proximity to, or siting within, a special aquatic site to fulfill its "basic purpose." The Guidelines prohibit the discharge of dredged or fill material in special aquatic sites unless it can be shown that there is no practicable alternative which would have less adverse impact on the aquatic ecosystem. For both water dependent and non-water dependent discharges, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise. A practicable alternative is subject to reasonable interpretation; however, the Guidelines generally define a practicable alternative as one that is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2).

In addition to the overall project purpose, the Applicant respectfully submits that the basic purpose of the discharges of dredged or fill material associated with the Proposed Project is:

To develop an advanced manufacturing facility and its attendant infrastructure, including a dedicated interchange to the site.

Based on the standard used by the USACE, the Proposed Project is not water dependent. Accordingly, as a part of the alternatives analysis contained herein, the application will rebut the presumptions described above.



### 3.0 Alternatives Development

Based on the requirements imposed under NEPA, regulations developed by the CEQ, and the USACE, the Applicant initially considered all available alternatives for the Proposed Project.<sup>8</sup> The goal of this process is to identify and consider the broadest range of possible alternatives, working to narrow the scope of alternatives to the range of reasonable and practicable alternatives that could meet the overall purpose of the Proposed Project. Through the process of developing the purpose and need, the Applicant applied the basic project concepts to the full array of available alternatives in order to guide the identification of a “reasonable range” of alternatives as required by NEPA. Under NEPA, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant. 46 Fed. Reg. 18026 (March 23, 1981).

In identifying and developing this list of alternatives,<sup>9</sup> the Applicant considered and included alternatives falling within the following categories:

- The proposed alternative;
- Alternatives that would involve no construction and therefore no discharges of dredged or fill material into the waters of the United States (such as the “no action” alternative);
- Alternative offsite locations, including those that might involve less adverse impact to waters of the United States;
- Alternatives which might result in less adverse impact to waters of the United States, including modifications to the alignments, site layouts, or design options in the physical layout and operation of the project to reduce the number of impacts to the waters of the United States; and

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<sup>8</sup> The NEPA alternatives analysis required consideration of all alternatives for a project has its roots in the fact that NEPA is a procedural statute, rather than one dictating substantive analysis or mandating a particular outcome. At its core, NEPA is a “stop, look, and listen” statute that is intended to result in an informed agency decision making process. The Guidelines impose a stricter, substantive standard to the range of reasonable alternatives identified under NEPA that is designed to arrive at a practicable alternative that has the least adverse impact on the aquatic ecosystem.

<sup>9</sup> This analysis considers a range of alternatives which might enhance environmental quality or have a less detrimental effect on the environment than the proposed activity and demonstrates that there is no *feasible* and *prudent* alternative that will have a less environmentally damaging effect. An alternative is *feasible* if it is available and consistent with sound engineering principles, such that the alternative can be successfully constructed or implemented. An alternative is *prudent* if it is economically reasonable in light of the benefits the activity would provide, but cost alone does not render an alternative imprudent.

- Alternatives that would involve greater adverse impact to waters of the United States but avoid or minimize other significant adverse environmental consequences.

The range of reasonable alternatives identified in the initial NEPA analysis (through application of the above purpose and need to the full panoply of alternatives) screened out unreasonable alternatives resulting in the reasonable alternatives addressed in the Level 1 analysis.

In addition to meeting the initial “reasonability” requirement under NEPA, the Guidelines impose further restrictions and deliberation on practicability considerations related to the range of reasonable alternatives. Under the Guidelines, the USACE typically only considers those alternatives that are available to the applicant and meet the overall purpose.<sup>10</sup> In support of the identified alternatives, the Applicant is providing documentation that demonstrates that the proposed location and configuration is necessary in order to achieve the project purpose and need with the least environmentally damaging design.

Once the appropriate range of reasonable alternatives is identified, the Applicant conducted the practicability analysis of the project alternatives in three levels:

1. Level 1 Analysis is a refined screening process employed to evaluate certain identified reasonable alternatives with respect to consistency with the Proposed Project’s purpose and need as well as the overall project purpose.
2. Level 2 Analysis reviews those alternatives that are not screened out during Level 1 Analysis and employs the more rigorous practicability standards under the Guidelines, including, where applicable:
  - a. Availability;
  - b. Cost;
  - c. Technological considerations, including the state of existing technology to be utilized for the project;
  - d. Logistical considerations, including infrastructure assessments and requirements; and
  - e. Environmental, social, historical, and cultural impacts.

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<sup>10</sup> See 40 C.F.R. § 230.10(a)(2) (“If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity may be considered.”). By contrast, a NEPA analysis often requires consideration of alternatives that are not available to the applicant. See USACE SOP. The alternatives analysis undertaken by the Applicant satisfies the requirements of both the Guidelines and NEPA alternatives analyses.

The goal of the Level 2 Analysis is to identify the preferred site location of the Proposed Project.

3. Level 3 Analysis reviews different site designs of the Proposed Project at the preferred site location. Taking into consideration all of the above, the goal of Level 3 Analysis is to provide sufficient information from which the USACE can identify the LEDPA.

#### 4.0 Identification of Alternatives

##### 4.1 Proposed Project Criteria

In furtherance of the purpose and need of the Proposed Project, the Applicant has developed certain initial minimum criteria necessary to achieve that purpose and satisfy those needs identified by Client and discussed herein, as well as fulfills Commerce's statutory purpose set out in S.C. Code Ann. § 13-1-20 and the County's economic development mission. In developing these criteria, the Applicant seeks to fulfill Client's vision of developing and operating new rail-served advanced manufacturing facility to service the burgeoning EV automotive sector, that will allow Client to source, stage, assemble, produce, and manufacturer fully-assembled automobiles in scalable manner that meets the growing demand and needs of end-users.

To achieve that purpose, the Applicant determined that the Proposed Project site must have a minimum of 1,000 acres of contiguous, developable acreage to locate approximately 16 Million/sf of buildings onsite through a master plan phased development, along with attendant parking and site infrastructure for the planned development, along with sufficient additional acreage to afford Client flexibility to meet future growth opportunities, demand of end-users, as well as expanded or new market segments, should market conditions dictate further investment in the future. The Proposed Project further requires a location within one (1) mile of an interstate, providing access to the State's TDL cluster, that has direct onsite or adjacent rail access to a Class I rail carrier, and is located within 180 combined miles of both Interstate 85 and Interstate 95.

In consideration of the foregoing, the Applicant determined that the Proposed Project requires, at a minimum, a site that meets the following primary characteristics and criteria:

- Minimum of 1,000 acres of contiguous, developable acreage sufficient to locate approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility within the impact site to meet future growth opportunities should market conditions dictate further investment in the future;<sup>11</sup>

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<sup>11</sup> As set forth above, the construction limits of the planned development of the Proposed Project would comprise approximately 1,633 acres of the overall Property. Notwithstanding, and to ensure that it was evaluating the complete list of properties that could arguably be practicable for the Proposed Project, the Applicant determined that a minimum acreage of 1,000 acres would pull the largest subset of properties for

- Adjacent to or direct localized access within 1 mile of an interstate;<sup>12</sup>
- Direct onsite or adjacent rail access to a Class I rail carrier;<sup>13</sup> and
- Located within a combined 180 miles of both Interstates 85 and 95.<sup>14</sup>

In addition to the foregoing list of primary characteristics and criteria considered to be the minimum requirements for an eligible alternative, the Applicant, in consultation with the Client, also evaluated each compliant site alternative with respect to secondary considerations applicable to the fulfillment of the purpose and need of the Proposed Project. These secondary considerations, listed below and discussed in-depth in Level 2 of this analysis with respect to each site alternative meeting the primary characteristics and criteria, were used to further evaluate the viability and practicability of the Proposed Project on qualifying site:

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consideration, thereby making this alternatives analysis more complete and comprehensive. While 1,000 acres would not meet the purpose and need of the project, given that such a reduction in facility size would render the project incapable of accommodating a second phase deemed critical to the client, the selected tract size reflects the Applicant's effort to consider all alternatives for the project site, while also being mindful of the minimum requirements and parameters of the client to accommodate the desired facility footprint for the planned development and requisite infrastructure, which represents existing *and* forecasted demand, while providing sufficient acreage to flexibly allow for future growth opportunities to meet new demand.

<sup>12</sup> Nearby access to an interstate is crucial for the efficient just-in-time delivery of OEM component parts for production, assembly, and further transportation of assembled automobiles to end-users.

<sup>13</sup> It is expected that a portion of the automotive component parts for manufacturing and assembly, as well as fully assembled automobiles for shipment, will arrive by and be shipped from the site via rail. Having existing onsite or adjacent rail access via a dedicated and fully-integrated rail spur ensures cost-effectiveness to clients and shippers and provides logistical efficiencies for incoming and outgoing transportation of products, reduces truck traffic on already-overburdened roads, increases accessibility for regional manufacturers and distributors, and provides additional access points throughout the Country, including to the Port of Charleston for international shipment, over a Class I's mainline.

<sup>14</sup> It is expected that component parts for production and assembly at the Proposed Project will arrive, and produced automobiles will be shipped to end-users, via a number of transportation methods, including by interstate. An ideal location to stage such a facility would be one that is also located centrally to the established North/South and East/West transportation corridors along the East Coast. For the purposes of this analysis and establishing an optimal radius, a location which is equidistant from both Interstate 85 and Interstate 95 is preferred. Close proximity to the State's existing automotive and TDL cluster is required for the efficient just-in-time delivery of component parts for production, as well as further delivery of produced automobiles to end-users in order to meet the growing demand and needs of EV production schedules. At the suggestion of USEPA in its July 31, 2023, comment letter, the Applicant has updated the mileage parameters associated with the Client's preferred location equidistant from both Interstate 85 and Interstate 95 to a combined 180 miles, adding the previous distances of 90 miles for each, in order to reflect the situation where an alternative site is in close proximity to one of the two interstates, but more than 90 miles away from the other. The result of this update, as shown below, is that four additional alternative sites were carried forward to Level 2 of this alternatives analysis for more in-depth review consistent with secondary characteristics and criteria identified by the Applicant.

- Located in the Midlands of South Carolina;<sup>15</sup>
- Direct interstate frontage allowing for a dedicated interchange;<sup>16</sup>
- Located within 15 miles of an area with a skilled workforce having access to adequate education and training;<sup>17</sup>

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<sup>15</sup> In discussions with the State evaluating the viability of locating the Proposed Project in South Carolina, the client expressed a strong preference for locating the Proposed Project in the Midlands, given its central location, proximity to the Columbia metropolitan statistical area, and lack of an existing advanced automotive manufacturing facility that would compete with the client from a labor-pool perspective. In addition, as a co-applicant for the Proposed Project, Richland County has a vested interest in securing projects in the Midlands generally, and Richland County specifically. Further, a location in the Midlands allows the Client to take advantage of the area's high concentration of engineering and skilled labor talent and also offers access to skilled labor, training, and educational opportunities, including Midlands Technical College, CCTC, and the University of South Carolina, which offer trade and advanced degree schools working collaboratively with the advanced manufacturers and suppliers to offer new technologies that further advance the State's automotive industry. The area's deep talent pool and educational programs has allowed the Midlands to become a dynamic region for advanced manufacturing and research.

<sup>16</sup> Direct access, such as a dedicated interchange, is important for logistical and transportation reasons as well as marketability for brand identity with a location and facility adjacent to and visible from an interstate. See, e.g., Dean J. Uminski, *A Step-by-Step Guide to a More Strategic Site Selection Approach* (2013) ("For a manufacturing site, for example, ... highway access would be critical for both incoming raw materials and outgoing finished product. Lack of access would effectively rule out a site, regardless of any tax considerations or other incentives."); Ed McCallum, *What's Driving Automotive Assembly Plant Locations?*, *Business Facilities* (July 2004) ("An interstate-quality highway with dual access to [the] future site is highly desirable. For the site itself, redundant access on high quality secondary roads is important in the event the interstate is temporarily blocked.").

<sup>17</sup> South Carolina's ReadySC program provides significant workforce training and development for almost any location in South Carolina. Labor profiles for various counties and metropolitan statistical areas (MSAs), combined with the close proximity of technical colleges participating in ReadySC provide the metric for the availability of a skilled workforce for the Proposed Project. In light of the number of workers required, only the larger MSAs could accommodate the labor need based on the critical mass of population necessary to generate a workforce profile based on volume. Further, certain areas of the State offer a trade and advanced degree schools that work collaboratively with the advanced manufacturers and suppliers to provide curriculums in new technologies that further advance the State's automotive industry. Finally, commute time for workers is a significant factor in the Client's desired location in the Midlands, both for access to labor and worker health and well-being. Studies conducted site selectors and the U.S. Department of Commerce have found that the location of a manufacturing facility is a fundamental consideration for workers when selecting a job opportunity, with the daily commute playing a key role in recruiting and retaining qualified employees. See Deloitte, *Competing for talent: Recasting perceptions of manufacturing*, <https://www2.deloitte.com/us/en/insights/industry/manufacturing/competing-for-manufacturing-talent.html>. To address this issue, many "companies [including the Client,] have tried to better match people with their preferred locations, recognizing it's easier to hire and retain employees when they don't have to relocate." *Id.* Mindful of these issues, the Client sought a location in the Midlands in close proximity to an MSA, establishing an appropriate radius for the purposes of its selection of a site as being a desired maximum commute mileage of 15 miles from the nearest MSA.

- Located within 145 miles of the Port of Charleston and the Inland Ports in Greer and Dillon, respectively;<sup>18</sup> and
- Immediate access to required utilities.<sup>19</sup>

## 5.0 Range of Alternatives

The goal of providing a list of alternatives that satisfy some or all of the above primary characteristics and criteria established by the Applicant is to disclose and evaluate potential impacts that may result from the proposed project and to evaluate the proposed alternative's ability to fulfill the project purpose and need consistent with criteria provided. The Applicant arrived at its preferred alternative after conducting stages of increasingly thorough analysis, while balancing the environmental impacts with economic, technological, and logistical concerns.

A location of sufficient size along the I-77 corridor with immediate access to I-77 and the interstate transportation system of the State, that provides direct onsite or adjacent rail access to a Class I rail carrier, and is in close proximity to both I-85 and I-95, are foundational to achieving the purpose and need of the Proposed Project. As counties adjust and plan for the economic benefits and development, county land use plans have been updated to identify strategic employment areas for industrial development. In addition, many counties have instituted incentives to better compete in the State's booming manufacturing and industrial sectors. The importance of locating manufacturing/industrial development projects in strategic employment areas that are consistent with the land-use and zoning goals of the region continues to increase.

Accounting for the identified regional need and the efficiencies achieved by locating these types of developments in identified areas, in addition to the county incentives, the Applicant undertook a comprehensive search for appropriately-sized and located parcels, in addition to industrial/megasites which the Applicant has previously vetted for economic development, throughout the State. Development in these areas and within these locational bands is extremely attractive for the type of

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<sup>18</sup> It is expected that certain of the component parts for production and assembly at the Proposed Project, as well as a certain percentage of the completed automobiles, will arrive from and be exported through international shipments portals of the Port of Charleston. Accordingly, a site that is equidistant from the Port of Charleston (Hugh Leatherman Terminal, located at Bainbridge Avenue, North Charleston, South Carolina 29405) and each of the State's Inland Port facilities (Inland Port Greer, located at 100 International Commerce Blvd, Greer, South Carolina 29651, and Inland Port Dillon, located at 111 W. Fairfield Road, Dillon, South Carolina 29536) is optimally located for the efficient just-in-time delivery of component parts for production, as well as further delivery of assembled automobiles to end-users.

<sup>19</sup> Immediate access to utility infrastructure is key both from an operations perspective, as without adequate access to power, water, gas, and sewer with sufficient capacity, no development is possible, as well as from a timing perspective, as the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project.

project proposed by the Applicant, given the ease of access to South Carolina's TDL clusters and initiatives, and existing infrastructure, including utilities.

As a starting point, the Applicant established the initial search area, or Area of Interest (AOI), as the entire State, consistent with Commerce's statutory authority and mission to implement a statewide program for the stimulation of economic activity and development potentialities for the State of Carolina. Next, using the above-identified primary characteristics and criteria for the Project, the Applicant compiled a list of all parcels within the AOI that are a minimum of 1,000 acres, as well as previously-vetted economic development sites within the State that are a minimum of 1,000 acres. This initial search parameter returned a list of 994 individual parcels and sites. A map depicting this search overlay on the AOI, along with a list of properties that were returned by these criteria, is included as **Exhibit D**.

Next, the Applicant evaluated each of the returned parcels and sites for proximity to the State's TDL infrastructure; specifically, those parcels and sites within a 1-mile drive time radius of an interstate. The addition of this interstate proximity component to the search overlay narrowed the list of 1,000-plus acre parcels to 64 individual parcels and sites. A map depicting the interstate proximity search overlay parameter on the AOI, along with a list of the properties that were returned by this criterion, is included as **Exhibit E**.

Next, the Applicant evaluated each of the 64 returned parcels and sites for the existence of onsite or adjacent access to a Class I rail carrier. The addition of this rail proximity component to the search overlay narrowed the list of 64 alternatives to 30 individual parcels and sites. A map depicting the rail proximity search overlay parameter on the AOI, along with a list of the properties that were returned by this criterion, is included as **Exhibit F**.

Finally, the Applicant evaluated each of the 31 parcels independently to determine the status of its development, i.e., whether each parcel is currently vacant or fully developed. As shown in **Exhibit G**, 13 of the identified 30 parcels and sites were deemed not to be practicable alternatives given their state of development (i.e., already developed), or their status or proximity to development or activities which otherwise render them undevelopable (i.e., conservation land, terminal facility, airport facility, school, or park). The remaining 17 parcels, including the preferred Proposed Project site, were deemed on the surface to at least warrant closer consideration and inspection amongst the range of reasonable alternatives. A depiction of each of the 17 site alternatives comprising the range of reasonable alternatives is included as **Exhibit G**.

The following list provides a narrative explanation of the range of 17 reasonable alternatives identified by the Applicant for consideration for the location of Proposed Project, as well as the No-Action Alternative, along with a short, descriptive identification of each alternative:

## 5.1 No-Action

The Proposed Project is not constructed.

## 5.2 Blythewood Industrial Site Alternative Site 1 (Proposed Project Site) (Blythewood, SC 29016)

- a. Tax Map IDs: R12500-02-06 (237.56 acres); R12500-03-01 (287.63 acres); R12600-03-20 (30 acres); R12600-03-23 (80.77 acres); R15000-01-01 (4.48 acres); R15000-02-27 (466.02 acres); R15004-01-01 (90.48 acres); R15004-01-02 (1.99 acres); R15005-01-01 (107.99 acres); R15006-01-01 (178.04 acres); R15007-01-01 (41.56 acres); R15008-01-01 (97.5 acres); R15100-01-04 (27.54 acres); R15100-01-06 (117.76 acres); R15100-01-07 (80.73 acres); R15100-02-01 (4.3 acres); R15100-03-01 (18.84 acres); R15100-03-02 (9.65 acres); R15100-03-03 (17.02 acres); R15100-03-04 (62.03 acres); R15100-03-05 (11.79 acres); R15100-03-06 (1.93 acres); R15100-03-07 (14.5 acres); R15100-03-08 (5.93 acres); R15101-01-01 (14.69 acres); R15101-01-02 (3.2 acres); R15106-01-01 (102.12 acres).
- b. The Blythewood Industrial Site Alternative Site 1 is the Applicant's preferred Proposed Project site, totaling approximately 2,581 acres, of which approximately 1,633 acres, comprised of twenty-seven (27) tracts, would be the build site. The shape of the primary acreage of the Property (approximately 1,631.26 acres) is roughly a reverse "P", with the majority of the acreage located in the Northern part of the site, and additional acreage extending in the Southeastern portion of the Property. Additional acreage (approximately 465.80 acres) is located to the East of I-77. The remainder of the acreage is along road rights-of-way evaluated by the Applicant for road improvement purposes. Nineteen (19) of the twenty-seven (27) parcels are within the corporate limits of the Town of Blythewood, with the remaining parcels located in the unincorporated portions of Richland County. The larger portion of the acreage of the Property, located to the West of I-77, is approximately bounded by Blythewood Road to the North, developed residential parcels and Fairfield Electric Cooperative to the Northwest, Blythewood Road and developed and undeveloped residential parcels to the West, developed residential parcels to the Southwest, developed commercial properties to the South, and Community Road (which is a frontage road to I-77) to the East. The remaining acreage of the Property, located to the East of I-77, is approximately bounded by I-77 to the West, electric transmission right-of-way and developed commercial and residential parcels to the North, U.S. Highway 21 to the East, a developed substation pad to the Southeast, and developed residential and commercial parcels to the south.

The Property is located approximately 0.1 miles from Exit 27 of I-77, and less than one (1) mile from Exit 24 of I-77, approximately 9.5 miles from the Interstate 77 (Exit 16)/Interstate 20 (Exit 76) interchange, 74.5 miles from the Interstate 77 (Exit



9)/Interstate 85 (Exit 30) interchange, 79 miles from the Interstate 26 (Exit 169)/Interstate 95 (Exit 86) interchange, 130 miles from the Port of Charleston, 101 miles from the Inland Port Greer, and 110 miles from the Inland Port Dillon. The site is approximately 8.6 miles from Columbia.<sup>20</sup> A Norfolk Southern rail line runs adjacent to the Eastern portion of the Property along U.S. Highway 21.

Today, the Property is largely undeveloped, with the exception of two properties on the Northern side of the Property that front on Blythewood Road. The remainder of the Property consists of a mix of forested and cleared property, several aquatic features, including thirteen (13) ponds, streams, and wetlands. Parcel Nos. R15100-03-07 (14.5 acres), R15100-03-08 (5.93 acres), R12500-03-01 (287.63 acres), and R15000-02-27 (466.02 acres) are owned by third parties, but are in the process of being acquired by Richland County. The remainder of the parcels are currently owned by Richland County. The primary acreage of the Property is bisected by Locklier Road, which traverses the site on a Southwest to Northeast directional and is currently in the process of being abandoned. Zoning for the parcels comprising the Property currently varies, although the majority of the parcels are zoned industrial, and applications for rezoning the remainder of the parcels are currently under consideration by the appropriate governmental bodies; the Applicant expects all parcels comprising the build site of the Property to be appropriately zoned in advance of any permit issuance. The acreage of the Property is of sufficient size and shape to accommodate the planned production facilities, along with their attendant infrastructure and various additional planned employee, administrative, utility and support buildings. All of the following due diligence for the site has already been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation.

### **5.3 JAB Site West Alternative Site 2 (Edgemoor, SC 29712)**

- a. Tax Map IDs: Portion of 113-00-00-017-000 (1,139.523 acres); and 113-00-00-044-000 (127.333 acres).
- b. The JAB Site West (of I-77) Alternative Site 2 property is comprised of the entirety of one (1) tract (TMS No. 113-00-00-044-000), and a portion of an adjacent tract (TMS No. 113-00-00-017-000), totaling approximately 1,023 acres, all of which is listed as developable. The site is located in the unincorporated part of Chester County and is adjacent to I-77 to the West. The shape of the site is an irregular “U”, with a number of angles, and is approximately bordered by I-77 to the East, developed residential and

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<sup>20</sup> For the purpose of this alternative, the MSA is designated as the Interstate 77 (Exit 16)/Interstate 20 (Exit 76) interchange of Columbia, South Carolina.

undeveloped acreages to the North, undeveloped parcels to the West, and developed residential and undeveloped acreages to the South. A number of interior roads, including Dunlap Roddey Road, Humpback Bridge Road, and Steele Village Road traverse and bisect the site. The Exit 65 interchange of I-77 located approximately 5.3 miles from the site, Interstate 26 is approximately 60 miles away (via I-20), Interstate 95 is approximately 120 miles away, Interstate 85 is approximately 36 miles away, the Port of Charleston is approximately 173 miles away, the Inland Port Greer is approximately 91 miles away, and the Inland Port Dillon is approximately 140 miles away. The site is approximately 8.5 miles from Rock Hill.<sup>21</sup> A CSX rail line runs adjacent to the Southern boundary of the Property. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is a Certified SC site. The site is not owned by the Applicant.

#### 5.4 Carolinas I-95 Super Park Alternative Site 3 (Dillon, SC 29536)

- a. Tax Map IDs: 058-00-00-004 (42.12 acres); 058-00-00-006 (2.85 acres); 058-00-00-018 (94.48 acres); 058-00-00-019 (110.40 acres); 058-00-00-021 (30.48 acres); 058-00-00-024 (103 acres); 067-00-00-009 (126.45 acres); 067-00-00-012 (95.33 acres); 068-00-00-001 (119.09 acres); 068-00-00-002 (138.39 acres); 068-00-00-006 (58.10 acres); 068-00-00-007 (160.90 acres); 068-00-00-015 (5.19 acres); 068-00-00-030 (101.15 acres); 068-00-00-042 (109.63 acres); 080-00-00-016 (166.99 acres); 080-00-00-017 (39.67 acres); and 080-00-00-092 (5.13 acres).
- b. The Carolinas I-95 Super Park Alternative Site 3 property is comprised of nineteen (18) parcels comprising approximately 1,509.35 acres that is currently undeveloped and partially cleared. An additional parcel, TMS No. 058-00-00-001 (337.57 acres), is available, but it is located approximately one (1) mile away from the primary acreage of the site on the Northwest (opposite) side of I-95. The shape of the primary acreage of the site is an upside down “T” and it is located in the unincorporated part of Dillon County. The site is approximately bounded by Highway 34 W to the North, wraps around and is adjacent to the Harbor Freight facility with frontage on I-95 to the Northwest/West, undeveloped parcels to the South, and a combination of developed residential and undeveloped parcels to the East. The Exit 190 interchange of I-95 is located approximately 0.5 miles from the site, the Exit 169 interchange of I-26/I-95 is approximately 105 miles away, the Exit 41 interchange of I-85 is approximately 116 miles away, the Port of Charleston is approximately 156 miles away, the Inland Port Greer is approximately 211 miles away, and the Inland Port Dillon is immediately

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<sup>21</sup> For the purpose of this alternative, the MSA is designated as Rock Hill, South Carolina.

adjacent to the site. The site is approximately 2 miles from Florence.<sup>22</sup> A CSX line that serves the Inland Port Dillon is proximately adjacent to the site. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is a Certified SC site. The site is not owned by the Applicant.

#### 5.5 I-77 International Megasite Alternative Site 4 (Ridgeway, SC 29130)

- a. Tax Map IDs: 148-00-00-013-000 (1,141.67 acres); and portion of 110-00-00-004-000 (appr. 403 acres).
- b. The I-77 International Megasite Alternative Site 4 property is comprised of the entirety of one (1) tract, and a portion of an adjacent tract, totaling approximately 1,544 acres, of which an undetermined amount is developable. The shape of the site is largely a solid, block shape with the exception of a thin, finger-like projection extending to the South along I-77 on the Western boundary of the site. The site is further bounded by Valencia Road and Dutchman's Creek to the South, undeveloped, wooded property to the East, and the continuation of Valencia Road to the North. The Exit 34 interchange of I-77 is approximately 4 miles away, I-26 is approximately 30 miles away (via I-20), I-95 is approximately 80 miles away, I-85 is approximately 75 miles away, the Port of Charleston is approximately 142 miles away, the Inland Port Greer is approximately 112 miles away, and the Inland Port Dillon is approximately 106 miles away. The site is approximately 23 miles from Columbia.<sup>23</sup> A Norfolk Southern rail line runs adjacent to the Southern boundary of the site, near Exit 34 of I-77. All of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, a Topographical Survey and a Wetlands Delineation. Based on Applicant's review of the foregoing due diligence, it confirms that the site has approximately 18.52 acres of wetlands, and 85,405 linear feet of streams. Further, according to an April 11, 2016 protected species report, the site does not present habitat for Bald Eagles, but did contain suitable habitat for Carolina Heelsplitter; following a subsequent site visit, USFWS concurred in the determination by letter dated May 4, 2016, that a project on the site may affect, but is not likely to adversely affect Carolina Heelsplitter habitat. Regarding cultural resources, two sites have been identified and recommended for further surveying as a part of any proposed project on the site, a determination in which SHPO concurred by letter dated

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<sup>22</sup> For the purpose of this alternative, the MSA is designated as Florence, South Carolina.

<sup>23</sup> For the purpose of this alternative, the MSA is designated as the Interstate 77 (Exit 16)/Interstate 20 (Exit 76) interchange of Columbia, South Carolina.

September 21, 2016. The site is a Certified SC site. The site is not owned by the Applicant.

#### **5.6 Angel Tract LLC Alternative Site 5 (Yemassee, SC 29945)**

- a. Tax Map ID: 188-00-00-030 (1,571.48 acres).
- b. The Angel Tract LLC Alternative Site 5 property is comprised of a single parcel totaling approximately 1,571.48 acres, of which and undetermined amount is developable. The shape of the site is largely a solid, block shape, with the majority of the acreage located to the South of Yemassee Highway (Hwy 68), and the remaining acreage located to the North of Yemassee Highway (Hwy 68). The site is approximately bounded by Yemassee Highway (Hwy 68) to the North, undeveloped, wooded property to the East/Southeast, a combination of developed and undeveloped residential parcels to the South, Southwest, and West. A significant portion of the Western side of the site has been developed into a solar farm and is therefore undevelopable. The site is not adjacent to I-95. The Exit 38 interchange of I-95 is approximately 1 mile away, the Exit 169 interchange of I-26/I-95 is approximately 48.5 miles away, the Exit 30 interchange with I-385 is approximately 195 miles away, the Port of Charleston is approximately 65.4 miles away, the Inland Port Greer is approximately 213 miles away, and the Inland Port Dillon is approximately 157 miles away. The site is approximately 63 miles from Charleston and approximately 50.4 miles from Savannah, Georgia.<sup>24</sup> A CSX rail line runs adjacent to the site on the Northern side of Yemassee Highway (Hwy 68). The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is not owned by the Applicant.

#### **5.7 Yemassee Timber LLC Alternative Site 6 (Yemassee, SC 29945)**

- a. Tax Map ID: 191-00-00-002 (1,971.23 acres).
- b. The Yemassee Timber LLC Alternative Site 6 property is comprised of a single parcel totaling approximately 1,971.23 acres, of which and undetermined amount is developable. The shape of the site is a solid, block shape that is approximately bounded by Pocotaligo Road (County Road S-25-17) to the North, the Tulifiny River and undeveloped, wooded property to the West, an unpaved road and a combination of developed and undeveloped residential parcels to the South, and I-95 to the East. Portions of the site have been cleared for agricultural and silvicultural purposes and

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<sup>24</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

include several structures. The site is immediately adjacent to I-95. The Exit 38 interchange of I-95 is approximately 2.7 mile away, the Exit 169 interchange of I-26/I-95 is approximately 50 miles away, the Exit 30 interchange with I-385 is approximately 196.7 miles away, the Port of Charleston is approximately 69.4 miles away, the Inland Port Greer is approximately 215 miles away, and the Inland Port Dillon is approximately 158 miles away. The site is approximately 67.1 miles from Charleston and approximately 51.6 miles from Savannah, Georgia.<sup>25</sup> A CSX rail line runs under I-95 near the Southeast corner of the site. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is not owned by the Applicant.

## 5.8 Chilton Timber & Land Co. LLC Alternative Site 7 (Yemassee, SC 29945)

- a. Tax Map ID: 191-00-00-001 (7,573 acres).
- b. The Chilton Timber & Land Company Alternative Site 7 property is comprised of a single tract totaling approximately 7,573 acres, consisting of approximately 4,135 acres of uplands and approximately 3,438 acres of jurisdictional wetlands. A portion of the acreage lies to the East of I-95, while the majority of the acreage lies to the West of I-95. The property is bounded by undeveloped property to the West of I-95, including Pocotaligo Road, undeveloped property to the South, a combination of developed and undeveloped residential parcels to the West/Northwest and North. A portion of the property, although not the largest block of acreage, is immediately adjacent to I-95. The Exit 38 interchange of I-95 is approximately 1 mile away, the Exit 169 interchange of I-26/I-95 is approximately 48.5 miles away, the Exit 30 interchange with I-385 is approximately 195 miles away, the Port of Charleston is approximately 65.4 miles away, the Inland Port Greer is approximately 213 miles away, and the Inland Port Dillon is approximately 157 miles away. The site is approximately 63 miles from Charleston and approximately 50.4 miles from Savannah, Georgia.<sup>26</sup> A CSX rail line runs adjacent to the site on the Northern side of Yemassee Highway (Hwy 68), although access to Yemassee Highway goes through a substantial wetland system. The undeveloped property appears to be managed for silviculture. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. However, using available NWI data, SCDNR's bald eagle database, USFWS's Critical Habitat Portal, and SHPO's

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<sup>25</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

<sup>26</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

ArchSite data, the Applicant's consultants have determined the above-stated and approximated wetland figures for the site (3,438 acres of wetlands), as well as that the site contains neither critical habitat for known or threatened/endangered species nor eligible historic sites or artifacts. The site is not owned by the Applicant.

#### 5.9 Okeetee Club Alternative Site 8 (Hardeeville, SC 29927)

- a. Tax Map IDs: 023-00-02-020 (5,653.35 acres); 027-00-02-034 (38,353.98 acres); and 045-00-01-035 (304.2 acres).
- b. The Okeetee Club Alternative Site 8 property is a historic hunting club tract comprised of approximately 44,000 non-contiguous acres made up of numerous tracts, with approximately 28,000 acres of uplands and approximately 16,000 acres of jurisdictional wetlands. The Western portion of the site is wedged shaped, running South to North between I-95 and Highway 321. Portions of the Western side of the site are also located between the Savannah River and Highway 321. The Eastern side of the site is bounded by I-95 to the West and the Beaufort-Jasper Water and Sewer Authority canal to the South. The Northern and Eastern boundaries of the Eastern side of the site are bounded by undeveloped tracts and the Hickory Hill Landfill, which is zoned industrial. The site does not currently have direct onsite rail access; however, CSX rail right-of-way runs adjacent to the site along two of its borders. The site is located approximately 4.6 miles from Exit 5 of I-95 (3 miles from Exit 18 of I-95), the Exit 169 interchange of I-26/I-95 is approximately 81.6 miles away, the Exit 30 interchange with I-385 is approximately 228 miles away, the Port of Charleston is approximately 94.5 miles away, the Inland Port Greer is approximately 246 miles away, and the Inland Port Dillon is approximately 190 miles away. The site is approximately 20 miles from Savannah, Georgia.<sup>27</sup>

The site is bisected by I-95, just North of the City of Hardeeville. The zoning for the site Rural Preservation and it is designated as a Resource Conservation area according to Jasper's County's Future Land Use Map. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. However, using available NWI data, the Applicant's consultants have determined the above-stated and approximated wetland figures for the site (16,000 acres of wetlands). With respect to threatened/endangered species, the Applicant has reviewed SCDNR's bald eagle database and USFWS's Critical Habitat Portal, and while the site is not listed as containing critical habitat for known or threatened/endangered species, based on

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<sup>27</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

those publicly available sources, the Applicant understands that the site is believed to be home to protected and endangered red-cockaded woodpeckers, given the pervasive existence of longleaf pine forests, confirmed by visual inspection, within the site, which is known habitat of red-cockaded woodpeckers. Further, the Applicant's consultants reviewed SHPO's ArchSite data, and the site contains two structures, one of which is eligible for registration and one that is not, which may or may not qualify as Significant Resources that require additional evaluation. The site is not owned by the Applicant and its availability is questionable, given the Club's historic use and hunt club membership.

#### **5.10 Martha Black Alternative Site 9 (Yemassee, SC 29945)**

- a. Tax Map ID: 088-00-01-001 (1,417.69 acres).
- b. The Martha Black Alternative Site 9 property is comprised of a single tract totaling approximately 1,417.69 acres, of which an undetermined amount is considered developable. The site is located in the unincorporated part of Jasper County. The majority of the acreage is located to the West/Northwest of a CSX rail line that bifurcates the site, with the remainder of the acreage to the East, fronting on Nuna Rock Road and I-95. The site is undeveloped and is bordered by Nuna Rock Road/I-95 and undeveloped parcels to the East/Southeast, by undeveloped parcels to the North and West, and by the Coosawhatchie River to the Southwest/South. The Exit 28 interchange of I-95 located approximately 0.8 miles from the site, the Exit 169 interchange of I-26/I-95 is approximately 58 miles away, the Exit 30 interchange with I-385 is approximately 205 miles away, the Port of Charleston is approximately 69.6 miles away, the Inland Port Greer is approximately 223 miles away, and the Inland Port Dillon is approximately 166 miles away. The site is approximately 40 miles from Savannah, Georgia.<sup>28</sup> As referenced above, a CSX rail line runs through the site. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is not owned by the Applicant.

#### **5.11 C&S National Bank Alternative Site 10 (Ridgeland, SC 29936)**

- a. Tax Map ID: 087-00-03-002 (1,092.04 acres).
- b. The C&S National Bank Alternative Site 10 property is comprised of a single tract totaling approximately 1,417.69 acres, of which an undetermined amount is considered developable. The site is located in the unincorporated part of Jasper County, north of

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<sup>28</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

the Town of Ridgeland. The site consists of undeveloped wooded and cleared acreage, with several natural or manmade ponds. The rectangular-shaped site is approximately bounded by I-95 to the West, undeveloped property fronting on Coosaw Scenic Drive (Hwy 462) to the North, and undeveloped property to the East and South. The site is located approximately 0.4 miles from Exit 28 on I-95, the Exit 169 interchange of I-26/I-95 is approximately 57 miles away, the Exit 30 interchange with I-385 is approximately 204 miles away, the Port of Charleston is approximately 70.6 miles away, the Inland Port Greer is approximately 223 miles away, and the Inland Port Dillon is approximately 166 miles away. The site is approximately 40 miles from Savannah, Georgia.<sup>29</sup> The site does not have direct onsite rail access, but a CSX rail line runs parallel to I-95 on the opposite side of the interstate from the site. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is not owned by the Applicant.

#### 5.12 Cypress Woods Corporation Alternative Site 11 (Ridgeland, SC 29936)

- a. Tax Map IDs: 048-00-01-001 (9,682.74 acres); and 048-00-03-019 (1,126.26 acres).
- b. The Cypress Woods Corporation Alternative Site 11 property is comprised of two non-contiguous parcels totaling approximately 10,809 acres, consisting of approximately 7,003 acres of uplands and approximately 3,806 acres of jurisdictional wetlands. The undeveloped property is vertically bisected by Highway 278, with the Western side of the site consisting of a block-shaped parcel to the North, and adjacent rectangular parcel to the South. The Eastern side of the site is also block-shaped and is bounded along its Eastern border by a CSX rail right-of-way and I-95. The remaining portions of the site are surrounded by large undeveloped tracts, as well as smaller residential or industrial parcels. The site is located approximately 5.3 miles from Exit 21, and 5.7 miles from Exit 22 on I-95, the Exit 169 interchange of I-26/I-95 is approximately 65 miles away, the Exit 30 interchange with I-385 is approximately 213 miles away, the Port of Charleston is approximately 78.7 miles away, the Inland Port Greer is approximately 233 miles away, and the Inland Port Dillon is approximately 174 miles away. The site is approximately 36.5 miles from Savannah, Georgia.<sup>30</sup> The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands

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<sup>29</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

<sup>30</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.



Delineation. However, using available NWI data, SCDNR's bald eagle database, USFWS's Critical Habitat Portal, and SHPO's ArchSite data, the Applicant's consultants have determined the above-stated and approximated wetland figures for the site (3,806 acres of wetlands), as well as that the site does not contain critical habitat for known or threatened/endangered species. However, the site contains two resource sites in the Eastern side of the site, one of which is eligible for registration and one that is not, and which may or may not qualify as Significant Resources that require additional evaluation. The site is not owned by the Applicant.

### 5.13 Jocelyn Clark Alternative Site 12 (Ridgeland, SC 29936)

- a. Tax Map ID: 086-00-01-002 (1,226.35 acres).
- b. The Jocelyn Clark Alternative Site 12 property is comprised of a single tract totaling approximately 1,226.35 acres, of which an undetermined amount is considered developable. The site is located in the unincorporated part of Jasper County, north of the Town of Ridgeland. The site consists of undeveloped wooded and partially-cleared acreage. The roughly rectangular-shaped site is vertically bisected by Coosaw Scenic Drive (Hwy 462), with the Western side of the site consisting of a rectangular-shaped parcel bounded by bounded by I-95 to the West, and the Eastern side of the site consisting of an irregular shape bounded by the Coosawhatchie River to the Northeast. The site is approximately bounded by I-95 to the West, undeveloped property and Bees Creek to the South, Coosawhatchie River to the East/Northeast, and a combination of developed and undeveloped parcels to the North. The site is located approximately 2 miles from Exit 28 on I-95, the Exit 169 interchange of I-26/I-95 is approximately 59.5 miles away, the Exit 30 interchange with I-385 is approximately 206 miles away, the Port of Charleston is approximately 72.3 miles away, the Inland Port Greer is approximately 216 miles away, and the Inland Port Dillon is approximately 168 miles away. The site is approximately 38.4 miles from Savannah, Georgia.<sup>31</sup> The site does not have direct onsite rail access, but a CSX rail line runs parallel to I-95 on the opposite side of the interstate from the site. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is not owned by the Applicant.

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<sup>31</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

**5.14 WA Holdings South, LLC Alternative Site 13 (Hardeeville, SC 29927).**

- a. Tax Map ID: 042-00-06-045 (2,629.85 acres).
- b. The WA Holdings South, LLC Alternative Site 13 property is comprised of a single, contiguous tract totaling approximately 2,630 acres, with approximately 1,816 acres of uplands and 814 acres of jurisdictional wetlands. The site is located in the corporate limits of the City of Hardeeville. The site is roughly rectangular in shape and is approximately bounded along the entire Western edge by I-95, by an undeveloped tract and the Hardeeville-Ridgeland Middle School to the South, by undeveloped portions of the Okeetee Hunt Club to the North, and by the Great Swamp to the East, which is under a conservation easement in connection with the adjacent East Argent PDD. The site is located approximately 4.4 miles from Exit 8 on I-95, the Exit 169 interchange of I-26/I-95 is approximately 82 miles away, the Exit 30 interchange with I-385 is approximately 229 miles away, the Port of Charleston is approximately 95 miles away, the Inland Port Greer is approximately 238 miles away, and the Inland Port Dillon is approximately 190 miles away. The site is approximately 23.5 miles from Savannah, Georgia.<sup>32</sup>

The entirety of the site is zoned as a PDD known as “West Argent,” which is set for development as single and multi-family residential and commercial space and any rezoning to allow for the industrial development would require specific approvals from the City of Hardeeville. The site does not currently have direct onsite or adjacent rail access; however, a CSX rail line runs on the opposite side of I-95 from the site. The current owners of the site, who purchased the property from the original developers in 2019, currently have Nationwide Permits and Individual Wetland Permits in place with the USACE for the residential/commercial development of the parcel, and also worked with the City of Hardeeville to improve access to the site for development via the City’s eminent domain power. Given the status of the permitted projects on the site, it is likely that all formal due diligence has been performed; however, that information is not currently available to the Applicant. Using available NWI data, SCDNR’s bald eagle database, USFWS’s Critical Habitat Portal, and SHPO’s ArchSite data, the Applicant’s consultants have determined the above-stated and approximated wetland figures for the site (814 acres of wetlands), as well as that the site contains

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<sup>32</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

neither critical habitat for known or threatened/endangered species nor eligible historic sites or artifacts. The site is not owned by the Applicant.

#### **5.15 Sherwood Tract Alternative Site 14 (Hardeeville, SC 29927)**

- a. Tax Map IDs: 030-00-01-007 (771.21 acres); 031-00-00-017 (50.4 acres); 030-00-01-019 (486.88 acres); 030-00-01-020 (20.05 acres); 030-00-01-021 (92.96 acres); and 030-00-01-022 (16.11 acres).
- b. The Sherwood Tract Alternative Site 14 property is comprised of five tracts totaling approximately 1,437 acres, of which 882.78 is currently upland area and 554.82 acres is freshwater wetlands. The wedged-shaped site is located within the corporate limits of the City of Hardeeville and is approximately bounded by I-95, U.S. Highway 17, Purrysburg Road, Toomerville Loop Road and several privately owned parcels on its Southern, Western and Northern boundaries. The site has approximately 2,400 feet of frontage on I-95, approximately 14,000 feet of frontage on the South side of Highway 17, approximately 3,015 feet of frontage on the North side of Highway 17, and approximately 5,100 feet of frontage on both sides of Toomerville Loop Road. The site does not currently have direct onsite rail access; however, a currently inactive CSX rail right-of-way runs adjacent to the Property on its Southwest corner. The Property is located less than 1 mile from Exit 5 on I-95, the Exit 169 interchange of I-26/I-95 is approximately 81.3 miles away, the Exit 30 interchange with I-385 is approximately 228 miles away, the Port of Charleston is approximately 94 miles away, the Inland Port Greer is approximately 246 miles away, and the Inland Port Dillon is approximately 189 miles away. The site is approximately 15.5 miles from Savannah, Georgia.<sup>33</sup>

The property is zoned as the “Sherwood Tract” PDD, and is currently the subject of a pending permit application with the Corps (SAC-2018-00298) for the South Atlantic Logistics Terminal. All of the following due diligence for the site has already been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. This site is not owned by the Applicant.

#### **5.16 Central South Carolina Megasite Alternative Site 15 (Lugoff, SC 29078)**

- a. Tax Map IDs: 323-00-00-011 (504.97 acres); 323-00-00-014 (294.76 acres); 309-00-00-031 (212 acres); 309-00-00-032 (385.36 acres), 309-00-00-070 (30.22 acres); 310-00-00-080 (12.75 acres); 324-00-00-001 (81.37 acres); and 323-00-00-006 (29.8 acres).

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<sup>33</sup> For the purpose of this alternative, the MSA is designated as the Savannah, Georgia.

- b. The Central South Carolina Megasite Alternative Site 15 property is comprised of eight (8) separate tracts totaling approximately 1,551 acres, of which 1,426 acres is listed as a part of the megasite. The site is located in the unincorporated part of Kershaw County, near Lugoff, and is approximately bordered by Whiting Way (a frontage road to Interstate 20) to the South, undeveloped property to the West, a mixture of residential and commercial development fronting on Highway 601 to the East, and a CSX rail line and developed residential properties to the North. The site is located approximately 0.8 miles from Exit 92 on Interstate 20, approximately 17 miles from Interstate 77 (Exit 16)/Interstate 20 (Exit 76) interchange, approximately 49 miles from Interstate 95, approximately 90 miles from Interstate 85, approximately 120 miles from the Port of Charleston, approximately 124 miles from the Inland Port Greer, and approximately 84 miles from the Inland Port Dillon. The site is approximately 17 miles from Columbia.<sup>34</sup> All of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, a Topographical Survey and a Wetlands Delineation. Based on Applicant's review of the foregoing due diligence, it confirms that the site has approximately 137.599 acres of jurisdictional wetlands, an additional 17.365 acres of non-jurisdictional wetlands, and 14,126 linear feet of streams. With respect to threatened and endangered species, a protected species assessment of the site determined that there was no evidence of, or suitable habitat for, federally protected resources in the project area, a determination in which U.S. Fish and Wildlife Service (USFWS) concurred on May 31, 2011. Regarding cultural resources, one site, 38KE1164, is eligible for inclusion and recommended avoidance. By letter dated November 15, 2016, SHPO concurred in the findings and recommendations. The site is a Certified SC site. The site is not owned by the Applicant.

#### **5.17 Tyger Oak Inc. Alternative Site 16 (Kinards, SC 29355)**

- a. Tax Map ID: 745-00-00-009 (1,907.53 acres).
- b. The Tyger Oak Inc. Alternative Site 16 property is comprised of a single tract totaling approximately 1,907.53 acres, of which an undetermined amount is considered developable. The site is located in the unincorporated part of Laurens County, adjacent to property within the unincorporated community of Joanna. The site consists of undeveloped wooded and partially-cleared acreage. The "W"-shaped site is approximately bounded by residential and commercial properties fronting on Highway 76 E and a Norfolk Southern rail line to the West, a combination of developed and undeveloped residential parcels to the North, with partial frontage on Whitmire

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<sup>34</sup> For the purpose of this alternative, the MSA is designated as the Interstate 77 (Exit 16)/Interstate 20 (Exit 76) interchange of Columbia, South Carolina.

Highway and undeveloped parcels to the East and South. The site is located approximately 1 mile from Exit 60 on I-26, the Exit 169 interchange of I-26/I-95 is approximately 109 miles away, the Exit 30 interchange with I-385 is approximately 41 miles away, the Port of Charleston is approximately 161 miles away, the Inland Port Greer is approximately 48.6 miles away, and the Inland Port Dillon is approximately 159 miles away. The site is approximately 51.6 miles from Greenville, South Carolina.<sup>35</sup> The site does not have direct onsite rail access, but a Norfolk Southern rail line runs parallel to an adjacent parcel to the West. The Applicant is not aware that any of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, Phase 1 ESA Assessment, Topographical Survey, and a Wetlands Delineation. The site is not owned by the Applicant.

#### **5.18 South Carolina Gateway Alternative Site 17 (Santee, SC 29142)**

- a. Tax Map IDs: 0323-00-06-012.000 (775.01 acres); 0323-00-06-001.000 (344.41 acres); and 0322-00-01-001.000 (138.08 acres).
- b. This South Carolina Gateway Alternative Site 17 property is comprised of the three (3) parcels totaling approximately 1,257.5 acres, of which 748 acres is listed as developable, in the unincorporated part of Orangeburg County. The site has a large central block of acreage, as well as several finger-like projections extending in a number of different directions. The site is approximately bounded by Interstate 95 and other undeveloped property to the East, and undeveloped parcels to the North, East, and South. The Exit 97 interchange of I-95 is approximately 0.1 miles away from portions of the site, I-85 (near Charlotte) is approximately 160 miles away, while I-85 (near Spartanburg) is approximately 155 miles away, the Port of Charleston is approximately 67 miles away, the Inland Port Greer is approximately 170 miles away, and the Inland Port Dillon is approximately 98 miles away. The site is rail-served by CSX right-of-way and has access to all utilities. The site is approximately 23 miles from Orangeburg.<sup>36</sup> All of the following formal due diligence for the site has been performed, including: Cultural Resource Identification Survey, Boundary Survey, Protected Species Assessment, Preliminary Geotechnical Exploration, a Topographical Survey and a Wetlands Delineation. The site is a Certified SC site. The site is not owned by the Applicant.

Although detailed due diligence was not available for each of the alternative sites, as described above, the Applicant conducted a review of readily available and accessible information and databases for

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<sup>35</sup> For the purpose of this alternative, the MSA is designated as the Greenville, South Carolina.

<sup>36</sup> For the purpose of this alternative, the MSA is designated as Orangeburg, South Carolina.

each of the sites regarding wetlands, upland acreage, potential impacts for the Proposed Project footprint, federal T&E, cultural resources, cost/availability, among other considerations.<sup>37</sup> Regarding jurisdictional wetlands, unless otherwise noted, the deduced quantity and spatial distribution of wetlands is the result of approximating the boundary of wetlands based on available NWI data. The depicted wetlands on the Property are based on delineations conducted by S&ME. Detailed wetland, cultural resources, and threatened and/or endangered species information for those sites carried forward to Level 2 of this analysis is included below.

## **6.0 Alternatives Analysis**

### **6.1 Level 1 Analysis**

Level 1 of the alternatives analysis evaluates the range of reasonable alternatives for their ability to best satisfy the purpose and need criteria of the Proposed Project. This step of the analysis is intended to identify, on a macro level, which of the alternatives might reasonably meet the purpose and need, and those alternatives that clearly do not meet the requisite criteria were not considered further within this analysis.

The Level 1 screening evaluated eighteen (18) potential alternative locations, including the No-Action Alternative. These sites were assessed with respect to varying aspects of their location, size, and general site characteristics within the primary characteristics and criteria identified by the Applicant.

[LEVEL 1 TABLE INCLUDED BELOW]

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<sup>37</sup> Additional detailed information for each of the alternatives carried forward to Level 2 of this analysis is included below.

| <b>Alternatives</b> |  | Minimum 1,000 acres of contiguous, developable acreage | Adjacent to or direct localized access within 1 mile of an interstate | Direct onsite or adjacent rail access to a Class I rail carrier | Within a combined 180 miles of both Interstate 85 and Interstate 95 |
|---------------------|--|--|---|---|---|
| 1.                  | No Action (No Build)                         | ○  | ○   | ○   | ○   |
| 2.                  | Blythewood Industrial Site Alt. Site 1       | ●  | ●   | ●   | ●   |
| 3.                  | JAB Site West Alt. Site 2                    | ●  | ∅   | ●   | ●   |
| 4.                  | Carolinas I-95 Super Park Alt. Site 3        | ●  | ●   | ●   | ●   |
| 5.                  | I-77 International Megasite Alt. Site 4      | ●  | ●   | ●   | ●   |
| 6.                  | Angel Tract LLC Alt. Site 5                  | ∅  | ●   | ●   | ○   |
| 7.                  | Yemassee Timber LLC Alt. Site 6              | ●  | ∅   | ●   | ○   |
| 8.                  | Chilton Timber & Land Co. LLC Alt. Site 7    | ●  | ●   | ●   | ○   |
| 9.                  | Okeetee Club Alt. Site 8                     | ∅  | ●   | ●   | ○   |
| 10.                 | Martha Black Alt. Site 9                     | ●  | ●   | ●   | ○   |
| 11.                 | C&S National Bank Alt. Site 10               | ●  | ●   | ●   | ○   |
| 12.                 | Cypress Woods Corp. Alt. Site 11             | ●  | ●   | ●   | ○   |
| 13.                 | Jocelyn Clark Alt. Site 12                   | ●  | ●   | ●   | ○   |
| 14.                 | WA Holdings South, LLC Alt. Site 13          | ●  | ●   | ●   | ○   |
| 15.                 | Sherwood Tract Alt. Site 14                  | ●  | ●   | ○   | ○   |
| 16.                 | Central South Carolina Megasite Alt. Site 15 | ●  | ●   | ●   | ●   |
| 17.                 | Tyger Oak Inc. Alt. Site 16                  | ●  | ●   | ∅   | ●   |
| 18.                 | South Carolina Gateway Alt. Site 17          | ●  | ●   | ●   | ●   |

● = passes criterion  
 ○ = fails criterion  
 ∅ = partially passes criterion

As a result of the Level 1 analysis applied above, fifteen (11) of the identified alternatives, including the No Action (No Build) Alternative, failed to at least partially meet all of the minimum characteristics and criteria for the Proposed Project, and fourteen (10) alternatives were eliminated at this level:

1. *No Action (No Build)*

- a. The No-Action (No Build) alternative fails to meet any of the purpose and need criteria of the Proposed Project. Notwithstanding, this alternative is retained for further comparison in the alternatives practicability analysis in order to ensure a complete environmental impact evaluation, as well as provide a baseline comparison to other alternatives in the Level 2 analysis.

2. *Angel Tract LLC Alternative Site 5*

- a. The Angel Tract LLC Alternative Site 5 property fails to fully meet two (2) of the four (4) primary characteristics and criteria identified by the Applicant. The site has direct localized access within one (1) mile of an interstate (approximately 1.0 mile from Exit 38 of I-95) and has adjacent rail access to a Class I rail carrier (via a CSX rail line running adjacent to the Northern portion of the site across Yemassee Highway). However, while the site, at 1,571.48 acres, is conceptually large enough to meet the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, a significant portion of the Western side of the site has been developed into a solar farm; therefore, the site, in its current state of development, is unlikely to have the required minimum acreage for the Proposed Project. Further, while the site is located within one (1) mile of I-95, it has no interstate frontage. Finally, while the site is within 90 miles of I-95 (approximately 1.0 mile away), the site is more than 90 miles away from I-85 (approximately 195 miles away), collectively more than 180 miles away from both interstates. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

3. *Yemassee Timber LLC Alternative Site 6*

- a. The Yemassee Timber LLC Alternative Site 6 property fails to fully meet two (2) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 1,971.23 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, and has direct onsite or adjacent rail access to a Class I rail carrier (via a CSX rail line



running adjacent to the Southeastern corner of the site). However, while the site is adjacent to I-95, current driving mileage to the nearest interstate access is approximately 2.7 miles away (Exit 38 of I-95). In addition, while the site is within 90 miles of I-95 (approximately 2.7 miles away), the site is more than 90 miles away from I-85 (approximately 196.7 miles away), collectively more than 180 miles away from both interstates. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

4. *Chilton Timber & Land Company LLC Alternative Site 7*

- a. The Chilton Timber & Land Company LLC Alternative Site 7 property fails to meet one (1) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 7,573 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, the site is both adjacent to and has direct localized access within one (1) mile of an interstate (approximately 1.0 mile from Exit 38 of I-95), and is proximately adjacent rail access to a Class I rail carrier (via a CSX rail line running adjacent to the Northern portion of the site across Yemassee Highway). However, while the site is within 90 miles of I-95 (approximately 1.0 mile away), the site is more than 90 miles away from I-85 (approximately 195 miles away), collectively more than 180 miles away from both interstates. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

5. *Okeetee Club Alternative Site 8*

- a. The Okeetee Club Alternative Site 8 property fails to fully meet two (2) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 44,000 non-contiguous acres, conceptually meets the required minimum developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, portions of the site are both adjacent to and has direct localized access within one (1) mile of an interstate, and has adjacent rail access to a Class I rail carrier (via a CSX rail line along two of its borders). However, while the site is adjacent to I-95, current driving mileage from the most logically developable portion of the site to the nearest interstate access is approximately 4.6 miles away (Exit 5 of I-95). In addition, while the site is within 90

miles of I-95 (approximately 4.6 miles away), it is more than 90 miles away from I-85 (approximately 228 miles away), collectively more than 180 miles away from both interstates. Moreover, this alternative is believed to be home to protected and endangered red-cockaded woodpeckers, given the pervasive existence of longleaf pine forests, confirmed by visual inspection, within the site, which is known habitat of red-cockaded woodpeckers. Further, the Applicant's consultants reviewed SHPO's ArchSite data, and the site contains two structures, one of which is eligible for registration and one that is not, which may or may not qualify as Significant Resources that require additional evaluation. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

6. *Martha Black Alternative Site 9*

- a. The Martha Black Alternative Site 9 property fails to meet one (1) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 1,417.69 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, the site is both adjacent to and has direct localized access within one (1) mile of an interstate (approximately 0.8 miles from Exit 28 of I-95), and has direct onsite rail access to a Class I rail carrier (via a CSX rail line bifurcating the site). However, while the site is within 90 miles of I-95 (approximately 0.8 miles away), the site is more than 90 miles away from I-85 (approximately 205 miles away), collectively more than 180 miles away from both interstates. Further, the location of the CSX rail line through the site inhibits the placement of the required configuration of the Proposed Project, which necessitates a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

7. *C&S National Bank Alternative Site 10*

- a. The C&S National Bank Alternative Site 10 property fails to meet one (1) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 1,417.69 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings

onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, the site is both adjacent to and has direct localized access within one (1) mile of an interstate (approximately 0.4 miles from Exit 28 of I-95), and has proximately adjacent rail access to a Class I rail carrier (via a CSX rail line running adjacent to I-95 on the opposite site of the interstate). However, while the site is within 90 miles of I-95 (approximately 0.4 miles away), the site is more than 90 miles away from I-85 (approximately 204 miles away), collectively more than 180 miles away from both interstates. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

8. *Cypress Woods Corporation Alternative Site 11*

- a. The Cypress Woods Corporation Alternative Site 11 property fails to meet one (1) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 10,809 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, the site is adjacent to an interstate (I-95), and is adjacent to rail access to a Class I rail carrier (via a CSX rail line running adjacent to the site). However, while the site is adjacent to I-95, current driving mileage to the nearest interstate access is approximately 5.3 miles away (Exit 21 of I-95) and 5.7 miles away (Exit 22 of I-95), respectively, and the site is more than 90 miles away from I-85 (approximately 213 miles away), collectively more than 180 miles away from both interstates. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

9. *Jocelyn Clark Alternative Site 12*

- a. The Jocelyn Clark Alternative Site 12 property fails to meet one (1) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 1,226.35 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, the site is adjacent to an interstate (I-95), and has proximately adjacent rail access to a Class I rail carrier (via a CSX rail line running adjacent to I-95 on the opposite site of the interstate). However,

while the site is adjacent to I-95, current driving mileage to the nearest interstate access is approximately 2.0 miles away (Exit 28 of I-95), and the site is more than 90 miles away from I-85 (approximately 206 miles away), collectively more than 180 miles away from both interstates. Further, the location of Coosaw Scenic Drive (Hwy 462), which bisects the site, inhibits the placement of the required configuration of the Proposed Project, which necessitates a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

10. *WA Holdings South, LLC Alternative Site 13*

- a. The WA Holdings South, LLC Alternative Site 13 property fails to meet one (1) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 2,630 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future, the site is adjacent to an interstate (I-95), and has proximately adjacent rail access to a Class I rail carrier (via a CSX rail line running adjacent to I-95 on the opposite side of the interstate). However, while the site is adjacent to I-95, current driving mileage to the nearest interstate access is approximately 4.4 miles away (Exit 8 of I-95), and the site is more than 90 miles away from I-85 (approximately 229 miles away), collectively more than 180 miles away from both interstates. Moreover, the site is subject to an established PDD scheduled for development as single and multi-family residential and commercial space and is therefore unavailable for the Proposed Project. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

11. *Sherwood Tract Alternative Site 14*

- a. The Sherwood Tract Alternative Site 14 property fails to meet two (2) of the four (4) primary characteristics and criteria identified by the Applicant. The site, at 1,437 acres, conceptually meets the required minimum contiguous and developable acreage estimated by the Applicant to accommodate the required square footage of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should

market conditions dictate further investment in the future, and the site is both adjacent to and has direct localized access within one (1) mile of an interstate (approximately 0.3 miles from Exit 5 of I-95). However, while a currently inactive CSX rail right-of-way runs adjacent to the Property on its Southwest corner, the Applicant does not consider the site to have direct onsite or adjacent rail access. Further, while the site is both adjacent to and within one (1) mile of an interstate (Exit 5 of I-95), the site is more than 90 miles away from I-85 (approximately 228 miles away), collectively more than 180 miles away from both interstates. In addition, the site is subject to an established PDD scheduled for development as industrial warehousing and economic development spaces and is therefore unavailable for the Proposed Project. Accordingly, because this alternative fails to meet the basic minimum site requirements identified by the Applicant for the Proposed Project, it was eliminated from consideration by Level 1 analysis.

## **6.2 Level 2 Analysis**

The Level 2 analysis evaluates the seven (7) site locations that at least partially satisfied all four (4) of the primary characteristics and criteria established by the Applicant, as well as the No Action (No Build) alternative, by comparing additional factors to determine which alternative provides the least environmentally damaging practicable alternative and meets the overall purpose of the Proposed Project. In addition to the identified primary characteristics and criteria for the Proposed Project, as a part of this Level 2 analysis, the Applicant evaluated the sites carried forward as to their fulfillment of the additional characteristics and criteria identified by the Applicant as having secondary importance.

In particular, in discussing the viability of locating the Proposed Project in South Carolina, the Client expressed a strong preference for a location in the Midlands. This characteristic is attractive to the Client for a number of reasons. First, the Midlands region of South Carolina, considered to include Aiken, Barnwell, Chester, Edgefield, Fairfield, Kershaw, Lancaster, Lexington, Newberry, Richland, Saluda, and York Counties, stretches the width of the State and in a central band that is ideally located for advanced manufacturers looking to locate in South Carolina. The Midlands provides easy access to the State's TDL infrastructure given its central location, including I-26, I-95, I-20, and I-77. The Midlands also provides proximity to the Columbia and other metropolitan statistical areas which, as discussed in depth below, provide access to critical population masses needed to accommodate a workforce profile capable of filling out the required employee pool, as well as, more critically, access to educational institutions capable of training and certifying workers for jobs in advanced manufacturing. Finally, while the Upstate of South Carolina has provided a fertile area for growth surrounding BMW's facilities, and the Lowcountry has similarly performed well in accommodating Boeing, Volvo, and Mercedes Benz, the Midlands does not have an advanced manufacturer of the scale and scope of those areas of the State similar to what is being put forward by the Proposed Project, allowing the Client to take advantage of one of the last, untapped advanced manufacturing

labor pools of the State. To that end, and more specifically, a location in the Midlands allows the Client to take advantage of the area's high concentration of engineering and skilled labor talent and also offers access to skilled labor, training, and educational opportunities, including Midlands Technical College, CCTC, and the University of South Carolina, which offer trade and advanced degree schools working collaboratively with the advanced manufacturers and suppliers to offer new technologies that further advance the State's automotive industry.

In addition, the Client has identified a preference for direct onsite interstate frontage. This characteristic is attractive to the Client for several reasons. First, given the number of employees anticipated to be hired by the Client as a part of the operations of the facility, the Applicant is proposing as a part of the Proposed Project to construct a dedicated interchange off of I-77 to the project site. As set forth above, a dedicated interchange is preferred here given the logistical and transportation efficiencies achieved through direct access to the site; ease of ingress and egress to the site is imperative to the operational success of the site by the Applicant. Bringing employees and component parts to the site through a dedicated interchange avoids overburdening existing surrounding roadways and ensures their efficient arrival to and departure from the site. Moreover, over-reliance and -utilization of the local roads and highways would potentially create issues of local land use, community disturbance, and interference that would be avoided with direct interchange access. In addition, a site directly on the interstate provides accessibility and visibility to the public, suppliers, dealers, and other visitors, all of whom will play a critical role in the success of the Proposed Project, and further provides a visible reminder of the Client's presence in the Midlands.

Further, the Client has identified a parameter for a locating the Proposed Project within 15 miles of an area with a skilled workforce having access to adequate education and training. This characteristic is necessary to the Client, given the number of employees required to operate the facility. Only the larger MSAs can accommodate the labor need based on the critical population mass needed to generate a workforce profile capable of filling out the required employee pool. In addition to population numbers, larger MSAs provide access to the necessary educational institutions required to train and certify workers for jobs in advanced manufacturing, through trade and advanced degree schools that work collaboratively with the advanced manufacturers and suppliers to provide curriculums in new technologies critical to automotive production. In particular, South Carolina's ReadySC program provides significant workforce training and development throughout the State, while the Midlands offers a number of trade and advanced degree schools that work collaboratively with the advanced manufacturers and suppliers to offer new technologies that further advance the State's automotive industry, including, but not limited to, Midlands Technical College, CCTC, and the University of South Carolina. Finally, given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in selecting a site within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the Client in terms of both access to

labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA.

Third, the client has identified a need to be located roughly equidistant from the Port of Charleston and the Inland Ports of Greer and Dillon, respectively, corresponding to a distance of 145 miles away from each. As set forth above, it is expected that certain of the component parts for production and assembly at the Proposed Project, as well as a certain percentage of the completed automobiles, will arrive from and be exported through international shipments portals of the Port of Charleston. Accordingly, a site that is equidistant from the Port of Charleston and each of the State's Inland Port facilities is optimally located for the efficient just-in-time delivery of component parts for production, as well as further delivery of assembled automobiles to end-users.

Finally, the client has identified the need for immediate access to all required utilities. Immediate access to utility infrastructure is key both from an operations perspective, as without adequate access to sufficient power, water, gas, and sewer with sufficient capacity, no development is possible, particularly with EV automobile production which requires significant power resources, as well as from a timing perspective, as the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project.

#### *6.2.1 No Action Alternative*

The No Action alternative means either no permit is to be required or that a permit is to be denied. In this specific case, the Applicant submits that it is not possible to fulfill the purpose and need of the Proposed Project, meeting the characteristics and criteria identified by the Applicant, while entirely avoiding impacts to aquatic resources, as evidenced by the comparable alternatives set forth below, which demonstrate resource impacts similar to the Property. Therefore, the No Action alternative would be equivalent to permit denial. Permit denial would meet the overall project purpose *only if* there was another parcel available that could accommodate the Proposed Project, including the characteristics and criteria identified by the Applicant, with no wetland impacts and no other significant environmental impact or effect. This analysis demonstrates that this is not possible.

Although selection of the No Action Alternative would render this analysis futile, the No Action Alternative is nevertheless retained as a baseline for evaluation of a Build Alternative. Under the No Action Alternative, the Applicant would be unable to meet the identified need of constructing a new worldwide production site for automotive vehicles with the burgeoning electric vehicle EV automotive industry sector. Under the No Action Alternative, this identified need would not be met such a facility in South Carolina, but would instead not be built at all or be located in a less efficient and connected location. Commerce is obligated under its statutory authority and responsibility to pursue such actions and projects as will meet the long-term strategic needs of potential clients, including the contribution to economic development in South Carolina through the cultivation and stimulation of the types of facilities proposed here by Client. Because the No Action Alternative would not effectuate the

Proposed Project's purpose and need, it was eliminated from consideration through this Level 2 analysis.

### *6.2.2 Blythewood Industrial Site Alternative Site 1*

The Blythewood Industrial Site Alternative Site 1 property was identified by the Applicant as the preferred location of the Proposed Project because it uniquely satisfies all of the primary and secondary characteristics and criteria identified for the development of a site for the identified facilities of the Project. The preferred site layout for the Proposed Project is depicted in the Applicant's application and attached to this analysis as **Exhibit H**.

First and foremost, at 2,581 acres of contiguous, developable land, the Property is of sufficient size to accommodate the required approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The Proposed Project is intended to fulfill Client's vision of developing a site for the construction and operation of a new rail-served advanced manufacturing facility in the automotive industry for an OEM that will take advantage of South Carolina's TDL cluster and initiatives. The Proposed Project facilities will serve as the new worldwide production site for automotive vehicles within the burgeoning EV automotive industry sector. The design of the Proposed Project has been developed under a master plan concept that will be constructed in phases to support existing demand, while allowing for planned expansion as well as provide sufficient available acreage to address future growth opportunities to meet projected and new demand. The fully constructed facilities and support operations will allow Client to source, stage, assemble, produce, and manufacturer fully-assembled automobiles in scalable manner that meets the growing demand and needs of end-users. The master plan concept proposed is thoughtfully laid out in a configuration that ensures proper sequencing of materials, assembly, and production, and is one that Client has utilized in other manufacturing facilities in order to achieve desired production levels and efficiencies. In turn, accommodating Client's design and layout of its facilities to achieve desired efficiencies in workflow, product, information, and materials across the site requires sufficient acreage.

In particular, the onsite work for the Proposed Project facilities is planned to be built in two or more phases. Ground-clearing activities on the site have begun in non-wetland areas. Activities in the wetland areas would begin immediately upon issuance of the Section 404 permit. Construction of Phase I of the Proposed Project would begin upon the completion of the necessary site work and is contemplated to include construction of the necessary facilities to produce EV automobiles starting in 2026. Specifically, Phase I of the Proposed Project will consist of site preparation work and the cumulative construction of 16 buildings, totaling approximately 5,250,000/sf in buildings to stage materials and house facilities for the production of automobiles, including assembly and finish, paint, body, a central control building, SQM2, utility, truck gate/security control center, fire station, recycle center, main gate/welcome center, tank farm, factory substation, supplier substation, outbound



building, battery assembly shop, and the axle shop. Phase I will also entail construction of attendant infrastructure, including a new interchange on I-77, interior roadways, a rail spur and rail loading areas, truck and personal vehicle (POV) parking, and stormwater detention basins.

The remaining phases of the Proposed Project would be constructed and become operational after completion of Phase I, based on identified demand and projected growth opportunities. Specifically, the subsequent phases of the Proposed Project are projected to consist of the cumulative construction of approximately 20 additional buildings, totaling approximately 10,750,000,000/sf in buildings and facilities. The subsequent phases of the Proposed Project would largely mirror those constructed in Phase I, essentially doubling the production capacity of the overall facility, and would include additional facilities to house battery assembly, assembly, paint, finish, body, press shop, and finished automobile parking processes, as well as a two test tracks for finished automobiles, among other administrative buildings and features. In sum, given its size and shape, the Property fulfills the Applicant's first characteristic and criterion, in that it allows for the scope of facilities and infrastructure that the undertaking requires.

Second, the Property is located directly adjacent to, with frontage on, I-77. It is also located 0.1 miles from 27 of Interstate 77, while the Southern end of the Property is located less than one (1) mile from Exit 24 of Interstate 77. The component parts and raw materials that Client intends to utilize in its productions facilities are likely to be sourced from a number of locations, including abroad, with parts delivered by truck or rail over the State's TDL clusters. Nearby access to an interstate is crucial for the efficient just-in-time delivery of OEM component parts for production, assembly, and further transportation to end-users, and provides logistical efficiencies for personnel. Accordingly, the Property fulfills the Applicant's second characteristic and criterion.

Third, the Eastern site of the Property is adjacent to an existing Norfolk Southern rail line, and a proposed spur into the site is planned as a part of the project. Having onsite rail access via a dedicated and fully-integrated rail spur ensures cost-effectiveness to clients and shippers and provides logistical efficiencies for incoming and outgoing transportation of products, reduces truck traffic on already-overburdened roads, increases accessibility for regional manufacturers and distributors, and provides additional access points throughout the Country, including to the Port of Charleston for international shipment, over a Class I's mainline. Because the Property has the capability of being served by a Class I rail carrier, it fulfills the Applicant's third characteristic and criterion.

Fourth, the location of the Property is ideal and comports with the geographic requirements identified as the fourth characteristic and criterion by the Applicant. An ideal location for the Proposed Project is one that is also located centrally to the established North/South and East/West transportation corridors along the East Coast. It is expected that component parts and raw materials for production and assembly at the Proposed Project will arrive, and produced EV automobiles will be shipped to end-users, via a number of transportation methods, including by interstate. For the purposes of

establishing an optimal radius for the efficient just-in-time delivery of EV component parts for production, as well as further delivery of produced EV automobiles to end-users, a location which is equidistant from both Interstate 85 and Interstate 95 is preferred. The Property is located 74.5 miles from the Interstate 77 (Exit 9)/Interstate 85 (Exit 30) interchange, and 79 miles from the Interstate 26 (Exit 169)/Interstate 95 (Exit 86) interchange. Accordingly, the Property fulfills the Applicant's fourth characteristic and criterion for the Proposed Project.

Further, and with respect to the secondary characteristics and criteria identified by the Applicant, the Property is located in the Midlands, the Client's preferred location, allowing the Client to take advantage of the area's high concentration of engineering and skilled labor talent and also offers access to skilled labor, training, and educational opportunities, including Midlands Technical College, CCTC, and the University of South Carolina, which offer trade and advanced degree schools working collaboratively with the advanced manufacturers and suppliers to offer new technologies that further advance the State's automotive industry. Accordingly, the Property satisfies the first secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Second, the Property has direct interstate frontage allowing for a dedicated interchange off of I-77. As set forth above, a dedicated interchange is preferred here given the logistical and transportation efficiencies achieved through direct access to the site. Such an arrangement is ideal given the number of employees anticipated to be hired by the Client as a part of the operations of the facility, as bringing employees and component parts to the site through a dedicated interchange avoids overburdening existing surrounding roadways and ensures their efficient arrival to and departure from the site. In addition, a site directly on the interstate provides accessibility and visibility to the public, suppliers, dealers, and other visitors, all of whom will play a critical role in the success of the Proposed Project, and further provides a visible reminder of the Client's presence in the Midlands. Accordingly, the Property satisfies the Applicant's second secondary characteristic and criterion.

Third the Property is located only approximately 8.6 miles from Columbia, which is the designated MSA for the site. As referenced above, a location in the Midlands, near Columbia, allows the Client to take advantage of the area's high concentration of engineering and skilled labor talent. The area's deep talent pool and educational programs have allowed the Midlands to become a dynamic region for advanced manufacturing and research. Given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in selecting a site within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the Client in terms of both access to labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA. At only 8.6 miles from the Interstate 77 (Exit 16)/Interstate 20 (Exit 76) interchange, which is geographically central to Columbia's labor pool, the Property is close enough to entice high-skilled workers living in the Columbia MSA to commute to

the site to work. Accordingly, the Property fulfills the third secondary characteristic and criterion identified by the Applicant.

Fourth, it is expected that certain of the component parts and raw materials for production and assembly at the Proposed Project will arrive through the Port of Charleston via international shipment. Therefore, in addition to use of the State's interstate TDL corridors, a site that is equidistant from the Port of Charleston and each of the State's Inland Port facilities is optimally located for the efficient just-in-time delivery of EV component parts for production, as well as further delivery of assembled automobiles to end-users. The Property is located 130 miles from the Port of Charleston, 101 miles from the Inland Port Greer, and 110 miles from the Inland Port Dillon. Accordingly, the Property fulfills the fourth secondary characteristic and criterion identified by the Applicant.

Fifth and finally, the Property has immediate access to all required utilities. As set forth above, immediate access to utility infrastructure is key both from an operations perspective, as without adequate access to sufficient power, water, gas, and sewer with sufficient capacity, no development is possible, particularly with EV automobile production which requires significant power resources. With respect to the required power infrastructure for the Proposed Project, the Applicant has multiple options for nearby power sources, all with sufficient existing capacity and onsite infrastructure to fulfill the requirements of the Proposed Project. From a timing perspective, the existence of these onsite utilities is paramount, as the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project. Accordingly, the Property fulfills the fifth secondary characteristic and criterion identified by the Applicant.

With respect to impacts, the size, scale, and required layout of the Proposed Project renders it impossible to locate the Proposed Project on the Property and not have environmental impacts to onsite waters of the United States. Overall, the Property consists of approximately 2,384.193 acres of uplands and 196.807 acres of aquatic resources, comprised of approximately 146.215 acres of jurisdictional wetlands (between 119 wetland features), approximately 43.203 acres of non-wetland ponds (between 13 separate pond features), approximately 70,037 linear feet of streams, and approximately 9,472 linear feet of non-aquatic resources consisting of agricultural ditches and ephemeral swales (across 24 separate features). Of the approximately 1,633 acres identified as the limits of disturbance, the Proposed Project calls for 23,599 linear feet of permanent fill impacts to onsite streams, 30 linear feet of permanent clearing impacts to onsite streams, 3,043 linear feet of morphological impacts to onsite streams, 9,019 linear feet of pipe impacts to onsite streams, 38.219 acres of permanent fill impacts to non-wetland ponds, 60.649 acres of permanent fill impacts to jurisdictional wetlands, 0.317 acres of temporary excavation/permanent clearing impacts to jurisdictional wetlands, and 8.742 acres of permanent clearing impacts to jurisdictional wetlands.

With respect to cultural resources, and as further detailed below in Level 3 of this analysis, the Applicant's consultants have conducted broad cultural resource identification surveys of the Property

and have consulted extensively with SHPO regarding the results. As a result of those surveys and consultations, there are two identified sites which require further action by the Applicant in conjunction with the Project.

Based on the Property's fulfillment of both the primary and secondary characteristics and criteria identified for the Proposed Project, the Applicant determined that the Property was a practicable alternative that would fulfill the purpose and need of the Proposed Project. As a result, it was carried forward to Level 3 of this analysis.

### *6.2.3 JAB Site West Alternative Site 2*

The JAB Site West Alternative Site 2 property was carried through to Level 2 analysis based on its ability to fully satisfy, at the macro-level, all four (4) of the primary characteristics and criteria identified by the Applicant for the Proposed Project. A depiction of the preferred site layout for the Proposed Project on the JAB Site West site is provided in **Exhibit I** to this alternatives analysis.

In particular, at 1,023 acres, on the surface the JAB Site West site meets the required minimum available and developable acreage estimated by the Applicant to accommodate the required approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The site is also located directly adjacent to, with frontage on, I-77, and a CSX rail line runs adjacent to the Southern boundary of the site. Finally, the site is located within the 180-mile combined window for the North/South and East/West transportation corridors along the East Coast that was identified by Client as being the ideal, approximately 120 miles away from I-95 and 36 miles away from I-85.

However, although the site has frontage on I-77, the current distance to the nearest interstate exit is approximately 5.3 miles to Exit 65 of I-77 via two-lane state roads.

Regarding the secondary characteristics and criteria identified by the Applicant as being critical for the successful implementation of the Proposed Project, the site appears to fully satisfy three (3) of the five (5) additional criteria. In particular, the JAB Site West site is located in Chester County, within the Midlands of the State. As such, the site comports with the Client's expressed a strong preference for a location in the Midlands and providing access to the Midlands employee pool and the area's high concentration of engineering and skilled labor talent offering access to skilled labor, training, educational, and collaboration opportunities. Accordingly, the site meets the first secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Second, the site has direct frontage on I-77, sufficient to allow for a dedicated interchange with the interstate and provide the desired visibility for project facilities. Thus the site's location would be conducive to a dedicated interchange, allowing for the desired logistical and transportation efficiencies achieved through direct access to the site. Without a dedicated interchange, however, employees and

supplies would need to access the site via local roads and existing Exit 65, which is located more than one (1) mile from the project site (approximately 5.3 miles), potentially overburdening these existing surrounding roadways. Accordingly, the site fulfills the second secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Third, the site is located approximately 13.7 miles from the City of Chester, population 5,245, and 23.2 miles from the City of Lancaster, population 8,575. Because none of the municipalities in close proximity to the site are considered major MSA's, the Applicant determined that the closest MSA with possible sufficient population size to satisfy the Proposed Project is the City of Rock Hill, population 74,102, which is located approximately 8.5 miles away. Nearby access to an MSA's high concentration of engineering and skilled labor talent provides the Client with skilled labor, training, and educational opportunities. The further away from an MSA of sufficient population, the more difficult it will be for the Client to utilize those vital resources to recruit and develop its employees. Accordingly, the site fulfills the third secondary characteristic and criterion identified by the Applicant for the Proposed Project; however, while the site is in close proximity to Rock Hill, the population of Rock Hill is significantly smaller than the population of Columbia (137,541). Attracting the necessary skilled labor force would therefore be more difficult at the site than the Columbia MSA, making the site a less practicable alternative for the Proposed Project.

Fourth, while the site is located approximately 91 miles from the Inland Port Greer, and 140 miles from the Inland Port Dillon, the Port of Charleston is located approximately 173 miles from the site, more than the desired outer limit of 145 miles. Thus, the site only partially fulfills the fourth secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Fifth, a review of publicly-available information renders inconclusive a determination as to whether the site has immediate access to all required industrial-level utilities. According to data kept by Commerce, the site has access to water and sewer through the Chester Metropolitan District and the Chester Sewer District, respectively, although information as to whether the existing water and sewer lines are sufficient for industrial use is undetermined. The site also has access to power via Duke Energy; however, an existing power line easement bisects two portions of the available acreage, which would require the Applicant to relocate service. Finally, the site does not have immediate access to natural gas. As set forth above, immediate access to utility infrastructure is key both from an operations and timing perspective, as without adequate access to power, water, gas, and sewer with sufficient capacity, no development is possible, and the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project. Accordingly, the site only partially satisfies the fifth secondary characteristic and criterion identified by the Applicant for the Proposed

Project, while capacity issues for utilities would require further investigation and costly upgrades, if necessary.

Further, while the available acreage (1,023 acres) is conceptually conducive to the Proposed Project, as discussed above, the construction limits of the planned development of the Proposed Project would comprise approximately 1,633 acres. While the Applicant included alternative sites greater than 1,000 acres for consideration in order to conduct a comprehensive analysis of available alternative sites, the project limits were established based on the overall layout of the facility satisfying the purpose and need of the Proposed Project. Artificially reducing the overall size of the Proposed Project fails to meet the purpose and need identified by the Applicant. In particular, an artificial reduction in facility size would potentially render the project incapable of accommodating a second phase deemed critical to the client. Not being able to fully construct the second phase of the project, reducing the building footprints to fit the site, or eliminating certain of the buildings altogether, would not satisfy the minimum requirements and parameters of the Client. Current technologies dictate that the component parts and overall production of electric vehicles is more expensive than the components and production of internal combustion engine automobiles.<sup>38</sup> The Client's investment in South Carolina generally, and the Proposed Project specifically, is premised on its ability to recoup its investment through the attainment of certain production goals based on current and projected industry demand, government-dictated policies setting targets for emission reductions, and production-related subsidies and tax rebates designed to support the production of long range, zero emission vehicles. As such, reducing the production capacity of the facility through an arbitrary reduction of individual building footprints or the overall project size would place the Client investment at risk, while also impeding the Client's ability to stage, produce, finish, and ship automobiles in the manner in which Client's extensive experience in designing, constructing, and operating similar facilities around the world would dictate. *See* 46 Fed. Reg. 18026 (March 23, 1981) (dictating that under NEPA, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant). Client's extensive experience and the required advanced manufacturing process has dictated the proposed linear shape of facilities that flow in the order shown, effectively preventing the re-location of specific component parts of the overall facility, even within each specific phase, in order to fit the shape or size of a site. Accordingly, and upon closer inspection and review, the site does not meet the minimum acreage required by the Applicant and Client to fulfill the purpose and need of the Proposed Project.

In addition, the shape of the site, an upside down "U", is not conducive to the required configuration of a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result Client's extensive experience designing,

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<sup>38</sup> *E.g.* Joe Miller, *Electric car costs to remain higher than traditional engines*, Financial Times (August 2020) ("Electric cars will remain significantly more expensive for European carmakers to produce than combustion engine models for at least a decade, according to new research."); <https://www.ft.com/content/a7e58ce7-4fab-424a-b1fa-f833ce948cb7>

constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. The site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that, for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed, preventing the Applicant from relocating buildings to other locations in order to fit the desired footprint of the Proposed Project within the existing shape of the site. Here, in order to fit all of the project components and buildings onto the site, significant re-arranging of the buildings was required, as shown on **Exhibit I**. This included, for instance, separating the Assembly facilities, and locating the Assembly facilities, Paint Shop, Body Shops, and Press Shop facilities throughout the site, rather than keeping them together in a unified layout, which is not conducive to the desired automotive process. These changes would destroy any semblance of the desired automotive process and effectively renders this alternative incompatible for the Proposed Project from a process and logistics point of view. Further, separating these facilities would incrementally increase the cost of production of each vehicle to the Client by increasing the time required to transport assembled automotive components throughout the site, thereby decreasing the efficiency achieved through the masterplan design for automotive production proposed by the Client's preferred layout.

Regarding impacts to special aquatic sites on the JAB Site West site, based on the Applicant's review of available delineation information, locating a conceptual version of the Proposed Project on the site would result in permanent fill impacts to approximately 129 acres of jurisdictional wetlands and approximately 52,350 linear feet of streams. Compared to the Property, this alternative site would result in substantially greater impacts to both jurisdictional wetlands and streams. Moreover, given that fitting the component buildings of the Proposed Project on the site would require substantial reconfiguring of the project layout, as discussed extensively in the preceding paragraphs, these figures are correspondingly skewed, do not represent an apples to apples comparison, endanger the Client's investment in the Proposed Project, and therefore fail to meet the purpose and need of the project.

Further, no onsite cultural resource review, protected species assessment, or in-depth wetlands delineation has been conducted; therefore, the existence of unexpected impacts, and the precise number impacts to those resources on the site, are unknown and could be greater.

Based on the fact that the site does not to fully satisfy two (2) of the five (5) additional secondary characteristics and criteria for the Proposed Project, lacks sufficient developable acreage to meet with desired project limits without artificially reducing the project's size, and the shape of the site is not conducive to the desired condensed, linear layout, in addition to substantially greater impacts to both jurisdictional wetlands and streams, the Applicant determined that the JAB Site West Alternative Site 2 property is a less feasible and practicable alternative which would not fulfill the purpose and need

of the Proposed Project. As a result, it was eliminated from consideration through Level 2 of this analysis.

#### *6.2.4 Carolinas I-95 Super Park Alternative Site 3*

The Carolinas I-95 Super Park Alternative Site 3 property was carried through to Level 2 analysis based on its ability to fully satisfy, at the macro-level, all four (4) of the primary characteristics and criteria identified by the Applicant for the Proposed Project. A depiction of the preferred site layout for the Proposed Project on the Carolinas I-95 Super Park site is provided in **Exhibit J** to this alternatives analysis.

In particular, at 1,509.35 acres, on the surface the Carolinas I-95 Super Park site meets the required minimum available and developable acreage estimated by the Applicant to accommodate the required approximately 16, Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The site is also located directly adjacent to, with frontage on, and within one (1) mile of Exit 190 of I-95, and a CSX rail line and the Inland Port Dillon is adjacent to the site to the South. Finally, the site is located within the 180-mile combined window for the North/South and East/West transportation corridors along the East Coast that was identified by Client as being the ideal, approximately 0.5 miles away from I-95 and 116 miles away from I-85.

Regarding the secondary characteristics and criteria identified by the Applicant as being critical for the successful implementation of the Proposed Project, the site appears not to fully satisfies any of the five (5) additional criteria. In particular, the Carolinas I-95 Super Park site is located in Dillon County, outside of the Midlands. As such, the site does not comport with the Client's expressed a strong preference for a location in the Midlands, foreclosing meaningful access to the Midlands employee pool and the area's high concentration of engineering and skilled labor talent offering access to skilled labor, training, educational, and collaboration opportunities. Accordingly, the site does not meet the first secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Second, while the site has direct frontage on I-95, the area adjacent to the interstate is located only 0.9 miles from Exit 190 on I-95. Under State and Federal regulations, the location of new interchanges typically must be a minimum of one (1) mile away from existing interchanges in order to provide the necessary entrance/exit ramp infrastructure in a safe manner. Thus the site's location is not conducive to a dedicated interchange, preventing the desired logistical and transportation efficiencies achieved through direct access to the site. Without the possibility of a dedicated interchange, employees and supplies would need to access the site via local roads and existing Exit 190, potentially overburdening these existing surrounding roadways. Accordingly, the site does not fully fulfill the second secondary



characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Third, the site is located approximately 1.5 miles from the City of Dillon, population 6,282, and 7 miles from the Town of Latta, population 1,283, 18.7 miles from the City of Mullins, population 3,935, and 19.6 miles from the City of Marion, population 6,314. Because none of the municipalities in close proximity to the site are considered major MSA's, the Applicant determined that the closest MSA with possible sufficient population size to satisfy the Proposed Project is the City of Florence, population 39,958, which is located approximately 30 miles away. Given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in targeting sites within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the Client in terms of both access to labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA. Nearby access to an MSA's high concentration of engineering and skilled labor talent provides the Client with skilled labor, training, and educational opportunities. The further away from an MSA, the more difficult it will be for the Client to utilize those vital resources to develop its employees, and the more difficult it will be for the Client to recruit and retain qualified employees. Here, the municipalities in close proximity to the site lack the population size to provide the number of skilled workers for the Proposed Project, requiring it to pull from an MSA 30 miles away. Further, due to the existing industry in the Florence MSA, including the newly-announced Envision AESC electric battery facility currently under construction and projected to create 1,170 new jobs, the Client would be required to compete for skilled manufacturing labor in a market that is limited to start and becoming more competitive. Attracting the necessary skilled labor force would therefore be more difficult at the site and require an increased daily commute time for employees as compared to the Columbia MSA, making the site a less practicable alternative for the Proposed Project. Accordingly, the site does not fulfill the third secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Fourth, while the site is located adjacent to the Inland Port Dillon, ameliorating rail concerns, the site is still located approximately 156 miles from the Port of Charleston and approximately 211 miles from the Inland Port Greer, failing to fully meet the fourth secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Fifth, a review of publicly-available information renders inconclusive a determination as to whether the site has immediate access to all required industrial-level utilities. According to data kept by Commerce, the site has access to water, but only through a 12-inch existing line, insufficient for industrial use, has access to sewer, but only through a gravity line, insufficient for industrial use and requiring the installation of a costly development-specific pump station (assuming the City of Dillon

has existing capacity), has access to power, although publicly-available Commerce data suggests that it is one (1) mile from the site, and the site does not have immediate access to natural gas. Regarding access to power specifically, the one (1) mile represents only the distance required for power to be provided to the site, but does not include the internal distribution network required to power an electric vehicle plant. As set forth above, immediate access to utility infrastructure is key both from an operations and timing perspective, as without adequate access to power, water, gas, and sewer with sufficient capacity, no development is possible, and the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project. Accordingly, the site fails to meet the fifth secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Further, while the available acreage (1,509.35 acres)<sup>39</sup> is conceptually conducive to the Proposed Project, as discussed above, the construction limits of the planned development of the Proposed Project would comprise approximately 1,633 acres. While the Applicant included alternative sites greater than 1,000 acres for consideration in order to conduct a comprehensive analysis of available alternative sites, the project limits were established based on the overall layout of the facility satisfying the purpose and need of the Proposed Project. Artificially reducing the overall size of the Proposed Project fails to meet the purpose and need identified by the Applicant. In particular, an artificial reduction in facility size would potentially render the project incapable of accommodating a second phase deemed critical to the client. Not being able to fully construct the second phase of the project, reducing the building footprints to fit the site, or eliminating certain of the buildings altogether, would not satisfy the minimum requirements and parameters of the Client. Current technologies dictate that the component parts and overall production of electric vehicles is more expensive than the components and production of internal combustion engine automobiles.<sup>40</sup> The Client's investment in South Carolina generally, and the Proposed Project specifically, is premised on its ability to recoup its investment through the attainment of certain production goals based on current and projected industry demand, government-dictated policies setting targets for emission reductions, and production-related subsidies and tax rebates designed to support the production of long range, zero emission vehicles. As such, reducing the production capacity of the facility through an arbitrary reduction of individual building footprints or the overall project size would place the Client investment at risk, while also impeding the Client's ability to stage, produce, finish, and ship automobiles in the manner in which Client's extensive experience in designing, constructing, and operating similar facilities around the world would dictate. *See* 46 Fed. Reg. 18026 (March 23, 1981) (dictating that under NEPA, reasonable alternatives include those that are practical or feasible from a technical and

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<sup>39</sup> As noted above, an additional parcel, TMS No. 058-00-00-001 (337.57 acres), is available as a part of the marketed Carolinas I-95 Super Park site; however, this additional acreage is located approximately one (1) mile away from the primary acreage of the site on the Northwest (opposite) site of I-95. Utilizing this acreage for the Proposed Project is therefore not conducive, as it would require the segmentation of the desired layout of the facility, contrary to the established automotive processes for the Proposed Project, and the usable acreage is appropriately constrained to the 1,509.35 continuous acres of the site.

<sup>40</sup> *See* n.38, *supra*.

economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant). Client's extensive experience and the required advanced manufacturing process has dictated the proposed linear shape of facilities that flow in the order shown, effectively preventing the re-location of specific component parts of the overall facility, even within each specific phase, in order to fit the shape or size of a site. Accordingly, and upon closer inspection and review, the site does not meet the minimum acreage required by the Applicant and Client to fulfill the purpose and need of the Proposed Project.

In addition, the shape of the site, an upside down "T", is not conducive to the required configuration of a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. The site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that, for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed, preventing the Applicant from relocating buildings to other locations in order to fit the desired footprint of the Proposed Project within the existing shape of the site. Here, in order to fit all of the project components and buildings onto the site, significant re-arranging of the buildings was required, as shown on **Exhibit J**. This included, for instance, separating the Assembly and Body Shop facilities, and locating the Assembly facilities, Paint Shop, Body Shops, Press Shop, and FBU facilities throughout the site, rather than keeping them together in a unified layout, which is not conducive to the desired automotive process. These changes would destroy any semblance of the desired automotive process and effectively renders this alternative incompatible for the Proposed Project from a process and logistics point of view. Further, separating these facilities would incrementally increase the cost of production of each vehicle to the Client by increasing the time required to transport assembled automotive components throughout the site, thereby decreasing the efficiency achieved through the masterplan design for automotive production proposed by the Client's preferred layout.

Regarding impacts to special aquatic sites on the Carolinas I-95 Super Park site, based on the Applicant's review of available delineation information, locating a conceptual version of the Proposed Project on the site would result in permanent fill impacts to approximately 216.5 acres of jurisdictional wetlands and approximately 23,850 linear feet of streams. Compared to the Property, this alternative site would result in nearly three times the number of impacts to jurisdictional wetlands, while streams impacts would be reduced; however, given that the Proposed Project is required to be substantially reconfigured to fit the site, as discussed extensively in the preceding paragraphs, these figures are

correspondingly skewed, do not represent an apples to apples comparison, endanger the Client's investment in the Proposed Project, and therefore fail to meet the purpose and need of the project.

Further, no onsite cultural resource review, protected species assessment, or in-depth wetlands delineation has been conducted; therefore, the existence of unexpected impacts, and the precise number impacts to those resources on the site, are unknown and could be greater.

Based on the fact that the site does not to fully satisfies any of the five (5) additional secondary characteristics and criteria for the Proposed Project, would require modifications of the Proposed Project's layout that would not be conducive to the automotive processes of the Client, and substantially greater impacts to jurisdictional wetlands, the Applicant determined that the Carolinas I-95 Super Park Alternative Site 3 property is a less feasible and practicable alternative which would not fulfill the purpose and need of the Proposed Project. As a result, it was eliminated from consideration through Level 2 of this analysis.

#### *6.2.5 I-77 International Megasite Alternative Site 4*

The I-77 International Megasite Alternative Site 4 property was carried through to Level 2 analysis based on its ability to fully satisfy, at the macro-level, all four (4) of the primary characteristics and criteria identified by the Applicant for the Proposed Project. A depiction of the preferred site layout for the Proposed Project on the I-77 International Megasite Alternative Site 4 property is provided in **Exhibit K** to this alternatives analysis.

In particular, at 1,544 acres, the I-77 International Megasite meets the required minimum available and developable acreage estimated by the Applicant to accommodate the required approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The site is also located directly adjacent to, with frontage on, I-77, and a Norfolk Southern rail line runs adjacent to the Southern boundary of the site, near Exit 34 of I-77. Finally, the site is located within the combined 180-mile window for the North/South and East/West transportation corridors along the East Coast that was identified by Client as being the ideal, approximately 80 miles away from Interstate 95, and approximately 75 miles away from Interstate 85.

Regarding the secondary characteristics and criteria identified by the Applicant as being critical for the successful implementation of the Proposed Project, the site is located in the Midlands of the State. As such, the site comports with the Client's expressed a strong preference for a location in the Midlands and providing access to the Midlands employee pool and the area's high concentration of engineering and skilled labor talent offering access to skilled labor, training, educational, and

collaboration opportunities. Accordingly, the site meets the first secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Second, the site has significant frontage on I-77 sufficient to allow for a dedicated interchange with the interstate and provide the desired visibility for project facilities. Thus the site's location would be conducive to a dedicated interchange, allowing for the desired logistical and transportation efficiencies achieved through direct access to the site. Without a dedicated interchange, however, employees and supplies would need to access the site via local roads and existing Exit 34, potentially overburdening these existing surrounding roadways. Accordingly, the site fulfills the second secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Third, the site is located within 145 miles of the Port of Charleston (142 miles), the Inland Port Greer (112 miles), and the Inland Port Dillon (106 miles). Accordingly, the site meets the fourth secondary characteristics and criteria identified by the Applicant for the Proposed Project.

However, the site does not meet the remaining two secondary characteristics and criteria. In particular, the site is approximately 23 miles from Columbia. Given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in targeting sites within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the Client in terms of both access to labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA. Nearby access to an MSA's high concentration of engineering and skilled labor talent provides the Client with skilled labor, training, and educational opportunities. The further away from an MSA, the more difficult it will be for the Client to utilize those vital resources to develop its employees, and the more difficult it will be for the Client to recruit and retain qualified employees. Here, the site is located more than fourteen miles further away from Columbia than the Property and outside of the radius the Client identified as being the desired maximum commute mileage of 15 miles from the nearest MSA. Attracting the necessary skilled labor force would therefore be more difficult at the site and require an increased daily commute time for employees from the Columbia MSA, making the site a less desirable job opportunity to prospective workers in the Columbia MSA and limiting the practicability of the alternative for the Proposed Project. Accordingly, the site does not fulfill the third secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

In addition, while the site has existing onsite access to power (via Dominion Energy), the Applicant understands that water and sewer service (via the Town of Winnsboro) are not currently located onsite. Instead, construction of approximately 1,000 feet of water and sewer service lines, respectively, would be required just to bring both utilities to the property boundary of the site, and would require extensive, expensive, and time-consuming efforts to attain the required utility easements and rights-

of-way. As set forth above, immediate access to utility infrastructure is key both from an operations and timing perspective, as without adequate access to power, water, gas, and sewer with sufficient capacity, no development is possible. Attaining the required utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project. This is compared to the Property, which already has immediate, on-site access to all required utilities.<sup>41</sup> The lack of immediate onsite access to water and sewer is a further factor that renders the I-77 International Megastate Alternative Site 5 property a less feasible and practicable alternative for the Proposed Project. Accordingly, the site does not fulfill the fifth secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Further, while the available acreage (1,544 acres) is conceptually conducive to the Proposed Project, as discussed above, the construction limits of the planned development of the Proposed Project would comprise approximately 1,633 acres. In addition, the shape of the site is compressed, constrained by the property boundary to the East, and a significant portion of the acreage is a thin, finger-like project along I-77 from the South of the site extending to accommodate the desired rail connect with little other available use to that portion of the acreage. As a result, the remaining acreage of the site is not conducive to the required configuration of a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. The site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that, for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed, preventing the Applicant from relocating buildings to other locations in order to fit the desired footprint of the Proposed Project within the existing shape of the site. Here, in order to fit each of the Proposed Project's individual components and buildings on the site, the Applicant was forced to re-organize the building layout in a manner that does not comport with the Client's established manufacturing process. This included, for instance, pulling the battery and assembly facilities out of their desired location parallel and adjacent to the other buildings, in particular the assembly shops that utilize the assembled batteries via mechanized conveyance. It also required moving the finished product parking away from the paint shops, typically the last step in the assembly process. Neither of these changes fit with the identified process and flow for the Client's Proposed Project and therefore fail to meet the purpose and need for the project. Further, separating these facilities would incrementally increase the cost of production of each vehicle to the Client by increasing the time required to transport assembled automotive components throughout the site, thereby

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<sup>41</sup> The Proposed Project itself requires extensive *on-site* utility work to satisfy the needs of an advanced automotive manufacturing facility; however, on-site utility work would be required at any alternative site and has not factored into the Applicant's consideration of access to utilities (*i.e.*, only off-site access issues were considered in this analysis).

decreasing the efficiency achieved through the masterplan design for automotive production proposed by the Client's preferred layout.

Moreover, in order to fit the Proposed Project on the site in the desired layout, the overall size of the facilities would need to be reduced. However, artificially reducing the overall size of the Proposed Project would likewise fail to meet the purpose and need identified by the Applicant. In particular, an artificial reduction in facility size would potentially render the project incapable of accommodating a second phase deemed critical to the client. Not being able to fully construct the second phase of the project, reducing the building footprints to fit the site, or eliminating certain of the buildings altogether, would not satisfy the minimum requirements and parameters of the Client. Current technologies dictate that the component parts and overall production of electric vehicles is more expensive than the components and production of internal combustion engine automobiles.<sup>42</sup> The Client's investment in South Carolina generally, and the Proposed Project specifically, is premised on its ability to recoup its investment through the attainment of certain production goals based on current and projected industry demand, government-dictated policies setting targets for emission reductions, and production-related subsidies and tax rebates designed to support the production of long range, zero emission vehicles. As such, reducing the production capacity of the facility through an arbitrary reduction of individual building footprints or the overall project size would place the Client investment at risk, while also impeding the Client's ability to stage, produce, finish, and ship automobiles in the manner in which Client's extensive experience in designing, constructing, and operating similar facilities around the world would dictate. *See* 46 Fed. Reg. 18026 (March 23, 1981) (dictating that under NEPA, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant). Client's extensive experience and the required advanced manufacturing process has dictated the proposed linear shape of facilities that flow in the order shown, effectively preventing the re-location of specific component parts of the overall facility, as shown here for the I-77 International Megasite, in order to fit the shape or size of a site. Accordingly, and upon closer inspection and review, the site does not meet the minimum acreage shape required by the Applicant and Client to fulfill the purpose and need of the Proposed Project. Regarding impacts to special aquatic sites on the I-77 International Megasite, based on the Applicant's review of available delineation information, locating the Proposed Project on the site would result in permanent fill impacts to approximately 8.5 acres of jurisdictional wetlands and approximately 50,690 linear feet of streams. Compared to the Property, while this alternative site would result in fewer impacts to jurisdictional wetlands, impacts to jurisdictional streams would be greater.

With respect to threatened and endangered species, S&ME conducted a protected species assessment of the site on April 11, 2016, which evaluated the site for federally protected species (threatened or

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<sup>42</sup> E.g. Joe Miller, *Electric car costs to remain higher than traditional engines*, Financial Times (August 2020) ("Electric cars will remain significantly more expensive for European carmakers to produce than combustion engine models for at least a decade, according to new research."); <https://www.ft.com/content/a7e58ce7-4fab-424a-b1fa-f833ce948cb7>

endangered) and habitat, including Bald Eagles and Carolina Heelsplitters. The assessment determined that there was no evidence of, or suitable habitat for, Bald Eagles. The assessment further found that there was no evidence of Carolina Heelsplitters on the site, but based on the finding of potentially suitable habitat, recommended a may affect, not likely to adversely affect determination with respect to Carolina Heelsplitters. On May 4, 2016, U.S. Fish and Wildlife concurred in that determination.

With respect to cultural resources, S&ME conducted a cultural resources identification survey (CRIS) of the site in 2016. As a part of the survey, 12 archaeological sites (38FA594 – 38FA604, and 38FA606), 14 isolated finds (IF-1 – IF-14), one National Register of Historic Places (NRHP) listed structure approximately 0.25 miles from the site (Valencia House, NRHP No. 715450016), one cemetery (Durham Cemetery, 29-0085), and no previously-unrecorded historic structures, were identified. As a result, S&ME recommended an intensive survey for 50 acres of the site, including additional work at sites 38FA601 and 38FA606 contained within the 50-acre portion of the site to determine NRHP eligibility. Following multiple reviews and requests for additional information, SHPO concurred with S&ME’s recommendations for intensive Phase I level surveying of the 50 acres and sites 38FA601 and 38FA606, should that area be included in any future development of the site. If the areas are excluded from development, SHPO recommended appropriate buffering of the areas.

Based on the site’s distance from the Columbia MSA, as well as its current lack of all available onsite utilities, and approximately 25% greater impacts to jurisdictional streams, the Applicant determined that the I-77 International Megasite Alternative Site 4 property did not fully meet the identified secondary characteristics and criteria, rendering it a less feasible and practicable alternative which would not fulfill the purpose and need of the Proposed Project. As a result, it was eliminated from consideration through Level 2 of this analysis.

#### *6.2.6 Central South Carolina Megasite Alternative Site 15*

The Central South Carolina Megasite Alternative Site 15 was carried through to Level 2 analysis based on its ability to fully satisfy, at the macro-level, all four (4) of the primary characteristics and criteria identified by the Applicant for the Proposed Project. A depiction of the preferred site layout for the Proposed Project on the Central South Carolina Megasite is provided in **Exhibit L** to this alternatives analysis.

In particular, at 1,426 acres, the Central South Carolina Megasite meets the required minimum available and developable acreage estimated by the Applicant to accommodate the required approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The site is also located directly adjacent to, with frontage on, and within one (1) mile of Exit 92 of I-20, and a CSX rail line runs adjacent to the Northern boundary of the site. Finally, the site is located within the combined 180-mile window



for the North/South and East/West transportation corridors along the East Coast that was identified by Client as being the ideal, approximately 90 miles away from I-85 and 49 miles away from I-95.

Regarding the secondary characteristics and criteria identified by the Applicant as being critical for the successful implementation of the Proposed Project, the site is located in the Midlands and is within 145 miles of the Port of Charleston (120 miles), the Inland Port Greer (112 miles), and the Inland Port Dillon (106 miles), respectively. In addition, the site appears to have immediate access to all required utilities. Accordingly, the site meets the first, fourth, and fifth secondary characteristics and criteria identified by the Applicant for the Proposed Project.

However, certain aspects of the site render it a less feasible and practicable alternative for the Proposed Project. In particular, while the available acreage (1,426 acres) is conceptually conducive to the Proposed Project, the shape of the site would require the Applicant to reduce the overall size of the facility layout by approximately thirteen percent (13%), as reflected in **Exhibit L**. Artificially reducing the overall size of the Proposed Project fails to meet the purpose and need identified by the Applicant. In particular, an artificial reduction in facility size would potentially render the project incapable of accommodating a second phase deemed critical to the client. Not being able to fully construct the second phase of the project, reducing the building footprints to fit the site, or eliminating certain of the buildings altogether, would not satisfy the minimum requirements and parameters of the Client. Current technologies dictate that the component parts and overall production of electric vehicles is more expensive than the components and production of internal combustion engine automobiles.<sup>43</sup> The Client's investment in South Carolina generally, and the Proposed Project specifically, is premised on its ability to recoup its investment through the attainment of certain production goals based on current and projected industry demand, government-dictated policies setting targets for emission reductions, and production-related subsidies and tax rebates designed to support the production of long range, zero emission vehicles. As such, reducing the production capacity of the facility through an arbitrary reduction of individual building footprints or the overall project size would place the Client investment at risk, while also impeding the Client's ability to stage, produce, finish, and ship automobiles in the manner in which Client's extensive experience in designing, constructing, and operating similar facilities around the world would dictate. *See* 46 Fed. Reg. 18026 (March 23, 1981) (dictating that under NEPA, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant). Client's extensive experience and the required advanced manufacturing process has dictated the proposed linear shape of facilities that flow in the order shown, effectively preventing the re-location of specific component parts of the overall facility, even within each specific phase, in order to fit the shape or size of a site.

Further, because the shape of the site is compressed, it is not conducive to the required configuration of a dense, linear grouping with a specified sequencing that is necessary for staging, production,

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<sup>43</sup> *See* n.38, *supra*.

finishing, and shipping automobiles, which is the result Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. The site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that, for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed, preventing the Applicant from relocating buildings to other locations in order to fit the desired footprint of the Proposed Project within the existing shape of the site. Here, in order to fit each of the Proposed Project's individual components and buildings on the site, the Applicant was forced to re-organize the building layout in a manner that does not comport with the Client's established manufacturing process. This included, for instance, pulling the battery facilities away from the assembly facilities and thus out of their desired location parallel and adjacent to the assembly shops that utilize the assembled batteries via mechanized conveyance. It also required moving the finished product parking away from the paint shops, typically the last step in the assembly process, essentially creating an unnecessary loop in the assembly process that is neither efficient nor optimal from a logistics standpoint. Neither of these changes fit with the identified process and flow for the Client's Proposed Project and therefore fail to meet the purpose and need for the project. Further, separating these facilities would incrementally increase the cost of production of each vehicle to the Client by increasing the time required to transport assembled automotive components throughout the site, thereby decreasing the efficiency achieved through the masterplan design for automotive production proposed by the Client's preferred layout.

In addition, the site does meet the remaining two secondary characteristics and criteria. In particular, while the site has frontage on I-20 sufficient to allow for a dedicated interchange with the interstate and provide the desired visibility for project facilities, that frontage is located nearly adjacent to Exit 92 of I-20. As discussed above, under State and Federal regulations, the location of new interchanges typically must be a minimum of one (1) mile away from existing interchanges in order to provide the necessary entrance/exit ramp infrastructure in a safe manner. Thus the site's location is not conducive to a dedicated interchange, preventing the desired logistical and transportation efficiencies achieved through direct access to the site. Without the possibility of a dedicated interchange, employees and supplies would need to access the site via local roads and existing Exit 92, potentially overburdening these existing surrounding roadways. Accordingly, the site does not fulfill the second secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

In addition, the site is approximately 17 miles from Columbia, the nearest MSA. Given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in targeting sites within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the

Client in terms of both access to labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA. Nearby access to an MSA's high concentration of engineering and skilled labor talent provides the Client with skilled labor, training, and educational opportunities. The further away from an MSA, the more difficult it will be for the Client to utilize those vital resources to develop its employees, and the more difficult it will be for the Client to recruit and retain qualified employees. Here, while the site sits just two miles beyond the desired parameter of 15 miles, the site is located outside of the radius the Client identified as being the desired maximum commute mileage from the nearest MSA, and the site is located more than eight miles further away from Columbia than the Property. Attracting the necessary skilled labor force would therefore be more difficult at the site and require an increased daily commute time for employees from the Columbia MSA, making the site an incrementally less desirable job opportunity to prospective workers in the Columbia MSA, thereby limiting the practicability of the alternative for the Proposed Project. Accordingly, the site does not fulfill the third secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Regarding impacts to special aquatic sites on the Central South Carolina Megasite, based on the Applicant's review of available delineation information, locating a reduced conceptual version of the Proposed Project on the site would result in permanent fill impacts to approximately 54.3 acres of jurisdictional wetlands and approximately 6,575 linear feet of streams. Compared to the Property, this alternative site would result in fewer impacts to jurisdictional wetlands and streams; however, given that the Proposed Project is required to be artificially reduced to fit the site, as discussed extensively in the preceding paragraphs, these figures are correspondingly skewed, do not represent an apples to apples comparison, endanger the Client's investment in the Proposed Project, and therefore fail to meet the purpose and need of the project.

With respect to threatened and endangered species, S&ME conducted a protected species assessment of the site on May 12, 2011, which evaluated the site for federally protected species (threatened or endangered) and habitat, including Bald Eagles and Carolina Heelsplitters. The assessment determined that there was no evidence of, or suitable habitat for, federally protected resources in the project area. On May 31, 2011, U.S. Fish and Wildlife concurred in that determination.

With respect to cultural resources, S&ME conducted a CRIS of the site in 2011 and submitted to SHPO on March 21, 2011. During the CRIS, 292 shovel tests were excavated in areas thought likely to contain archaeological sites and pedestrian survey was undertaken along dirt roads and other areas with good ground surface exposure. As a result of the CRIS, seven archaeological sites (38KE1129–38KE1135), two isolated finds (IF-1 and IF-2), and two late twentieth century historic scatters were identified. It was S&ME's opinion that a Phase I survey should be conducted on approximately 192 acres of the project area, which were identified as having a high potential for containing significant archaeological sites, and that Phase II testing be conducted at site 38KE1135 to determine the final NRHP eligibility of the site. Further, a limited architectural survey was conducted during the CRIS

and no structures 40 years or older were identified within or adjacent to the project area. By letter dated April 18, 2011, SHPO concurred in the findings of the CRIS and recommendations of S&ME.

S&ME completed the recommended surveying and testing in 2014, providing the Phase I survey to SHPO in October 2014. The Phase I identified eight new archaeological sites (38KE1159 through 38KE1166), three isolated finds (IF-1 through IF-3), two late twentieth century artifact scatters, and two previously recorded archaeological sites were re-located, 38KE1132 and 38KE1135. Phase II testing was not conducted at site 38KE1135 during these investigations. Eight of the archaeological sites (38KE1132, 38KE1159–38KE1163, 38KE1165, and 38KE1166) and the three isolated finds (IF-1–IF-3) were recommended not eligible for inclusion in the NRHP. S&ME further recommended avoidance of sites 38KE1135 and 38KE1164 or, if plans for development will impact either site and avoidance is not possible, additional testing should be conducted at each of the sites. By letter dated November 7, 2014, SHPO concurred in the findings of the Phase I and recommendations of S&ME.

Thereafter, in 2016, S&ME conducted Phase II evaluative testing of site 38KE1135 and 38KE1164, which was submitted to SHPO in September 2016. Therein, S&ME recommended that site 38KE1135 be deemed ineligible for inclusion in the NRHP; however, it determined that site 38KE1164 is eligible for inclusion and recommended avoidance. It further determined that the remainder of the Central South Carolina Megasite contains no historic properties and no additional cultural resources meriting further investigation. By letter dated November 15, 2016, SHPO concurred in the findings and recommendations of S&ME.

Based on the site's inability to accommodate the desired, full buildout of the Proposed Project, a new dedicated interchange, as well as its distance from the Columbia MSA, the Applicant determined that the Central South Carolina Megasite Alternative Site 15 property did not fully meet the identified secondary characteristics and criteria, rendering it a less feasible and practicable alternative which would not fulfill the purpose and need of the Proposed Project.

#### *6.2.7 Tyger Oak Inc. Alternative Site 16*

The Tyger Oak Inc. Alternative Site 16 property was carried through to Level 2 analysis based on its ability to at least partially satisfy, at the macro-level, all four (4) of the primary characteristics and criteria identified by the Applicant for the Proposed Project. A depiction of the preferred site layout for the Proposed Project on the Tyger Oak Inc. site is provided in **Exhibit M** to this alternatives analysis.

In particular, at 1,907.53 acres, the Tyger Oak Inc. site on the surface meets the required minimum available and developable acreage estimated by the Applicant to accommodate the required approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The site is also located directly adjacent to, with frontage on, and within one (1) mile of Exit 97 of I-95, and a CSX rail line runs adjacent to

the Northern boundary of the site. Finally, the site is located within the 180-mile combined window for the North/South and East/West transportation corridors along the East Coast that was identified by Client as being the ideal, approximately 109 miles away from I-95 and 41 miles away from I-85.

Regarding the secondary characteristics and criteria identified by the Applicant as being critical for the successful implementation of the Proposed Project, the site does not satisfy four (4) of the five (5) additional criteria, and information related to the fifth criterion is inconclusive. In particular, the Tyger Oak Inc. site is located in Laurens County, outside of the Midlands. As such, the site does not comport with the Client's expressed a strong preference for a location in the Midlands, foreclosing meaningful access to the Midlands employee pool and the area's high concentration of engineering and skilled labor talent offering access to skilled labor, training, educational, and collaboration opportunities. Accordingly, the site does not meet the first secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Second, while the site does not have direct frontage on an interstate and is located approximately one (1) mile from Exit 60 on I-26. As such, the site cannot accommodate a dedicated interchange to the project site, preventing the desired logistical and transportation efficiencies achieved through direct access to the site. Without the possibility of a dedicated interchange, employees and supplies would need to access the site via local roads and existing Exit 60, potentially overburdening these existing surrounding roadways. Accordingly, the site does not fulfill the second secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Third, the site is adjacent to the unincorporated community of Joanna, population 1,270, 8.3 miles from the City of Clinton, population 7,694, 19 miles from the City of Laurens, population 9,319, and 17.4 miles from the City of Newberry, population 10,847. Because none of the municipalities in close proximity to the site are considered major MSA's, the Applicant determined that the closest MSA with sufficient population size to satisfy the Proposed Project is the City of Greenville, which is located 51.6 miles away. Given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in targeting sites within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the Client in terms of both access to labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA. Nearby access to an MSA's high concentration of engineering and skilled labor talent provides the Client with skilled labor, training, and educational opportunities. The further away from an MSA, the more difficult it will be for the Client to utilize those vital resources to develop its employees, and the more difficult it will be for the Client to recruit and retain qualified employees. Here, the municipalities in close proximity to the site lack the population size to provide the number of skilled workers for the Proposed Project, requiring it to pull from a major MSA more than 50 miles away, outside of the radius the Client identified as being the desired maximum commute mileage from the

nearest MSA. Further, due to the existing industry and advanced automotive manufacturing the Greenville MSA, the Client would be required to compete for skilled manufacturing labor in a market that is already saturated. Attracting the necessary skilled labor force would therefore be more difficult at the site and require an increased daily commute time for employees as compared to the Columbia MSA, making the site a less practicable alternative for the Proposed Project. Accordingly, the site does not fulfill the third secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Fourth, while the site is located approximately 48.6 miles from the Inland Port Greer, the Port of Charleston is located approximately 161 miles away from the site, while the Inland Port Dillon is located approximately 159 miles away, failing to fully meet the fourth secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Fifth, a review of publicly-available information renders inconclusive a determination as to whether the site has immediate access to all required industrial-level utilities. According to data kept by Commerce, a nearby site located outside of Joanna has access to water, sewer, and power, although there are no indications that the level of service would accommodate industrial development on the size and scale required by the Proposed Project. Further, the nearby site does not have immediate access to natural gas, and presumably the Tyger Oak Inc. site does not either. As set forth above, immediate access to utility infrastructure is key both from an operations and timing perspective, as without adequate access to power, water, gas, and sewer with sufficient capacity, no development is possible, and the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project. Accordingly, the site does not fully meet the fifth secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Further, while the acreage of the site is undeveloped and theoretically available for development, according to updated public records, as of March 6, 2023, the site was acquired and is currently owned by The Nature Conservancy. Given The Nature Conservancy's conservation mission and purpose, the site is likely under existing restrictive covenants and/or easements that would prevent its development. Accordingly, and upon closer inspection and review, the site is likely unavailable for development by the Applicant and Client to fulfill the purpose and need of the Proposed Project.

Further, the "W" shape of the site is not conducive to the required configuration of a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world. The site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that,

for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed, preventing the Applicant from relocating buildings to other locations in order to fit the desired footprint of the Proposed Project within the existing shape of the site. Here, as shown on **Exhibit M**, because the site lacks a substantial block of acreage for the primary build site, certain components and buildings of the Proposed Project, include the Body Shops, were required to be located to the West of and isolated from the remaining buildings of the project, requiring finished vehicles to be transported around the site rather than in a natural progress dictated by the assembly process, which effectively renders this alternative incompatible for the Proposed Project from a process and logistics point of view. Further, separating these facilities would incrementally increase the cost of production of each vehicle to the Client by increasing the time required to transport assembled automotive components throughout the site, thereby decreasing the efficiency achieved through the masterplan design for automotive production proposed by the Client's preferred layout.

Even if it were available, and regarding impacts to special aquatic sites on the Tyger Oak Inc. site, based on the Applicant's review of available delineation information, locating a conceptual version of the Proposed Project on the site would result in permanent fill impacts to approximately 5.5 acres of jurisdictional wetlands and approximately 26,900 linear feet of streams. Compared to the Property, this alternative site would result in fewer impacts to both jurisdictional wetlands and streams; however, because of the modifying the proposed layout of the Proposed Project, as discussed extensively in the preceding paragraphs, would fail to meet the purpose and need of the project.

Further, no onsite cultural resource review, protected species assessment, or in-depth wetlands delineation has been conducted; therefore, the existence of unexpected impacts, and the precise number impacts to those resources on the site, are unknown and could be greater.

Based on the fact that the site does not appear to meet any of the five (5) secondary characteristics and criteria for the Proposed Project, is likely unavailable for development, and would require modifications of the Proposed Project's layout that would not be conducive to the automotive processes of the Client, the Applicant determined that the Tyger Oak Inc. Alternative Site 16 property is a less feasible and practicable alternative which would not fulfill the purpose and need of the Proposed Project. As a result, it was eliminated from consideration through Level 2 of this analysis.

#### *6.2.8 South Carolina Gateway Alternative Site 17*

The South Carolina Gateway Alternative Site 17 property was carried through to Level 2 analysis based on its ability to fully satisfy, at the macro-level, all four (4) of the primary characteristics and criteria identified by the Applicant for the Proposed Project. A depiction of the preferred site layout for the

Proposed Project on the South Carolina Gateway site is provided in **Exhibit N** to this alternatives analysis.

In particular, at 1,257.5 acres, on the surface the South Carolina Gateway site meets the required minimum available and developable acreage estimated by the Applicant to accommodate the required approximately 16 Million/sf of buildings onsite, along with attendant parking and site infrastructure, as well as sufficient additional acreage to provide flexibility to meet future growth opportunities should market conditions dictate further investment in the future. The site is also located directly adjacent to, with frontage on, and within one (1) mile of Exit 97 of I-95, and a CSX rail line runs adjacent to the Northern boundary of the site. Finally, the site is located within the 180-mile combined window for the North/South and East/West transportation corridors along the East Coast that was identified by Client as being the ideal, approximately 0.1 miles away from I-95 and 155 miles away from I-85.

Regarding the secondary characteristics and criteria identified by the Applicant as being critical for the successful implementation of the Proposed Project, the site fully satisfies only one of the five (5) additional criteria. In particular, the site has immediate access to all required utilities. As set forth above, immediate access to utility infrastructure is key both from an operations and timing perspective, as without adequate access to power, water, gas, and sewer with sufficient capacity, no development is possible, and the length of time it would take to get utility easements/rights-of-way to the site would compromise the Applicant's ability to meet the expected construction and operation deadlines for the Proposed Project. Accordingly, the site meets the fifth secondary characteristic and criterion identified by the Applicant for the Proposed Project.

However, certain aspects of the site render it a less practicable alternative for the Proposed Project. In particular, the South Carolina Gateway site is located in Orangeburg County, outside of the Midlands. As such, the site does not comport with the Client's expressed strong preference for a location in the Midlands, foreclosing meaningful access to the Midlands employee pool and the area's high concentration of engineering and skilled labor talent offering access to skilled labor, training, educational, and collaboration opportunities. Accordingly, the site does not meet the first secondary characteristic and criterion identified by the Applicant for the Proposed Project.

Second, while the site has direct frontage on I-95, the area adjacent to the interstate is very thin, amounting to a finger like projection to the South from the majority of the site's acreage. As such, the interstate frontage acreage is of insufficient depth to accommodate an interstate interchange. Moreover, the interstate frontage acreage is located only 0.7 miles from Exit 97 on I-95. As discussed above, under State and Federal regulations, the location of new interchanges typically must be a minimum of one (1) mile away from existing interchanges in order to provide the necessary entrance/exit ramp infrastructure in a safe manner. Thus the site's location has insufficient acreage on the interstate and its location is not conducive to a dedicated interchange, preventing the desired logistical and transportation efficiencies achieved through direct access to the site. Without the possibility of a dedicated interchange, employees and supplies would need to access the site via local



roads and existing Exit 97, potentially overburdening these existing surrounding roadways. Accordingly, the site does not fulfill the second secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Third, the site is approximately 23 miles from Orangeburg, the nearest MSA. Given that proximity to a work site and daily commute time factor significantly in a prospective employee's decision-making process to accept and stay in a job, *see* n.17, *supra*, the Client was purposeful in targeting sites within 15 miles of a large MSA, in order to reduce the need to recruit workers requiring a re-location or a significant commute time for workers within that labor pool. This consideration was important to the Client in terms of both access to labor, worker health and well-being, as well as serving as an attractive employment opportunity/alternative in close proximity to the MSA. Nearby access to an MSA's high concentration of engineering and skilled labor talent provides the Client with skilled labor, training, and educational opportunities. The further away from an MSA, the more difficult it will be for the Client to utilize those vital resources to develop its employees, and the more difficult it will be for the Client to recruit and retain qualified employees. Here, the site is located more than fourteen miles further away from the closest MSA than the Property, outside of the radius the Client identified as being the desired maximum commute mileage from the nearest MSA. In addition, in terms of the existing labor pool, Orangeburg provides a smaller skilled labor pool than Columbia. Attracting the necessary skilled labor force would therefore be more difficult at the site and require an increased daily commute time for employees as compared to the Columbia MSA, making the site a less practicable alternative for the Proposed Project. Accordingly, the site does not fulfill the third secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Fourth, while the site is located approximately 67 miles from the Port of Charleston and approximately 98 miles from the Inland Port Dillon, it is located 170 miles from the Inland Port of Greer, failing to fully meet the fourth secondary characteristic and criterion identified by the Applicant for the Proposed Project and rendering it a less feasible and practicable alternative to the Client.

Further, while the available acreage (1,257.5 acres) is conceptually conducive to the Proposed Project, available site data published by Commerce indicates that only 748 of the acres are listed as developable. Further, as discussed above, while the Applicant included alternative sites greater than 1,000 acres for consideration in order to conduct a comprehensive analysis of available alternative sites, the construction limits of the planned development of the Proposed Project would comprise approximately 1,633 acres. Artificially reducing the overall size of the Proposed Project fails to meet the purpose and need identified by the Applicant. In particular, an artificial reduction in facility size would potentially render the project incapable of accommodating a second phase deemed critical to the client. Not being able to fully construct the second phase of the project, reducing the building footprints to fit the site, or eliminating certain of the buildings altogether, would not satisfy the minimum requirements and parameters of the Client. Current technologies dictate that the

component parts and overall production of electric vehicles is more expensive than the components and production of internal combustion engine automobiles.<sup>44</sup> The Client's investment in South Carolina generally, and the Proposed Project specifically, is premised on its ability to recoup its investment through the attainment of certain production goals based on current and projected industry demand, government-dictated policies setting targets for emission reductions, and production-related subsidies and tax rebates designed to support the production of long range, zero emission vehicles. As such, reducing the production capacity of the facility through an arbitrary reduction of individual building footprints or the overall project size would place the Client investment at risk, while also impeding the Client's ability to stage, produce, finish, and ship automobiles in the manner in which Client's extensive experience in designing, constructing, and operating similar facilities around the world would dictate. *See* 46 Fed. Reg. 18026 (March 23, 1981) (dictating that under NEPA, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant). Client's extensive experience and the required advanced manufacturing process has dictated the proposed linear shape of facilities that flow in the order shown, effectively preventing the re-location of specific component parts of the overall facility, even within each specific phase, in order to fit the shape or size of a site. Here, in order to fit all of the project components and buildings onto the site, significant re-arranging of the buildings was required, as shown on **Exhibit N**. This included, for instance, separating the battery and assembly facilities, rather than keeping them together, and placing them in areas on the site that are not conducive to the desired automotive process. In addition, the FBU area was required to be located on the opposite end of the site from Assembly and the Paint Shop, requiring finished vehicles to be transported around the site rather than in a natural progress dictated by the assembly process. Finally, the Body Shop size is substantially reduced in size from what is required by the Client, and is further required to be located in a non-contiguous location from the remainder of the automotive facility, which effectively renders this alternative incompatible for the Proposed Project from a process and logistics point of view. Further, separating these facilities would incrementally increase the cost of production of each vehicle to the Client by increasing the time required to transport assembled automotive components throughout the site, thereby decreasing the efficiency achieved through the masterplan design for automotive production proposed by the Client's preferred layout.

Regarding impacts to special aquatic sites on the South Carolina Gateway site, based on the Applicant's review of available delineation information, locating a reduced conceptual version of the Proposed Project on the site would result in permanent fill impacts to approximately 74 acres of jurisdictional wetlands and approximately 12,250 linear feet of streams. Compared to the Property, this alternative site would result in greater impacts to jurisdictional wetlands, but fewer impacts to streams and tributaries; however, given that the Proposed Project is required to be artificially reduced to fit the site, as discussed extensively in the preceding paragraphs, these figures are correspondingly skewed,

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<sup>44</sup> *See* n.38, *supra*.

do not represent an apples to apples comparison, endanger the Client's investment in the Proposed Project, and therefore fail to meet the purpose and need of the project.

Based on the fact that the site does not fully meet four (4) of the five (5) secondary characteristics and criteria for the Proposed Project, including not being located in the Midlands, having insufficient acreage to accommodate the full buildout of the Proposed Project, its distance from the closest MSA and pulling from a smaller labor pool, its distance from the Inland Port Greer, and greater impacts to jurisdictional wetlands, even with a reduced footprint, the Applicant determined that the South Carolina Gateway Alternative Site 17 property is a less feasible and practicable alternative which would not fulfill the purpose and need of the Proposed Project. As a result, it was eliminated from consideration through Level 2 of this analysis.

**Level 2 Conclusion:**

Below, is a table that summarizes how each of the alternatives carried forward into Level 2 of this analysis fared with respect to the secondary characteristics and other considerations relevant to the Applicant's evaluation of the sites as feasible and practicable alternatives for the Proposed Project:

|   | Level 2 Criteria                                       | Blythewood Industrial Site | JAB Site West Site | Carolinas I-95 Super Park Site | I-77 Int. Megasite | Central SC Megasite | Tyger Oak Inc. Site | SC Gateway Site |
|---|--|----------------------------|--------------------|--------------------------------|--------------------|---------------------|---------------------|-----------------|
| Primary Characteristics and Criteria          | 1,000+ acres   | ●                          | ●                  | ●                              | ●                  | ●                   | ●                   | ●               |
|   | Adjacent/within 1 Mile to Interstate                   | ●                          | ∅                  | ●                              | ●                  | ●                   | ●                   | ●               |
|   | Onsite/Adjacent Rail                                   | ●                          | ●                  | ●                              | ●                  | ●                   | ●                   | ●               |
|   | W/in Combined 180 miles of both I-85/95                | ●                          | ●                  | ●                              | ●                  | ●                   | ●                   | ●               |
| Secondary Characteristics and Criteria        | Located in the Midlands                                | ●                          | ●                  | ○                              | ●                  | ●                   | ○                   | ○               |
|   | Direct Interstate Frontage for Dedicated Interchange   | ●                          | ●                  | ○                              | ●                  | ○                   | ○                   | ○               |
|   | Located w/in 15 Miles of Skilled Work Force            | ●                          | ●                  | ○                              | ○                  | ○                   | ○                   | ○               |
|   | W/in 145 to Port of Charleston and Inland Ports        | ●                          | ∅                  | ∅                              | ●                  | ●                   | ∅                   | ∅               |
|   | Immediate Access to Utilities                          | ●                          | ∅                  | ○                              | ○                  | ●                   | ○                   | ●               |
| 404(b)(1) Guidelines and Other Considerations | Availability   | ●                          | ●                  | ●                              | ●                  | ●                   | ○                   | ●               |
|   | Cost/Efficiency Factors                                | ●                          | ○                  | ○                              | ○                  | ○                   | ○                   | ○               |
|   | Logistics  | ●                          | ○                  | ○                              | ○                  | ○                   | ○                   | ○               |
|   | Environmental (In comparison to Preferred Alternative) | N/A                        | ○                  | ∅                              | ∅                  | ●                   | ●                   | ∅               |
|   | Size and Shape   | ●                          | ○                  | ○                              | ○                  | ○                   | ○                   | ○               |
|   | Certainty as to Cultural Resources and T&E             | ●                          | ○                  | ○                              | ○                  | ●                   | ○                   | ●               |

● = passes criterion  
 ○ = fails criterion  
 ∅ = partially passes criterion

Consideration of these alternatives reveals that there are no practicable alternatives available to the Applicant, which meet the project purpose and needs, that do not include impacts on special aquatic sites. Moreover, of the range of reasonable alternatives considered by the Applicant, the Blythewood Industrial Site Alternative Site 1 property is uniquely capable of accommodating the Applicant's characteristics and criteria, all while minimizing its environmental impact.

### **6.3 Level 3 Analysis**

Level 3 of the Alternatives Analysis traditionally focuses on the site layout in terms of positioning the proposed project within the site in a manner that incorporates the considerations of accessibility, efficiency, and the site's environmental impacts. Consideration of a number of site-specific alternatives was constrained by the sheer size and scope of the project overlaid on the size and shape of the Property, along with the specific design configuration requirements of large-scale automotive OEMs, generally, and the Client specifically.

With respect to avoidance and minimization, the necessary starting point is defining the acreage of the project limits that actually available for constructing the Proposed Project. While the total site acreage for the Proposed Project comprises approximately 2,581 acres, not all of that acreage is actually available for development. In particular, the 2,581 acres includes approximately 464.95 acres for SCDOT roadway improvements, which is comprised of Interstate 77, starting approximately 8.7 miles North of Exit 27 and extending approximately 0.5 miles to the South of Exit 24, a total distance of approximately 5.5 miles, as well as the acreages comprising Exits 24 and 27, Blythewood Road on either side of I-77, a portion of Muller Road, approximately 2.5 miles of U.S. Highway 21, as well as various other roadway components. In terms of build site acreage, it is self-evident that the existing roadways, including I-77, were not available to the Applicant as potential avoidance and minimization areas for the primary build site. That leaves approximately 2,116.06 acres of the project site which consists of developable property for the Proposed Project.

Further, as discussed extensively above, the proposed site is located on both sides of I-77. In particular, 465.97 acres of the 2,116.06 developable acreage is located on the Eastern side of I-77. Given the Applicant's proposal to construct a new, dedicated interstate interchange as a part of the Proposed Project, given the traffic analysis conducted by SCDOT indicating that it was warranted, the guidelines for interchanges dictated that a connecting roadway be constructed from an existing local roadways. Because the proposed interchange connects directly to the Proposed Project on the Western side of I-77, the connecting roadway was required to traverse through the Eastern acreage of the project site, connecting with U.S. Highway 21. Factoring further into the interchange and connecting roadway's respective locations, SCDOT was required to design the interchange in a location that complied with State and Federal regulations which dictated that the location of new interchange must be a minimum of one (1) mile away from existing interchanges in order to provide the necessary entrance/exit ramp infrastructure in a safe manner. Once the proposed interchange

location was set, the connecting roadway to U.S. Highway 21 necessarily traversed through the middle of the Eastern acreage of the project site. In addition, given the Applicant's proposal to construct a new, dedicated rail spur to the site, in order to alleviate truck traffic associated with the Proposed Project's operations, the location of the rail spur had to be further factored into the equation. As discussed above, an existing Norfolk Southern rail line runs parallel and adjacent to U.S. Highway 21, on its Eastern side. Therefore, in order to bring the rail spur onto the project site, the spur required a crossing of the existing alignment of U.S. 21, across the Eastern acreage of the project site and I-77, before entering primary build site of the Proposed Project. Given the required location of the interchange, this required the proposed rail spur to traverse the Eastern acreage of the project site to the South of the proposed interchange, and further required proposed improvements and re-alignments to U.S. Highway 21, including an elevated roadway over the proposed rail spur in order to avoid an at-grade rail crossing of U.S. Highway 21.

The result of all of the foregoing is that amount of available, developable acreage to the East of I-77 was significantly constrained, effectively rendering its 465.97 acres unavailable for meaningful use for construction of the proposed automotive facility. As a result, of the 2,581 acres of the project limits, only approximately 1,650 acres remains for development of the automotive facility. This was dictated by several additional factors, discussed below. In particular, based on Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly advanced manufacturing OEM companies in the world, the required configuration of the automotive facilities are a dense, linear grouping with a specified sequencing that is necessary for staging, production, finishing, and shipping automobiles, which is the result. The site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that, for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed, preventing the Applicant from relocating buildings to other locations within the project site in order to substantially minimize impacts to onsite special aquatic sites. The required process and flow of an advanced automotive manufacturing facility prevents taking individual components or buildings of the overall site layout and re-organizing the building layouts in a manner that does not fit the purpose and need of the Proposed Project. State differently, redesigning the layout of a project, where those design changes would contradict the articulated preferences of the Applicant and the underlying Client regarding required project layout and the efficiencies achieved therefrom, would run contrary to the purpose and need of the project.

Here, the Applicant has clearly articulated the need for a dense, linear grouping in a particular sequencing that is necessary for production and assembly of electric vehicles, as well as infrastructure in the form of the interchange and rail spur that facilitate the delivery of raw materials and distribution of finished automobiles. This need is not based on a hypothetical exercise of how a facility might be laid out to best avoid onsite special aquatic sites, but is based on the Client's extensive experience designing, constructing, and operating similar facilities as one of the largest and most highly acclaimed

automotive manufacturing companies in the world. Non-manufacturing infrastructure (like entrances, exits, roads, employee and finished car parking, logistical delivery zones, outbuildings, substations, control centers, and utility centers) or main manufacturing buildings (like assembly, finish, paint shop, body shop, and SQM2) within the overall layout can only be moved around within certain limits to optimize the production flow depending of the individual automotive product and its model variety, respectively, without impacting the production unit capacity of the facility.

Over the years the Client developed and has continually improved the its preferred layout for these facilities to optimize logistical efficiencies and throughput capacity. While the Proposed Project layout is conceptually similar to those that have been constructed by the Client and its parent company over the years in Russia and India, and even more similar to those that have been constructed more recently in Chattanooga, Tennessee and China, improvements have been made in this latest design concept that build upon the lessons learned through those projects. In particular, the Proposed Project layout for Phase I is similar to that of the constructed Phase I of the Chattanooga facility, subject to minor alteration for site specific conditions, with the exception that, whereas the buildings for Phase I Chattanooga are more condensed, changes have been made in the Proposed Project layout in order to add connecting roadway infrastructure interspersed throughout the onsite buildings in order maximize process flow from a logistics standpoint, as well as from an access and safety standpoint. Again, these iterative design changes have been made based on perceived improvements that can be made to the design based on the Client's experience in designing these facilities.

As further justification for the Proposed Project's layout, the Applicant provides the following explanation with respect to the placement of the proposed individual buildings within the site, as dictated by the Client's required processes discussed above and experience in laying out similar advanced automotive manufacturing facilities:

- i. Infrastructure Generally: The site is oriented to provide logistical flow from north to south to support assembly and process logistics. Parking areas and roadways are proposed to be located centrally throughout the site for employee and product distribution to process shops, but also located in near proximity to the proposed interchange on the Eastern side of the project site, separated from process and truck traffic. The FBU Yard is strategically located nearest to rail and Assembly/Finish on the Southwestern portion of the site, given its purpose. Finished vehicles leave Assembly/Finish and proceed to the FBU Yard for staging prior to shipment. Rail Support is located directly West of FBU yard, given its purpose. Further, the Outbound building is intended to support outbound product to be shipped via truck. The Outbound building is strategically located directly South of the FBU yard, in close proximity to the location of staged finish vehicles.
- ii. Press Shop: The press shop is located South of the Body Shop, because this is the natural point of inclusion in the process. Its purpose in the manufacturing process is to feed into the

next step in the process which is Body. It is located to the South of the Body Shop, because the largest volume of trucks are coming from the North to support Assembly/Finish logistics.

- iii. Body Shop: The Body Shop is located between the Press Shop and Paint Shop as is the normal sequence of the automotive manufacturing process, further requiring expansion options and logistics traffic. Expansions are to be located on East side of Body Shop, due to consolidated operation and proximity to the next process building. This is required for movement of vehicles through the different process steps. There exists no conveyor after Assembly/Finish, as these are finished units and can be driven to next point in process.
- iv. Paint Shop: The Paint Shop is located between the Body Shop and Assembly/Finish Shop, as is the normal sequence of the automotive manufacturing process. The Paint Shop is required to be directly next to the Sequencer building (SQM2) for sequencing reasons, and furthest away from Assembly, for just-in-time sequencing providers.
- v. Assembly/Finish: The Assembly/Finish Shop is located between the Paint Shop and FBU Yard, as is the normal sequence of the automotive manufacturing process. The Finish Shop, due to the sequence of operations, must be closest to shipping and logistics of finished vehicles to the market.
- vi. Central Building: The Central Building is critical to the facility for overall site support, hence its name, as it houses critical functions to the manufacturing processes. These include quality assurance, measurement equipment, and pre-series processing, which are relevant for all adjacent buildings. Employees will arrive to the site and be directed to the Central Building, where locker rooms are placed. Afterward, employees will use the Central Building for disbursement of foot traffic to relevant Shops.
- vii. SQM2: The purpose of the Sequencer Building is to allow for buffer storage of painted and unpainted vehicle bodies. This building allows the Shops to start/stop at different times and not impact overall throughput. The Sequencer Building must be located adjacent to the Paint Shop for sequencing reasons and away from Assembly/Finish for just-in-time deliveries.
- viii. Utility: The Utility Building is centrally located to the Shops to allow for optimized utility runs to support the Process Shops.
- ix. Truck Gate/Security Control Center: The Primary Truck Gate is located at the North of the site to separate delivery traffic from POV traffic. The Security Control Center is located at the Primary Truck Gate for logistics control reasons. This is the main gate, so security is co-



located here to help maintain secure access to site. The largest amount of trucks will enter the Primary Truck Gate at the North to support Assembly/Finish.

- x. Fire Station: The Fire Station is located next to the Primary Truck Gate and Security Control Center to co-locate first responders to issues that may arise during operations.
- xi. Recycle Center: The Recycle Center is located near the Primary Truck Gate entrance and exit for use of the installed scales at that location. It is located directly in the middle of the facility's spine road so that it can optimize drive times to waste streams.
- xii. Main Gate/Welcome Center: The Main Gate/Welcome Center is a pedestrian access point for visitors and VIP's to be picked up in the secure zone for Shop visits and tours around the site. It is located at the primary parking lots for POV traffic as this is the primary area to support visitor parking.
- xiii. Tank Farm: The Tank Farm is a supporting shop to the Assembly/Finish process as the fluids required to support the finished automobile are introduced in the Assembly/Finish Shops. The Tank Farm is therefore required to be located directly adjacent to Assembly/Finish on East side of the Assembly/Finish Shop. The location is the shortest possible line between the Tank Farm and point of use location inside the Assembly/Finish Shop.
- xiv. Factory Substation: The Factory Substation is located along the South of the project site, as this is closest to Dominion Energy South Carolina primary power feed.
- xv. Supplier Substation: The Supplier Substation yard is in closest proximity to the proposed supplier parks located at North end of overall site. Transmission lines to provide power to the Supplier Substation shall be routed from the East.
- xvi. Outbound Building: The Outbound Building is required to be near the outbound truck traffic staging at the FBU yard. The purpose of this building is for drivers to be able to retrieve their paperwork from the Outbound Building to pick up finished vehicles for transport.
- xvii. Battery Assembly Shop: The Battery Assembly Shop is located to the West of the Assembly/Finish Shop, to be supported by the proposed rail spur for cell delivery and to support the Assembly line where batteries are delivered to the Assembly process. This building is an assembly shop for completed subcomponents into the battery pack system.

As referenced above, the amount of available acreage on the Western side of I-77, where the automotive facilities are proposed to be located, is limited to approximately 1,650 acres. As further referenced above, the limits of disturbance for the full build-out of the Proposed Project is approximately 1,633 acres, including the acreage associated with the proposed new interchange and roadway improvements, some of which is occurring on the Eastern side of I-77. The following

consists of a breakdown of the respective acreages associated with the facility buildings and all of the associated infrastructure supporting the Proposed Project within the proposed limits of disturbance:

- Total Building Footprints – appr. 16,000,000/sf (appr. 368 acres);
- Employee Parking – appr. 1,710,580/sf (appr. 40 acres);
- Employee Access Road – appr. 405,002.9/sf (appr. 10 acres);
- Training Center Parking – appr. 334,303.1/sf (appr. 8 acres);
- North Access Road – appr. 450,454.2/sf (appr. 11 acres);
- Rail Spur and Yard – appr. 4,492,086/sf (appr. 104 acres);
- Finished Vehicle Parking – appr. 1,617,415/sf (appr. 38 acres);
- Truck Parking – appr. 1,806,748/sf (appr. 42 acres);
- Test Track – appr. 178,469.51/sf (appr. 5 acres);
- Internal Facility Roads and Infrastructure Corridors – appr. 3,488,521/sf (appr. 81 acres);
- Truck Courts – appr. 694,281.54/sf (appr. 16 acres);
- Supplier Parking Lots – appr. 2,445,296.96/sf (appr. 57 acres);
- Security Roads – appr. 282,637.31/sf (appr. 7 acres);
- Stormwater Ponds – appr. 5,010,268/sf (appr. 116 acres);
- SCDOT Interchange/Roadways – appr. 7,179,917.88/sf (appr. 165 acres);
- Community Road widening improvements – appr. 2,232,523.32/sf (appr. 52 acres);
- Utility Easements – appr. 3,270,521.08/sf (appr. 76 acres); and
- Slope Tie Out Areas/Buffers/Wetlands Avoidance – appr. 18,999,260.28/sf (appr. 437 acres).

In sum, short of artificially reducing the size of the Proposed Project, which is neither economically and practicably feasible nor consistent with the purpose and need of the project, as demonstrated by

the above figures and explanations, additional avoidance and minimization of the impacts associated with the Proposed Project is rendered difficult given the acreage requirements for the facilities.

The Client's desired design and layout of the foregoing facilities are directly correlated to its operations, as an efficient layout can facilitate an increased flow of work, product, information, and materials around the site; if a facility is not designed with efficiency in mind, it can limit production, slow processes and impact overall profitability. Any significant redesign and contraction of facilities are incompatible with both of these concepts and the scope and scale of operations that the Client seeks to establish by the Proposed Project; therefore, they do not result in any practicable or feasible alternative to the preferred alternative and layout. Moreover, such alterations could not be accomplished without substantial shifts to the associated infrastructure for the facilities, including the interchange and rail spur, which, as discussed above, are similarly constrained by relevant factors and have likewise been laid out in a very deliberate fashion based on the operational processes and dense linear grouping. If individual elements were to be moved or facilities redesigned, the impacts caused by additional or relocated roads, rail, utilities, and other necessary infrastructure would also require redesign and could very likely result in new and incrementally larger impacts to aquatic resources, as shown in the iterative site designs discussed below.

Further, any contraction or reduction in the size of the project components and its buildings would likewise fail to meet the purpose and need identified by the Applicant. In particular, an artificial reduction in facility size would potentially render the project incapable of accommodating a second phase deemed critical to the Client. Not being able to fully construct the second phase of the project, reducing the building footprints to avoid additional onsite special aquatic site, or eliminating certain of the buildings altogether, would not satisfy the minimum requirements and parameters of the Client. Current technologies dictate that the component parts and overall production of electric vehicles is more expensive than the components and production of internal combustion engine automobiles.<sup>45</sup> The Client's investment in South Carolina generally, and the Proposed Project specifically, is premised on its ability to recoup its investment through the attainment of certain production goals based on current and projected industry demand, government-dictated policies setting targets for emission reductions, and production-related subsidies and tax rebates designed to support the production of long range, zero emission vehicles. As such, reducing the production capacity of the facility through an arbitrary reduction of individual building footprints or the overall project size would place the Client investment at risk, while also impeding the Client's ability to stage, produce, finish, and ship automobiles in the manner in which Client's extensive experience in designing, constructing, and operating similar facilities around the world would dictate. *See* 46 Fed. Reg. 18026 (March 23, 1981) (dictating that under NEPA, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the

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<sup>45</sup> E.g. Joe Miller, *Electric car costs to remain higher than traditional engines*, Financial Times (August 2020) ("Electric cars will remain significantly more expensive for European carmakers to produce than combustion engine models for at least a decade, according to new research."); <https://www.ft.com/content/a7e58ce7-4fab-424a-b1fa-f833ce948cb7>

standpoint of the applicant). Client's extensive experience and the required advanced manufacturing process has dictated the proposed linear shape of facilities that flow in the order shown, effectively preventing the re-location of specific component parts of the overall facility in order to fit the shape or size of a site.

Taking the foregoing into consideration, and in particular taking into consideration the location of the interchange, connecting roadway to U.S. Highway 21, and required alignment of the rail spur, also discussed above, locating portions of the Proposed Project on the Eastern side of I-77 was not feasible or practicable. Similarly, the Southeastern portion of the Western side of the project site (to the West of I-77), consisting of approximately 150 acres, did not present a viable location for locating portions of Proposed Project and is proposed to be left unimpacted and undisturbed. This is so for at least two reasons. First, as discussed above, relocation of specific buildings or components of the Proposed Project does not comport with the purpose and need of the project and undermines the required automation and flow of the vehicle assembly process. Therefore, relocating portions of the project in that acreage is not feasible. And second, placing the project facilities to the North and out of that acreage allowed the Applicant to avoid impacts to Wetlands 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, and 31, as well as portions of Wetland 26, along with NARs 10, 11, 12, 13, and 14, and Tributaries 14, 15, 16, 17, 18, and 19, with the preferred alternative layout discussed below. More generally, on-site alternatives were also necessarily constrained by the location of the onsite wetlands, streams, and man-made ponds, as well as the location of certain geographical insets of adjacent properties.

Notwithstanding the foregoing constraints, and as discussed above, since the submission of the application on May 26, 2023, the Applicant, in conjunction with cooperating agency SCDOT, has continued to evaluate the interchange and roadway components of the project in order to avoid and minimize additional impacts to special aquatic sites. In particular, based on further analysis of the appropriate interchange design, as detailed in **Exhibit B**, the Applicant and SCDOT evaluated whether the location of the associated connecting roadway to U.S. Highway 21 could be modified to further avoid and minimize impacts to special aquatic sites. The result of that analysis is that the revised application will show post-application avoidance and minimization in the form of reductions in impacts to Wetlands 66, 71, 75, 76, 78, and 108,<sup>46</sup> resulting in a net reduction of proposed wetland impacts of 2.3 acres, as well as a reduction in impacts to Stream 57, but increases in impacts to Streams 58 and 59<sup>47</sup> resulting increase of proposed stream impacts of 119.98 linear feet.

In addition, since the submission of the application on May 26, 2023, the Applicant, in conjunction with the Client, has continued to evaluate the primary build site of the Proposed Project in order to

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<sup>46</sup> Impacts to Wetland 104 was incrementally increased by 0.53 acres due to the proposed shift in alignment; however, the overall wetland impact associated with the shift resulted in a net reduction of impacts to onsite wetlands.

<sup>47</sup> Impacts to Streams 58 and 59 were incrementally increased by 17.06 linear feet and 214.82 linear feet, respectively, due to the proposed shift in alignment.

further avoid and minimize additional impacts to special aquatic site. In particular, and based on those efforts, the Applicant has been able to reduce the size and footprint of one of the proposed supplier parks located in the Northeast corner of the primary build site. That area of the project site contains a substantial wetland and stream system, designated on the project plans as NWW (Trib. 21) and Wetland 1. Strategically reducing the size of this supplier park area by approximately 288.286/sf allows the Applicant to avoid substantial impacts to those special aquatic sites that were previously proposed to be impacted in the May 26, 2023, application. This change reduced impacts to jurisdictional wetlands in the area by approximately 5 acres, and reduced impacts to streams by approximately 1,100/lf.

Combined with the changes associated with the interchange and roadway connection, and factoring in the addition of post-application impacts associated with power line rights-of-ways, the Applicant's additional, post-application avoidance and minimization efforts have reduced total impacts to wetlands by 4.246 acres (including a 8.692-acre reduction of impacts to jurisdictional wetlands), a reduction of approximately 6% in wetland impacts (including an approximately 13% reduction of impacts to jurisdictional wetlands), and reduced total impacts to streams by approximately 2,491/lf, a reduction of more than 6.5% in stream impacts.

With respect to the site's special aquatic sites, as noted above, the Property consists of approximately 2,384.193 acres of uplands and 196.807 acres of aquatic resources, comprised of approximately 146.215 acres of jurisdictional wetlands (between 119 wetland features), approximately 43.203 acres of non-wetland ponds (between 13 separate pond features), approximately 70,037 linear feet of streams, and approximately 9,472 linear feet of non-aquatic resources consisting of agricultural ditches and ephemeral swales (across 24 separate features). These features, including wetlands, streams/tributaries, and ponds, are interspersed at regular intervals throughout the site, North to South and East to West, rendering significant avoidance and minimization of those features difficult to achieve. Nevertheless, the Applicant worked extensively with the Client in order to position the required facilities in a way that avoided and minimized the maximum number of areas of aquatic features, as well as minimized the scope of unavoidable impacts to those features to the maximum extent possible, while still fulfilling the purpose and need of the project, including the required layout of the project facilities. In total, the revised plans for the Proposed Project calls for 23,599 linear feet of permanent fill impacts to onsite streams, 30 linear feet of permanent clearing impacts to onsite streams, 3,043 linear feet of morphological impacts to onsite streams, 9,019 linear feet of pipe impacts to onsite streams, 38.219 acres of permanent fill impacts to non-wetland ponds, 60.649 acres of permanent fill impacts to jurisdictional wetlands, 0.317 acres of temporary excavation/permanent clearing impacts to jurisdictional wetlands, and 8.742 acres of permanent clearing impacts to jurisdictional wetlands.

Further, the Property has undergone a comprehensive review for cultural resources. Portions of the project area have had cultural resource surveys completed under numerous names (Firetower

Road/Palmer Tract – 2006; Project Y – 2006; Blythewood Industrial Site – 2015; Blythewood Industrial Park Northern Portion – 2018, 2019, 2022; Project Storage – 2022; Beasley Tract – 2023; Arum Tract – 2023). In April 2006, a cultural resources literature review and reconnaissance survey was completed for the Firetower Road/Palmer tract, a 465-acre project area to the east of I-77. As a result of the survey four archaeological sites (31RD1290 through 38RD1293) and one isolated find were identified and recorded. Site 38RD1291 was recommended as potentially eligible for inclusion in the NRHP and site 38RD1293 was recommended for additional work prior to determining the NRHP eligibility of the site; the remaining archaeological sites were considered not eligible for inclusion in the NRHP. An intensive archaeological survey was recommended for the entirety of the project area. In October 2006, a Phase I survey of 465 acres and Phase II testing at archaeological sites 38RD1291 and 38RD1293 was completed for Project Y, previously known as the Firetower Road/Palmer tract. As a result of the Phase I investigation and Phase II testing, four archaeological sites were revisited (38RD1290 through 38RD1293), and seven archaeological sites (38RD1295 through 38RD1301) and 10 isolated finds were identified and recorded. Archaeological site 38RD1293 was recommended as eligible for inclusion in the NRHP and avoidance or mitigation of the archaeological site was recommended; the remaining archaeological sites and isolated finds were recommended to be not eligible for inclusion in the NRHP. SHPO concurred with these recommendations in a letter dated September 25, 2006.

In 2015, a CRIS was completed on 674 acres associated with the Blythewood Industrial Site and was west of Community Road and I-77 with private property bordering the other three cardinal directions. As a result of the survey, one archaeological site (38RD1436), two isolated finds, and no above ground resources were recorded. The archaeological site and isolated finds were recommended not eligible for inclusion in the NRHP and no additional cultural resource work was recommended for the 674 acres. SHPO concurred with the recommendations in a letter dated December 9, 2015.

In July 2018, a CRIS was completed on 658 acres associated with the Blythewood Industrial Site – Northern Portion, located north and west of the 2015 survey area and south and east of Blythewood Road. As a result of the survey, five archaeological sites (38RD1466 through 38RD1470) and six above ground resources (BIP-1 through BIP-6) were identified and recorded and two previously recorded structures were revisited (SHPO Survey Numbers 4815 and 4862). It was recommended that a Phase I survey be conducted on 178 acres due to the high probability for containing significant archaeological sites; additional work was also recommended for sites 38RD1466 and 38RD1468, which are in the Phase I survey area. The remaining archaeological sites were recommended not eligible for inclusion in the NRHP and the structures were not evaluated for inclusion in the NRHP. In a letter dated August 31, 2018, SHPO concurred with the recommendations for the Phase I survey and requested Phase II testing at sites 38RD1466 and 38RD1468, as well as the recordation and evaluation for the six above ground resources recorded during the survey. In December 2018, the Phase I survey of 178 acres within the Blythewood Industrial Site – Northern Portion was completed. As a result of the Phase I survey, two previously recorded archaeological sites (38RD1466 and

38RD1468) and two previously recorded above ground resources (4815 and 4862) were revisited, five new archaeological sites (38RD1473 through 38RD1477) and six isolated finds were recorded, and six above ground resources were recorded (7619 through 7624). Phase II testing was not conducted at sites 38RD1466 and 38RD1468 during these investigations. Four of the archaeological sites (38RD1473, 38RD1474, 38RD1475, and 38RD1477) and the six above ground resources (7619 through 7624) were recommended not eligible for inclusion in the NRHP. Phase II testing was recommended at sites 38RD1466, 38RD1468, and 38RD1476 to determine the final NRHP eligibility of each of the archaeological sites. In a letter dated February 4, 2019, SHPO concurred with the recommendations.

In June 2022, a CRIS was completed for potential Project Storage, an 18-acre addition to the Blythewood Industrial Site – Northern Portion. The project area is located south of Blythewood Road and Locklier Road bisected the project area. As a results of the survey, no archaeological sites and one above ground resource (SHPO Survey No. 8969) was recorded and three previously recorded above ground resources were revisited (SHPO Survey Nos. 7620, 7623, and 7624). The revisited above ground resources were determined to be not eligible for inclusion in the NRHP and the newly recorded structure was recommended not eligible for the NRHP; no additional cultural resource work was recommended for the project area. In a letter dated July 18, 2022, SHPO concurred with these recommendations.

In July 2022, Phase II testing at sites 38RD1466, 38RD1468, and 38RD1476 was conducted. As a result of the testing, sites 38RD1466 and 38RD1476 were recommended not eligible for inclusion in the NRHP and site 38RD1468 was recommended eligible for inclusion in the NRHP. Avoidance, with a 25-ft buffer, or mitigation of archaeological site 38RD1468 was recommended. In a letter dated February 22, 2023, SHPO concurred with these recommendations.

In March 2023, a reconnaissance level survey and Phase I intensive survey was completed on the Beasley Tract, a 288-acre project area that is located west of I-77, south of the 2015 Blythewood Industrial Site survey area, and east of the 2018 Blythewood Industrial Site – Northern Portion project area. The reconnaissance was completed on the 288-acre project area and the Phase I intensive survey was completed on 90.2 acres. As a result of the reconnaissance survey two archaeological sites (38RD1529 and 38RD1530) were identified and SHPO Survey No. 7624 was revisited. SHPO Survey No. 7624 was determined to be not eligible for inclusion in the NRHP and both archaeological sites were recommended not eligible for inclusion in the NRHP.

In March 2023, a cultural resource survey was completed on the Arum Tract, the 466-acre project area that was previously known as Firetower Road/Palmer Tract and Project Y. A site visit was completed to determine the current condition of site 38RD1293 and an architectural survey was completed. As a result of the survey, archaeological site 38RD1293 remains undisturbed and six above ground resources were recorded (SHPO Survey Nos. 8658 through 8662 and 8727). Site 38RD1293 remains

eligible for inclusion in the NRHP and the six above ground resources were recommended not eligible for inclusion in the NRHP. Both the Beasley Tract and Arum Tract have been submitted to SHPO for its review and comment.

In July 2023, S&ME completed a cultural resource survey for the SCDOT I-77 Exit 26 Interchange, an approximately 484.2-acre project area that was centered on Interstate 77, north of Blythewood and south of the US Highway 21 and I-77 interchange. The project focused on the roadway and interchange improvements and exit creation associated with the Proposed Project. The majority of the project area had been previously surveyed or was disturbed by residential/commercial development, roadway construction, and buried utilities. A total of 20.4 acres had not been previously surveyed and was not extensively disturbed; an archaeological survey was completed on this acreage. An architectural survey was completed for the project APE, which included resources that were adjacent to the project area. As a result of the survey two archaeological sites (38RD1531 and 38RD1532) and 14 above ground resources (SHPO Site Numbers 8735 through 8747) were identified and recorded, and 10 previously recorded resources were revisited (SHPO Site Numbers 0048, 4813, 4831, 5021 through 5024, 5033, 5452, and 5453). The newly recorded archaeological sites and above ground resources, as well as nine of the 10 previously recorded above ground resources were recommended not eligible for inclusion in the NRHP. SHPO Site Number 0048 is listed in the NRHP. The viewshed from the resource to the project area, and vice-versa, has already been altered during the late twentieth century, with modern roadway improvements, power poles, and commercial development. The Proposed Project is unlikely to affect the resource that make it eligible for the NRHP, specifically its architecture and its association with the early settlement and development of Blythewood. The July 2023 survey has been submitted to SHPO for its review and comment.

Beyond cultural resources, the location of the specific facilities within the site plan is based on directives from the Client as to required manufacturing and processing flows for an advanced manufacturing OEM automotive facility for each of the respective phases. These directives dictated a linear shape that flowed in the order shown and also dictated that, for instance, the locations for the specific component parts of the overall facility, even within each specific phase, were necessary and strategically placed. For example, the Battery facilities that are proposed to be located along the Western border of the site, are not independent pieces of the overall production facility that could be moved to the Southern or Eastern sides of the centrally-located Assembly facilities, where, perhaps, fewer aquatic impacts could be achieved, but instead are strategically located to achieve the necessary process flows dictated by the Client. The same is true for the location of the finished automobile areas along the Western border of the site to the South of the Battery facilities, as process flows dictate their proximity both to the Paint Shops, as well as the rail yard loading area in the Southwest corner of the Property that will serve the function of shipping finished automobiles. Instead, the linear shape and positioning of each of the component parts of the Proposed Project site is purposeful and strategic such that the position of the project layout as a whole could shift, but not the component parts within the project layout.



*6.3.1 Site Layout Alternative 1 – Preferred Alternative Site Layout*

Site Layout Alternative 1, the Preferred Alternative Site Layout, depicted in the Applicant’s application and attached to the Application as **Exhibit H**, is the preferred site layout for the Proposed Project.

Site Layout Alternative 1 positions the project site and buildings centrally within the majority of the acreage to the West of I-77. Positioning the Proposed Project in such a way allows the Applicant to avoid impacts to a number of aquatic features, including: (1) Wetland 44, NAR 16, and portions of Tributary 29 along the Southwestern border of the Property; and (2) Wetlands 79, 80, 81, 82, 83, 91, and 92, as well as portions of Wetland 84, along with Tributaries 36, 37, 38, 40, 39, and portions of Tributary 42, further South along the Southwestern border of the Property; Wetlands 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, and 31, as well as portions of Wetland 26, along with NARs 10, 11, 12, 13, and 14, and Tributaries 14, 15, 16, 17, 18, and 19 in the Southernmost portion of the Property. Positioning the Proposed Project in such a way also allows the Applicant to minimize impacts to a number of aquatic features, including Wetland 1 and Tributaries 1, 2, 3, 20, and 21, along the Northeastern border of the site near Community Road. Based on the Applicant’s efforts to avoid impacts to aquatic features to the maximum extent possible, Site Layout Alternative 1 avoids impacts to 34,376 linear feet of onsite jurisdictional streams and tributaries, 76.824 acres of onsite wetlands, and 4.984 acres of non-wetland ponds. Below is a table setting forth the avoidance and minimization of onsite special aquatic sites under Site Alternative 1:

| <b>Avoidance and Minimization Matrix</b>                | Site Layout Alternative 1<br>Preferred Alternative Site Layout |
|---|--|
| Permanent Fill Impacts to Jurisdictional Wetlands       | 69.391 acres   |
| Impacts to Non-Wetlands Ponds                           | 38.219 acres   |
| <b>Avoidance Wetlands</b>                               | 76.824 acres   |
| <b>Avoidance Non-Wetland Ponds</b>                      | 4.984 acres  |
| Permanent Impacts to Jurisdictional Streams/Tributaries | 35,661 linear feet   |
| <b>Avoidance Streams/Tributaries</b>                    | 34,376 linear feet   |

The location of the specific facilities in Site Layout Alternative 1 also meets the expectations and needs of Client and accommodates the desired size, density, and linear grouping that is necessary for a world class automotive OEM manufacturing facility. In particular, the Phase I facilities are laid out in a linear, vertical fashion, with proposed supplier parks located in the Northeast corner of the site, material handling spaces centrally located in the Northern part of the site, and primary assembly facilities located in the heart of the site, with immediate adjacent access to axle assembly facilities, paint shops, and body construction facilities in the required processing locations. The proposed layout also incorporates a test track for completed automobiles experience/marketing-related functions. Furthermore, adjacent to the primary assembly facilities to the West, the proposed layout provides for necessary finished automobile areas which are adjacent to the proposed rail yard, providing immediate outbound shipping access along the newly constructed interior rail spur. Finally, the Eastern portion of the site provides factory parking areas and training facilities with immediate access to interior roadways and the proposed new interchange access, providing convenient ingress and egress to employees and guests that avoids impacts to localized roadways. Moreover, the secondary phases to the Proposed Project are laid out to largely mirror and/or be adjacent to the parallel Phase I components of the Proposed Project, providing seamless scalability to operations. Locating the project as a whole, and Phase I specifically, in the proposed manner allows for the master plan concept desired by Client to be fully implemented, thus fulfilling the purpose and need for the Proposed Project.

In sum, due to the size and desired alignment of the Proposed Project, as dictated by Client, combined with Applicant's desire to fulfill its statutory purpose and responsibility to pursue such actions and projects that meet the long-term strategic needs of the State, the community, and potential end-users of assembled EV component parts, including the contribution to economic development in South Carolina broadly, and Richland County specifically, through the cultivation and stimulation of the types of facilities proposed here, the Preferred Alternative Site Layout best fulfills the project's purpose and need while maintaining the maximum amount of existing hydrologic features of the site and is the Applicant's preferred alternative.

### *6.3.2 Site Layout Alternative 2*

Site Layout Alternative 2, depicted in the Applicant's application and attached to this analysis as **Exhibit O**, was an iterative site layout developed by the Applicant for the project facilities during the course of evaluating the feasibility of the Proposed Project at the Blythewood Industrial Site.

Under the Site Layout Alternative 2, the Proposed Project facilities were proposed to be laid out in a substantially similar fashion to Site Layout Alternative 1, particularly in the Western, Central, and Southern portions of the site. The notable differences between Alternatives 1 and 2 are found in the

proposed Supplier Park areas. Initially, the Client proposed to locate the facility substation in the Northern part of the site, as evidenced by its central location in Alternative 2. Putting the substation in that location increased the amount of proposed intake parking areas, but shifted other administrative and support structures East of the middle dividing line of the site South of the substation. The resulting location of the substation and the administrative and support structures pushed the proposed Supplier Park areas further East into Wetland 1, and Tributaries 1, 2, 20, and 21. As a result, Site Layout Alternative 2 would result in 80.5 acres of permanent wetland fill impacts, 38.2 acres of permanent non-wetland (ponds) fill impacts, and 41,234 linear feet of permanent tributary/stream impacts, amounting to slightly lower non-wetland (pond) impacts, but greater impacts to both wetlands and tributary/streams than Site Layout Alternative 1. Site Layout Alternative 2 would therefore avoid impacts to 28,803 linear feet of onsite jurisdictional streams and tributaries, 65.715 acres of onsite jurisdictional wetlands, and 5.003 acres of non-wetland ponds. Below is a table setting forth the avoidance and minimization of onsite special aquatic sites under Site Alternative 2:

| <b>Avoidance and Minimization Matrix</b>                | Site Layout Alternative 2 |
|---|---------------------------|
| Permanent Fill Impacts to Jurisdictional Wetlands       | 80.5 acres                |
| Impacts to Non-Wetland Ponds                            | 38.2 acres                |
| <b>Avoidance Wetlands</b>                               | 65.715 acres              |
| <b>Avoidance Non-Wetland Ponds</b>                      | 5.003 acres               |
| Permanent Impacts to Jurisdictional Streams/Tributaries | 41,234 linear feet        |
| <b>Avoidance Streams/Tributaries</b>                    | 28,803 linear feet        |

However, when compared to Site Layout Alternative 1, this iterative design of the Proposed Project considered by the Applicant increased the number of impacts to onsite jurisdictional streams and tributaries by 5,573 linear feet, an increase of approximately 16%, and increased the number impacts to onsite wetlands by 11.109 acres, an increase of approximately 16%.

Ultimately, the Client preferred to locate the substation to the Southwest corner of the Property, allowing it to shift the administrative and support structures into the area of intake parking area,

increasing the size of the proposed Supplier Park and parking area, while simultaneously allowing the Supplier Park to shift to the West avoiding additional impacts to Wetland 1, and Tributaries 1, 2, 20, and 21. A less desirable layout, combined with the greater impacts to special aquatic sites, rendered Site Layout Alternative 2 a less feasible and practicable layout alternative than the preferred Site Alternative 1. Due to the Applicant's aspiration to avoid and minimize these additional impacts, as well as achieve its desired facility configuration, continuity, and layout of operations, the Applicant determined that Site Layout Alternative 2 was a less feasible and practicable alternative and did not fulfill the purpose and need of the Proposed Project.

### *6.3.3 Site Layout Alternative 3*

Site Layout Alternative 3, depicted in the Applicant's application and attached to this analysis as **Exhibit P**, was an iterative site layout developed by the Applicant for the project facilities during the course of evaluating the feasibility of the Proposed Project at the Blythewood Industrial Site.

Under the Site Layout Alternative 3, the Proposed Project facilities were proposed to be laid out in a substantially different configuration compared to Site Layout Alternatives 1 and 2. In particular, while certain aspects of the Southern portion of the site facility layout are similar, those facilities are shifted slightly to the North. In their place, this alternative proposed an additional stormwater detention basin just North of the incoming rail staging area, with an addition parking area to the West, and a portion of the Supplier Park to the East. Further, rather than two test tracks, this alternative proposed one, larger test track proposed to be located on the Western boundary of the build site, just inside the Western rail yard. In addition, the proposed Battery facilities were proposed to be more square in shape, rather than long linear rectangles, and are located between the two Assembly facilities. This resulted in pushing the remaining Supplier Park facilities further West and East, while requiring production facilities to be located further to the North of the site. Finally, the remaining Supplier Park building was pushed to the Southeast corner of the site in an area that the preferred alternative left undisturbed. These shifts resulted in additional building impacts to Wetland 1, and Tributaries 1, 2, 20, and 21, while requiring new impacts to portions of Wetlands 22, 23, 24, 25, 26, and 27, along with Tributaries 16, 17, and 18. Consequently, Site Layout Alternative 3 would result in 84.9 acres of permanent wetland fill impacts, 37.9 acres of permanent non-wetland (ponds) fill impacts, and 44,731.9 linear feet of permanent tributary/stream impacts, amounting to slightly lower non-wetland (pond) impacts, but greater impacts to both wetlands and tributary/streams than Site Layout Alternatives 1 and 2. Site Layout Alternative 3 would therefore avoid impacts to 25,305.1 linear feet of onsite jurisdictional streams and tributaries, 61.315 acres of onsite jurisdictional wetlands, and 5.303 acres of non-wetland ponds. Below is a table setting forth the avoidance and minimization of onsite special aquatic sites under Site Alternative 3:

| <b>Avoidance and Minimization Matrix</b>                | Site Layout Alternative 3 |
|---|---------------------------|
| Permanent Fill Impacts to Jurisdictional Wetlands       | 84.9 acres                |
| Impacts to Non-Wetland Ponds                            | 37.9 acres                |
| <b>Avoidance Wetlands</b>                               | 61.315 acres              |
| <b>Avoidance Non-Wetland Ponds</b>                      | 5.303 acres               |
| Permanent Impacts to Jurisdictional Streams/Tributaries | 44,731.9 linear feet      |
| <b>Avoidance Streams/Tributaries</b>                    | 25,305.1 linear feet      |

However, when compared to Site Layout Alternative 1, this iterative design of the Proposed Project considered by the Applicant increased the number of impacts to onsite jurisdictional streams and tributaries by 9,070.9 linear feet, an increase of approximately 25%, and increased the number impacts to onsite wetlands by 15.509 acres, an increase of approximately 22%.

Ultimately, the Client determined that it preferred the compact, linear configuration of Site Layout Alternative 1 due to the efficiencies that it would achieve in production, along with the ability to mirror those facilities in a side-by-side fashion in future phases of the Project. Locating the facilities as proposed in Site Layout Alternative 1 also avoided additional impacts to Wetlands 1, 22, 23, 24, 25, 26, and 27, as well as Tributaries 1, 2, 16, 17, 18, 20, and 21. A less desirable layout, combined with the greater impacts to special aquatic sites, rendered Site Layout Alternative 3 a less feasible and practicable layout alternative than the preferred Site Alternative 1. Due to the Applicant’s aspiration to avoid and minimize these additional impacts, as well as achieve its desired facility configuration, continuity, and layout of operations, the Applicant determined that Site Layout Alternative 3 was a less feasible and practicable alternative and did not fulfill the purpose and need of the Proposed Project.

**Level 3 Conclusion:**

Below, is a table that includes each of the three onsite alternatives, comparing their respective impacts, avoidance, and percentage differences:

| <b>Comparison of Alternatives</b>                              | Site Layout<br>Alt. 1 | Site Layout<br>Alt. 2 | Site Layout<br>Alt. 3 |
|--|-----------------------|-----------------------|-----------------------|
| <i>Permanent Fill Impacts to Jurisdictional Wetlands</i>       | 69.391 acres          | 80.5 acres            | 84.9 acres            |
| <b>Avoidance Wetlands</b>                                      | 76.824 acres          | 65.715 acres          | 61.315 acres          |
| Wetland Impact Acreage Difference (Compared to Site Alt.1)     | —                     | + 11.109<br>acres     | + 15.509<br>acres     |
| Percentage Impact Difference (Compared to Site Alt.1)          | —                     | + 16%                 | + 22%                 |
| <i>Impacts to Non-Wetland Ponds</i>                            | 38.219 acres          | 38.2 acres            | 37.9 acres            |
| <b>Avoidance Non-Wetland Ponds</b>                             | 4.984 acres           | 5.003 acres           | 5.303 acres           |
| Non-wetland Impact Acreage Difference (Compared to Site Alt.1) | —                     | - 0.019 acres         | - 0.319 acres         |
| Percentage Impact Difference (Compared to Site Alt.1)          | —                     | - 0.0038%             | - 0.064%              |
| <i>Permanent Impacts to Jurisdictional Streams/Tributaries</i> | 35,661 lf.            | 41,234 lf.            | 44,731.9 lf.          |
| <b>Avoidance Streams/Tributaries</b>                           | 34,376 lf.            | 28,803 lf.            | 25,305.1 lf.          |
| Linear Feet Impact Difference (Compared to Site Alt.1)         | —                     | + 5,573 lf.           | + 9,070.9 lf.         |
| Percentage Impact Difference (Compared to Site Alt.1)          | —                     | + 16%                 | +25%                  |

After consideration of alternative site layouts for the Proposed Project at the Blythewood Industrial Site Alternative Site 1 property, the Applicant has concluded that the Preferred Alternative, Site Layout Alternative 1, incorporating the maximum amount of avoidance and minimization measures given the respective sizes of the proposed facilities and location of the many special aquatic sites on the Property, would best meet the characteristics and criteria (scoring the best) and fulfills the purpose and need of constructing and operating a new rail-served advanced manufacturing facility for an OEM in the automotive industry, with dedicated interchange access, while also limiting the impacts on the environment.

**Exhibit A to  
Project Connect  
Revised Alternatives Analysis  
(Traffic Study and Interchange Justification)**

Applicant:  
South Carolina Department of Commerce  
Richland County



# I-77 at Exit 26

## NEW INTERCHANGE NEED MEMORANDUM



Richland County, South Carolina

August 2023

## Purpose

The purpose of this memorandum is to provide the necessary documentation to support the need for a new interchange on Interstate 77 (I-77) at Exit 26 in Richland County, South Carolina. This memorandum will document the analysis methods and results of a 2046 No-Build scenario (the anticipated Design Year) which indicates that the existing interchanges cannot support the traffic demand in the future year.

## Background

A new interchange on I-77 at Exit 26 is proposed to support the development of a large-scale manufacturing plant on the west side of I-77 south of Blythewood Road. The proposed development is generally bounded by Blythewood Road to the north and west, Community Road to the east, and existing development to the south. There are two existing interchanges near the proposed manufacturing plant: I-77 at US 21 (Exit 24) and I-77 at Blythewood Road (Exit 27). Without a new interchange at Exit 26, the existing interchanges will experience a significant increase in traffic demand as the manufacturing plant and supporting industrial development are expected to generate approximately 38,000 daily trips including approximately 4,200 daily truck movements by the Design Year 2046 (**Attachment A**).

## Traffic Analysis Assumptions and Methodology

The following sections summarize the traffic development and analysis methodology used to conduct the 2046 No-Build analysis for this memorandum.

### Study Area

The study area for this analysis includes I-77 from south of US 21 to north of Blythewood Road and includes the I-77 mainline and ramps as well as the ramp terminal intersections (**Figure 1**). The following elements are included in the analysis for this memorandum:

#### Along I-77:

- US 21
- Blythewood Road

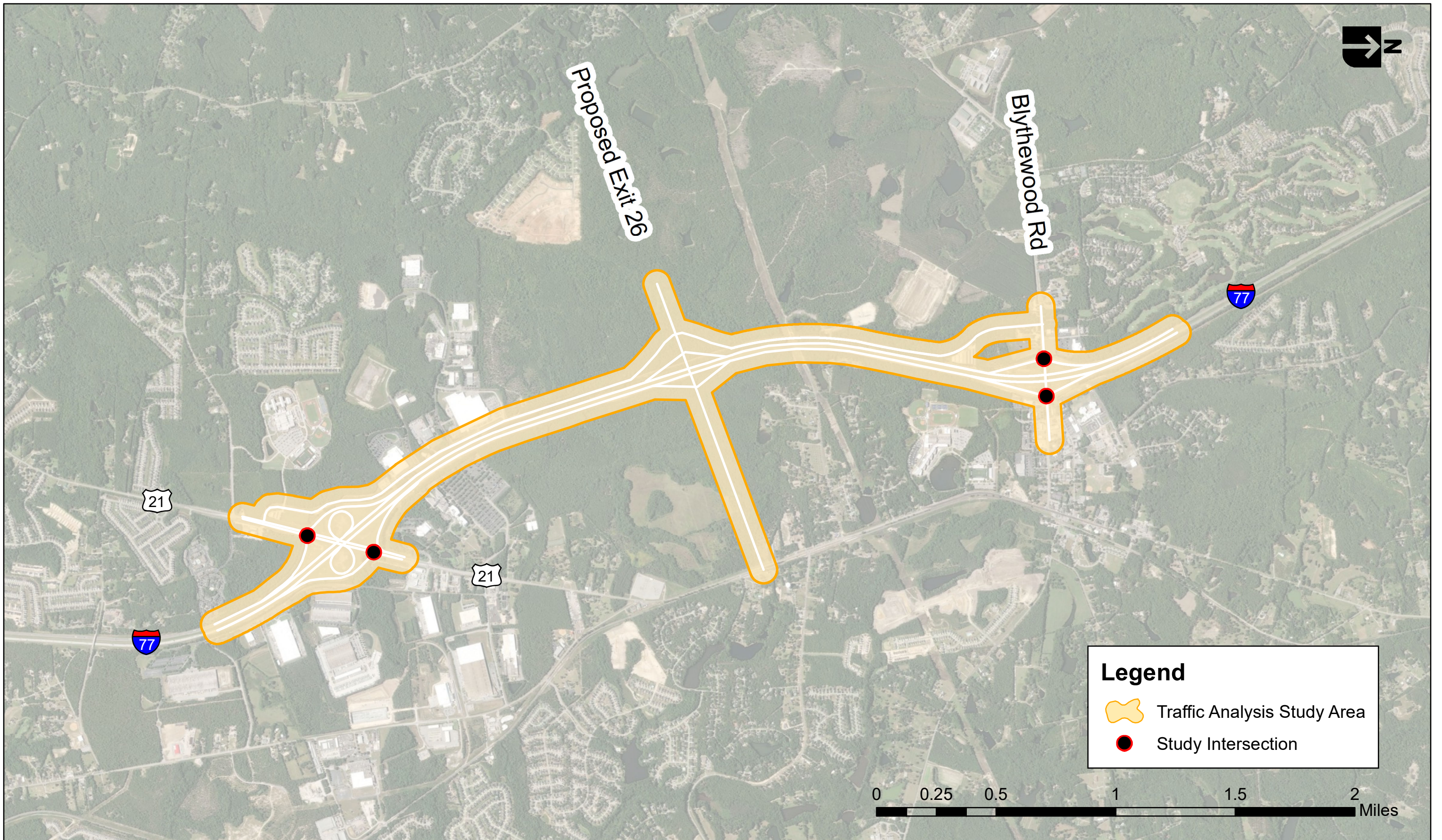
#### Along US 21:

- I-77 Southbound Ramp Terminal
- I-77 Northbound Ramp Terminal

#### Along Blythewood Road:

- I-77 Southbound Ramp Terminal
- I-77 Northbound Ramp Terminal







## Traffic Volume Development

The traffic analysis will include typical AM and PM peak hours. Since the manufacturing plant will have shift changes outside of the typical peak hours, two additional peaks will be analyzed to assess the impact of the manufacturing trips. The following sections discuss the traffic development to support the analysis efforts.

### Existing Traffic Volumes

The primary source of traffic data for this project is field traffic counts which were collected in March of 2023. These counts included intersection 13-hour turning movement counts, 48-hour bidirectional arterial counts and ramp counts, and 7-day classification counts for the I-77 mainline and at US 21 and Blythewood Road. These counts were used to establish the existing daily traffic volumes as well as the peak hour traffic volumes for the four analysis time periods associated with the project:

- Typical AM Peak: 7:15-8:15
- Typical PM Peak: 4:15-5:15
- Shift 1 Peak: 5:30-6:30 AM
- Shift 2 Peak: 1:30-2:30 PM

### Future Traffic Volumes

Future conditions traffic was developed using growth rates derived from the Central Midlands Council of Governments (CMOG) Metropolitan Planning Organization's Columbia Area Transportation Study (COATS) travel demand forecasting model.

Two modeling scenarios were developed for the project, a "No-Build" scenario which excludes the proposed new interchange and a "Build" scenario which includes the proposed new interchange. Growth rates were derived from the No-Build scenario by comparing the Base Year 2015 and Horizon Year 2045 modeled annual average daily traffic (AADT). **Table 1** summarizes the background growth rates selected for the study area roadways.

*Table 1 Selected Growth Rates*

| Location                 | Recommended Growth Rate <sup>1</sup> |
|--------------------------|--------------------------------------|
| I-77 Mainline            | 0.80%                                |
| US 21 Ramps              | 0.80%                                |
| Blythewood Road Ramps    | 1.60%                                |
| US 21 Arterial           | 0.80%                                |
| Blythewood Road Arterial | 2.40%                                |

<sup>1</sup>Linear Annual Growth Rate

The linear growth rates summarized in **Table 1** were applied to the existing daily and peak hour traffic volumes to establish the 2046 "background" traffic for the study area.

The Build condition modeling scenario was used to determine the change in traffic patterns caused by the introduction of a new interchange at Exit 26 which will be documented in the Exit 26 Interchange Justification Report.

### Proposed Development Traffic Volumes

Traffic volumes for the proposed manufacturing plant (project trips) were developed by the land developer using the Institute of Transportation Engineers (ITE) Trip Generation Manual 11<sup>th</sup> Edition along with

information on trip generation from similar manufacturing plants and documented in a memorandum (**Attachment B**). The peak period trips produced by the proposed manufacturing plant are summarized in Table 2.

Table 2 Project Trips by Analysis Period

|                    | Shift 1 Peak |              | AM Peak    |            | Shift 2 Peak |              | PM Peak    |            |
|--------------------|--------------|--------------|------------|------------|--------------|--------------|------------|------------|
|                    | Enter        | Exit         | Enter      | Exit       | Enter        | Exit         | Enter      | Exit       |
| Manufacturing      | 2,880        | 2,880        | 288        | 288        | 2,880        | 2,880        | 288        | 288        |
| Related Industrial | 1,465        | 783          | 147        | 78         | 793          | 1,626        | 79         | 163        |
| Trucks             | 100          | 100          | 100        | 100        | 100          | 100          | 100        | 100        |
| <b>Total</b>       | <b>4,445</b> | <b>3,763</b> | <b>535</b> | <b>466</b> | <b>3,773</b> | <b>4,606</b> | <b>467</b> | <b>551</b> |

These project trips were distributed to the No-Build roadway network based on the trip distribution provided by the developer in the Trip Distribution Memo (**Attachment C**) with adjustments that accounted for the absence of the proposed new interchange. An assumption was made such that project trips would not backtrack to reach their destination in the No-Build condition so any project traffic utilizing the new interchange from the south was assigned to US 21 and any project traffic utilizing the new interchange from the north was assigned to Blythewood Road. These project trips were added on top of the background traffic to establish the 2046 No-Build traffic volumes used in the analysis (**Figure 2 and Figure 3**).

## Analysis Procedures and Performance Measures

The primary analysis tools used to perform the No-Build traffic analysis were Highway Capacity Software 7 (HCS 7) and Synchro 11 including SimTraffic. HCS 7 was used to evaluate the I-77 mainline segments and ramp junctions. Synchro 11 was used to evaluate intersection operations within the study area.

Several performance measures were used to establish the operating conditions with the study area and to determine whether the existing interchanges can support the traffic demand in the No-Build scenario. The following summarizes the measures of effectiveness (MOEs) used in this study:

- Freeway mainline, weaving segments, and merge/diverge junctions: Density (passenger cars/mile/lane) and Level of Service (LOS)
- Intersections: Delay (seconds/vehicle), LOS and 95<sup>th</sup> percentile queues at off-ramp approaches

## 2046 No-Build Freeway Analysis

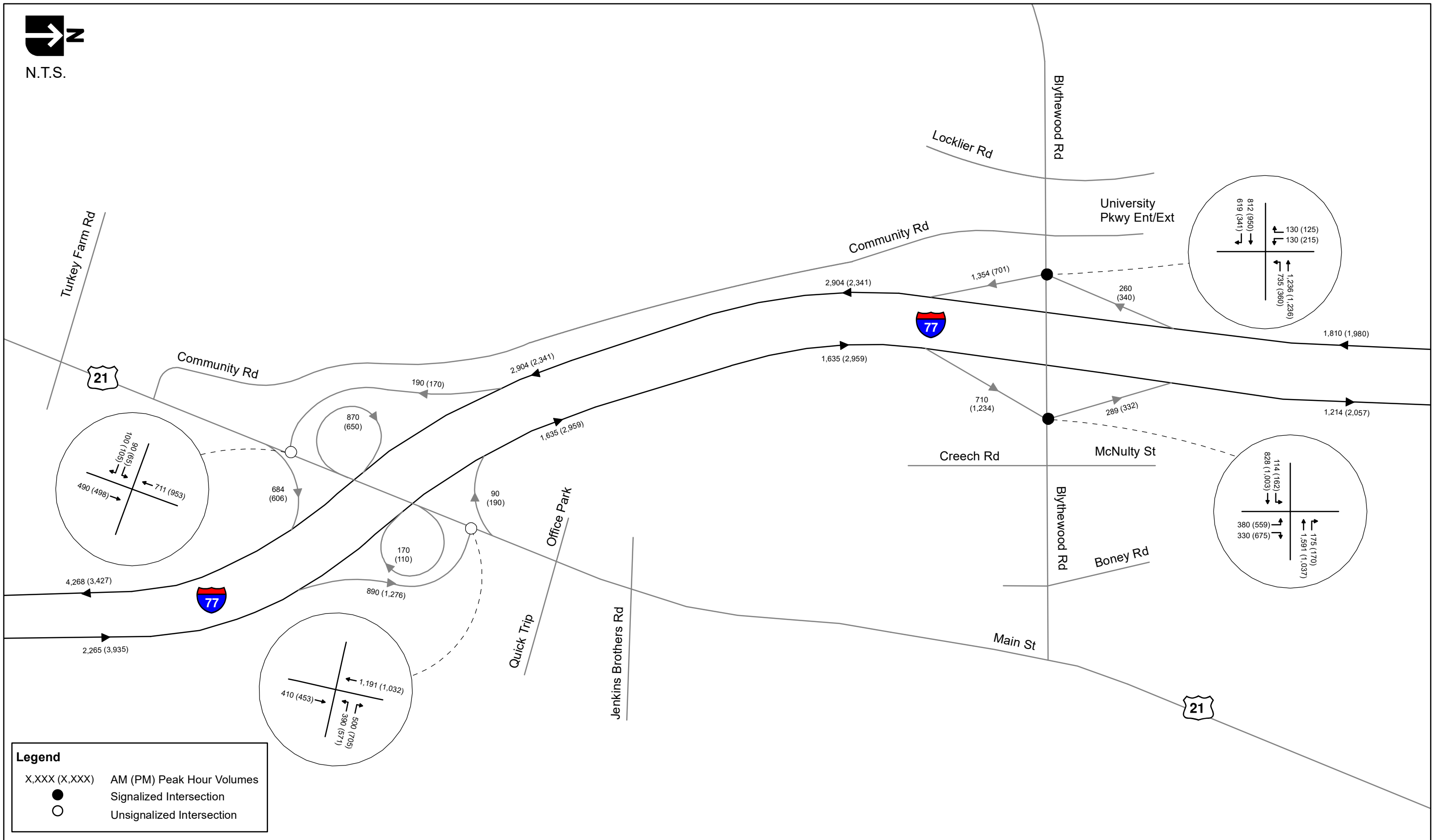
The No-Build operational conditions on the I-77 mainline and ramp junctions were assessed using the HCS 7 freeway facilities module. Under the 2046 No-Build conditions, the I-77 mainline and ramps maintain the same geometric configuration as the Existing Conditions. The results of the No-Build HCS analysis are summarized in **Table 3**. The HCS analysis output is provided in **Attachment D**.

In the northbound direction, the following segments are expected to operate at LOS E or F in the Design Year 2046, the remaining segments are expected to operate at LOS D or better.

- Northbound off-ramp to US 21 – Shift 1 Peak and Shift 2 Peak
- Northbound off-ramp to Blythewood Road – Typical PM Peak

In the southbound direction, the following segment is expected to operate at LOS E in the Design Year 2046, the remaining segments are expected to operate at LOS D or better.

- I-77 Southbound south of US 21 – Typical AM Peak



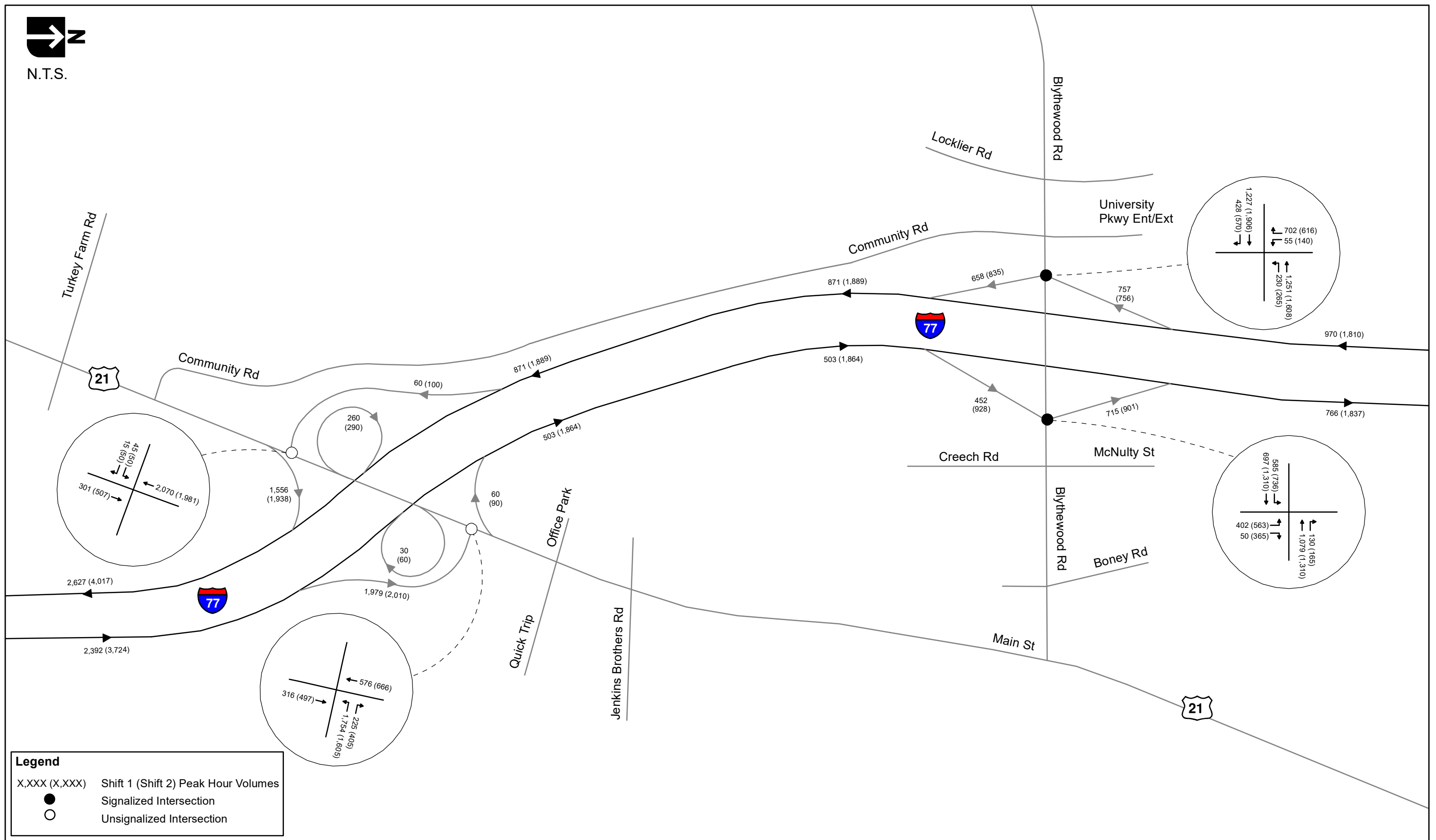


Table 3 2046 No-Build Freeway Analysis Summary

| I-77 Segment   | Type    |          | AM Peak                     |  |                                    |     | PM Peak                     |  |                                    |     | Shift 1                     |  |                                    |     | Shift 2                     |  |                                    |     |
|--|---------|----------|-----------------------------|--|------------------------------------|-----|-----------------------------|--|------------------------------------|-----|-----------------------------|--|------------------------------------|-----|-----------------------------|--|------------------------------------|-----|
|  | Coded   | Analyzed | Mainline/<br>Ramp<br>Volume | Average<br>Speed<br>(mph) <sup>1</sup> | Density <sup>2</sup><br>(pc/mi/ln) | LOS | Mainline/<br>Ramp<br>Volume | Average<br>Speed<br>(mph) <sup>1</sup> | Density <sup>2</sup><br>(pc/mi/ln) | LOS | Mainline/<br>Ramp<br>Volume | Average<br>Speed<br>(mph) <sup>1</sup> | Density <sup>2</sup><br>(pc/mi/ln) | LOS | Mainline/<br>Ramp<br>Volume | Average<br>Speed<br>(mph) <sup>1</sup> | Density <sup>2</sup><br>(pc/mi/ln) | LOS |
| <b>I-77 Northbound</b>                               |         |          |                             |  |                                    |     |                             |  |                                    |     |                             |  |                                    |     |                             |  |                                    |     |
| South of US 21                                       | Basic   | Basic    | 2265                        | 75                                     | 14                                 | B   | 3935                        | 68.4                                   | 25.9                               | C   | 2392                        | 74.1                                   | 17.3                               | B   | 3724                        | 68.4                                   | 25.9                               | C   |
| US 21 Off-Ramp                                       | Diverge | Diverge  | 890                         | 66.0/ 62.0                             | 15.9/ 22.7                         | C   | 1276                        | 65.4/ 60.5                             | 27.1/ 33.6                         | D   | 1979                        | 61.3/ 58.2                             | 20.9/ 29.6                         | F   | 2010                        | 62.0/ 57.5                             | 28.6/ 36.5                         | F   |
| From US 21 Off-Ramp to NB US 21 On-Ramp              | Basic   | Basic    | 1375                        | 74.3                                   | 8.5                                | A   | 2659                        | 74.2                                   | 16.9                               | B   | 413                         | 73.9                                   | 6.6                                | A   | 1714                        | 73.9                                   | 12.1                               | B   |
| NB US 21 On-Ramp                                     | Merge   | Merge    | 170                         | 68.1/ 65.2                             | 10.3/ 11.0                         | B   | 110                         | 66.9/ 64.3                             | 19.4/ 19.2                         | B   | 30                          | 68.8/ 65.4                             | 7.4/ 7.8                           | A   | 60                          | 67.9/ 65.0                             | 13.8/ 13.9                         | B   |
| From NB US 21 On-Ramp to SB US 21 On-Ramp            | Basic   | Basic    | 1545                        | 73.9                                   | 9.5                                | A   | 2769                        | 73.7                                   | 17.6                               | B   | 443                         | 74                                     | 6.7                                | A   | 1774                        | 73.9                                   | 12.5                               | B   |
| SB US 21 On-Ramp                                     | Merge   | Merge    | 90                          | 68.8/ 66.1                             | 11.0/ 11.8                         | B   | 190                         | 67.2/ 64.9                             | 20.5/ 20.8                         | C   | 60                          | 69.2/ 66.3                             | 7.7/ 8.6                           | A   | 90                          | 68.3/ 65.8                             | 14.3/ 14.9                         | B   |
| From US 21 to Blythewood Rd (3 lanes)                | Basic   | Basic    | 1635                        | 74.9                                   | 10.1                               | A   | 2959                        | 73.4                                   | 18.8                               | C   | 503                         | 74.9                                   | 7.1                                | A   | 1864                        | 74.9                                   | 13.1                               | B   |
| From US 21 to Blythewood Rd (2 lanes)                | Basic   | Basic    | 1635                        | 74.8                                   | 15.2                               | B   | 2959                        | 62.4                                   | 33.1                               | D   | 503                         | 75                                     | 10.7                               | A   | 1864                        | 72.6                                   | 20.2                               | C   |
| Blythewood Rd Off-Ramp                               | Diverge | Diverge  | 710                         | 62.6/ 62.6                             | 18.1/ 22.1                         | C   | 1234                        | 60.8/ 60.8                             | 34.0/ 38.1                         | E   | 452                         | 63.4/ 63.4                             | 12.7/ 16.4                         | B   | 928                         | 61.6/ 61.6                             | 23.8/ 27.8                         | C   |
| From Blythewood Rd Off-Ramp to Blythewood Rd On-Ramp | Basic   | Basic    | 925                         | 74.8                                   | 8.6                                | A   | 1725                        | 73.8                                   | 18                                 | B   | 51                          | 74.8                                   | 6.6                                | A   | 936                         | 74.7                                   | 11.7                               | B   |
| Blythewood Rd On-Ramp                                | Merge   | Merge    | 289                         | 66.0/ 66.0                             | 12.3/ 13.4                         | B   | 332                         | 63.9/ 63.9                             | 23.8/ 24.5                         | C   | 715                         | 65.7/ 65.7                             | 14.8/ 15.6                         | B   | 901                         | 64.3/ 64.3                             | 22.3/ 22.8                         | C   |
| North of Blythewood Rd                               | Basic   | Basic    | 1214                        | 75                                     | 11.2                               | B   | 2057                        | 72                                     | 21.1                               | C   | 766                         | 75                                     | 12.9                               | B   | 1837                        | 72.9                                   | 19.7                               | C   |
| <b>I-77 Southbound</b>                               |         |          |                             |  |                                    |     |                             |  |                                    |     |                             |  |                                    |     |                             |  |                                    |     |
| North of Blythewood Rd                               | Basic   | Basic    | 1810                        | 74.6                                   | 16                                 | B   | 1980                        | 73.8                                   | 18                                 | B   | 970                         | 75                                     | 9.4                                | A   | 1810                        | 74.1                                   | 17.2                               | B   |
| Blythewood Rd Off-Ramp                               | Diverge | Diverge  | 260                         | 64.1/ 64.1                             | 18.7/ 23.3                         | C   | 340                         | 63.9/ 63.9                             | 20.8/ 25.6                         | C   | 757                         | 62.4/ 62.4                             | 11.3/ 14.9                         | B   | 756                         | 62.3/ 62.3                             | 20.5/ 24.7                         | C   |
| From Blythewood Rd Off-Ramp to Blythewood Rd On-Ramp | Basic   | Basic    | 1550                        | 74.8                                   | 13.7                               | B   | 1640                        | 74.8                                   | 14.7                               | B   | 213                         | 74.8                                   | 2.1                                | A   | 1054                        | 74.8                                   | 9.9                                | A   |
| Blythewood Rd On-Ramp                                | Merge   | Merge    | 1354                        | 61.5/ 61.5                             | 29.5/ 29.0                         | D   | 701                         | 63.7/ 63.7                             | 23.8/ 24.7                         | C   | 658                         | 66.0/ 66.0                             | 8.4/ 9.7                           | A   | 835                         | 64.8/ 64.8                             | 19.1/ 20.3                         | C   |
| From Blythewood Rd to US 21                          | Basic   | Basic    | 2904                        | 65.6                                   | 29.3                               | D   | 2341                        | 71.4                                   | 22                                 | C   | 871                         | 75                                     | 8.5                                | A   | 1889                        | 73.8                                   | 18.1                               | C   |
| US 21 Off-Ramp                                       | Diverge | Diverge  | 190                         | 64.4/ 64.4                             | 29.8/ 34.9                         | D   | 170                         | 64.5/ 64.5                             | 24.4/ 28.9                         | D   | 60                          | 64.9/ 64.9                             | 9.8/ 12.7                          | B   | 100                         | 64.8/ 64.8                             | 20.6/ 24.8                         | C   |
| From US 21 Off-Ramp to SB US 21 On-Ramp              | Basic   | Basic    | 2714                        | 68                                     | 26.4                               | D   | 2171                        | 72.7                                   | 20.1                               | C   | 811                         | 74.2                                   | 7.9                                | A   | 1789                        | 74.2                                   | 17                                 | B   |
| SB US 21 On-Ramp                                     | Merge   | Basic    | 870                         | 71.7/ 71.7                             | 21.6/ 21.6                         | C   | 650                         | 74.4/ 74.4                             | 16.6/ 16.6                         | B   | 260                         | 74.9/ 75.0                             | 6.8/ 6.8                           | A   | 290                         | 74.9/ 75.0                             | 13.0/ 13.0                         | B   |
| From SB US 21 On-Ramp to NB US 21 On-Ramp            | Basic   | Basic    | 3584                        | 71.3                                   | 22.2                               | C   | 2821                        | 74.2                                   | 17                                 | B   | 1071                        | 75                                     | 6.9                                | A   | 2079                        | 75                                     | 13                                 | B   |
| NB US 21 On-Ramp                                     | Merge   | Merge    | 684                         | 64.2/ 61.5                             | 28.7/ 29.4                         | D   | 606                         | 66.2/ 63.8                             | 22.7/ 24.4                         | C   | 1556                        | 66.0/ 64.3                             | 17.1/ 22.2                         | C   | 1938                        | 62.0/ 59.4                             | 27.8/ 31.6                         | D   |
| South of US 21                                       | Basic   | Basic    | 4268                        | 59.1                                   | 37.2                               | E   | 3427                        | 69.4                                   | 24.7                               | C   | 2627                        | 72.4                                   | 20.6                               | C   | 4017                        | 61.8                                   | 33.9                               | D   |

<sup>1</sup>Ramp Junction Speed/Ramp Influence Area Speed

<sup>2</sup>Average Freeway Density/Ramp Influence Area Density



## 2046 No-Build Intersection Analysis

Synchro 11 was used to assess the ramp terminal intersections under the Design Year 2046 No-Build conditions. The No-Build roadway network includes all planned and programmed roadway improvements within the project study area. The only roadway improvement within the project study area is the on-going widening of Blythewood Road from Syrup Mill Road to I-77 from 2/3 lanes to a 5-lane cross section which was incorporated into the No-Build analysis. In the Design Year, the ramp terminal intersections maintain their existing control strategy and lane configuration. **Table 4** summarizes the 2046 No-Build intersection analysis results. For signalized intersections, the overall intersection delay and LOS is reported. For unsignalized intersections, the highest stop-controlled delay and LOS are reported for the intersection. The results of the analysis indicate the existing ramp terminal intersections are expected to fail under future conditions traffic demand. The Synchro analysis output is provided in **Attachment E**.

Table 4 2046 No-Build Intersection Analysis Summary

| Intersection               | AM Peak         |     | PM Peak         |     | Shift 1         |     | Shift 2         |     |
|----------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|
|                            | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| US 21 at I-77 SB           | 22.3            | C   | 32.8            | D   | 337.8           | F   | 304.5           | F   |
| US 21 at I-77 NB           | 227.9           | F   | 442.2           | F   | 1,395.6         | F   | 1,688.3         | F   |
| Blythewood Road at I-77 SB | 89.6            | F   | 70.1            | E   | 279.4           | F   | 462.9           | F   |
| Blythewood Road at I-77 NB | 152.8           | F   | 156.7           | F   | 486.8           | F   | 624.1           | F   |

In addition to intersection delay and LOS, the 95th percentile queues for the I-77 off-ramp approaches were estimated using SimTraffic to determine whether queueing would impact I-77 mainline operations under the 2046 No-Build conditions. The 95th percentile queues were determined based on an average of five runs using the default seeding time of three minutes and a one-hour simulation duration. **Table 5** summarizes the off-ramp queue lengths in comparison to the actual ramp lengths. As shown in the table, three of the four off-ramps within the study area are expected to experience queues which impact I-77 mainline traffic under the 2046 No-Build conditions. This is consistent with the intersection analysis results indicating that the ramp terminals will fail under the No-Build conditions.

Table 5 2046 No-Build Off-Ramp Queue Summary

| Intersection                      | Movement         | Sim Traffic 95 <sup>th</sup> Percentile Queue (ft) |              |              |              | Ramp Length (ft) <sup>1</sup> |
|-----------------------------------|------------------|--|--------------|--------------|--------------|-------------------------------|
|                                   |                  | AM Peak  | PM Peak      | Shift 1      | Shift 2      |                               |
| US 21 at I-77 SB Off-Ramp         | EBL              | 112  | 120          | 83           | 89           | 2,300                         |
|                                   | EBR <sup>2</sup> | 0  | 0            | 0            | 0            |                               |
| US 21 at I-77 NB Off-Ramp         | WBL              | <b>3,007</b>                                       | <b>2,679</b> | <b>2,362</b> | <b>2,360</b> | 2,200                         |
|                                   | WBR              | 315  | 312          | 329          | 326          |                               |
| Blythewood Rd at I-77 SB Off-Ramp | SBL              | 500  | 617          | <b>2,281</b> | <b>2,395</b> | 1,600                         |
|                                   | SBR              | 242  | 373          | 402          | 418          |                               |
| Blythewood Rd at I-77 NB Off-Ramp | NBL              | 514  | 501          | 420          | 412          | 1,600                         |
|                                   | NBR              | <b>2,096</b>                                       | <b>1,954</b> | 399          | <b>2,104</b> |                               |

<sup>1</sup>Ramp length was measured from the stop bar to the painted gore.

<sup>2</sup>Ramp movement is free-flow with a dedicated receiving lane

## Conclusion

This memorandum documented the volume development and analysis for the Design Year 2046 No-Build conditions to evaluate the need for a new interchange at Exit 26 on I-77 in Richland County, South Carolina. As shown in this memorandum, the existing interchanges of I-77 at US 21 and Blythewood Road are not capable of handling the future conditions traffic demand including the proposed development of a large-scale manufacturing facility that is expected to add approximately 38,000 vehicles per day to the study area in addition to the background traffic growth expected in the study area. Without a new interchange at Exit 26, the I-77 mainline is expected to experience deficiencies at the northbound off-ramps to US 21 and Blythewood Road and the I-77 southbound mainline segment south of US 21. Additionally, the ramp terminal intersections at the existing interchanges are expected to operate at LOS F for one or more of the analysis peaks. These intersection failures result in off-ramp queueing which is expected to impact I-77 mainline operations for three of the four off-ramps during multiple analysis hours. The analysis results presented in this memorandum indicate the need for a new interchange at Exit 26 to accommodate the future traffic demand for the proposed manufacturing development.

**Attachment A:**  
**Daily Trip Generation Memorandum**

**MEMORANDUM**

DATE: JUNE 21, 2023

TO: ALISON BUSCH, PE – THOMAS &amp; HUTTON

CC: MICHAEL DENNIS, PE - RAMEY KEMP ASSOCIATES

FROM: JEFF INGHAM, PE, PTOE, RSP2I - RAMEY KEMP ASSOCIATES

REFERENCE: SCOUT PLANT DAILY TRIP GENERATION

The daily trip generation potential of the Scout factory and Scout-related industrial development was developed based upon information provided by Scout. This trip generation estimate is based on the most recent land plan provided and *does not include development on the east side of Interstate 77*.

All estimates are based on information presented in the 5/30/23 trip generation memo. The plant is assumed to generate 2,880 entering and 2,880 exiting vehicles during each shift change.

It was previously agreed upon that the peak commute hours (7-8AM, 5-6PM) would represent 10% of the peak shift hours (shown in red). As a further assumption, the other off-peak hours are assumed to reflect 5% of the shift peaks. An assumed hourly breakdown is as follows.

| AM | Time | Scout Plant | Related industrial |
|----|------|-------------|--------------------|
|    | 12   | 288         | 112                |
|    | 1    | 288         | 112                |
|    | 2    | 288         | 112                |
|    | 3    | 288         | 112                |
|    | 4    | 288         | 112                |
|    | 5    | 5760        | 2248               |
|    | 6    | 288         | 112                |
|    | 7    | 576         | 225                |
|    | 8    | 288         | 112                |
|    | 9    | 288         | 112                |
|    | 10   | 288         | 112                |
|    | 11   | 288         | 112                |
| Pm | 12   | 288         | 112                |
|    | 1    | 5760        | 2419               |
|    | 2    | 288         | 121                |
|    | 3    | 288         | 121                |
|    | 4    | 288         | 121                |
|    | 5    | 576         | 242                |

|                          |        |       |
|--------------------------|--------|-------|
| 6                        | 288    | 121   |
| 7                        | 288    | 121   |
| 8                        | 288    | 121   |
| 9                        | 5760   | 2248  |
| 10                       | 288    | 112   |
| 11                       | 288    | 112   |
| Total passenger vehicles | 23,904 | 9,569 |

Total Trucks 1,400 per shift

The total daily passenger vehicle estimate using the assumptions above is 33,473 vehicles. The total truck number is assumed to be 4,200 vehicles (700 entering and 700 exiting for each of the 3 shifts). The total vehicle estimate is 37,673 vehicles.

Summary

Based on information from Scout and the assumptions noted above, a daily trip estimate for the Scout site west of I-77 could be approximated at **38,000 vehicles**.

Please contact me if you would like to discuss or amend any of the noted assumptions.

Sincerely,

*Ramey Kemp Associates*



Jeff Ingham, P.E., PTOE, RSP2I  
South Carolina Director  
843-819-0270  
jingham@rameykemp.com

**Attachment B:**  
**Peak Period Trip Generation Memorandum**

**MEMORANDUM**

DATE: MAY 30, 2023

TO: ALISON BUSCH, PE – THOMAS &amp; HUTTON

CC: MICHAEL DENNIS, PE - RAMEY KEMP ASSOCIATES

FROM: JEFF INGHAM, PE, PTOE, RSP2I - RAMEY KEMP ASSOCIATES

REFERENCE: SCOUT PLANT TRIP GENERATION – UPDATED 5-30-23

The trip generation potential of the Scout factory and Scout-related industrial development was developed based upon more recent information provided by Scout.

This trip generation estimate is based on the most recent land plan provided and *does not include development on the east side of Interstate 77.*

**Scout Manufacturing**

The following table was provided by Scout as a representation of *Phase 1*. The numbers represent trips associated with the Scout employees and all associated truck movements (Scout and Scout-related Industrial Support). *Phase 2* is anticipated to represent a doubling of the initial phase.

|           | Shift 1<br>5:45 AM - 2 PM |          | Shift 2<br>1:45 PM - 10 PM |          | Shift 3<br>9:45 PM - 6 AM |          |
|-----------|---------------------------|----------|----------------------------|----------|---------------------------|----------|
|           | Inbound                   | Outbound | Inbound                    | Outbound | Inbound                   | Outbound |
| Passenger | 1,440                     | 1,440    | 1,440                      | 1,440    | 1,440                     | 1,440    |
| Truck     | 350                       | 350      | 350                        | 350      | 350                       | 350      |

As a general assumption, the typical commuter hours are estimated to be 10% of the plant peaks.

**Scout-Related Industrial Development (4,900,000 square feet):**

Based on the current plan, approximately 4,900,000 square feet of support facilities are planned on the west side of I-77 adjacent to the Scout Manufacturing site. A ratio of 1.0 employees per 1,000 square feet of industrial development was utilized for the Scout-related industrial development, for a total of approximately 4,900 employees.

The trip generation for the related uses was estimated based on ITE rates for the peak hour of the generator. Based on updated information from Scout, it will be assumed that the peak periods for the Scout-related Industrial Development will correspond with the shift times for the main plant. The peak “shift” volumes are based on the ITE rates, but assumed to occur during the shift changes. As a conservative assumption, all of the related development is assumed to be constructed as part of

Phase 1. As with the main plant traffic, the typical commuter hours are estimated to be 10% of the plant peaks.

**Trucks**

The truck estimates provided by Scout are intended to represent the total number of trucks throughout each shift. Roughly 700 trucks (Phases 1 and 2) will arrive and depart during each shift but will be spread out throughout the 8-hour period. **As a general assumption, 100 trucks are assumed to arrive and depart during each of the peak hours evaluated.**

**Summary**

As noted, Phase 1 includes half of the ultimate Scout Plant traffic and trucks. All of the related industrial facilities are assumed to be built in Phase 1. The table below shows the updated trip estimates **Phase 1**.

|                                 | 5:30AM-6:30AM<br>Shift peak |              | 7AM-8AM<br>Typical peak |            | 1:30PM-2:30PM<br>Shift peak |              | 5PM-6PM<br>Typical peak |            |
|---------------------------------|-----------------------------|--------------|-------------------------|------------|-----------------------------|--------------|-------------------------|------------|
|                                 | Enter                       | Exit         | Enter                   | Exit       | Enter                       | Exit         | Enter                   | Exit       |
| Scout                           | 1,440                       | 1,440        | 144*                    | 144*       | 1,440                       | 1,440        | 144*                    | 144*       |
| Employees of related Industrial | 1,465                       | 783          | 147*                    | 78*        | 793                         | 1,626        | 79*                     | 163*       |
| Trucks                          | 50                          | 50           | 50                      | 50         | 50                          | 50           | 50                      | 50         |
| <b>Totals</b>                   | <b>2,955</b>                | <b>2,273</b> | <b>341</b>              | <b>272</b> | <b>2,283</b>                | <b>3,116</b> | <b>273</b>              | <b>357</b> |

\*Assumed as 10% of highest peak

The table below shows the updated trip estimates for the build out of **Phases 1 and 2** of the Scout plant and Scout related facilities.

|                                 | 5:30AM-6:30AM<br>Shift peak |              | 7AM-8AM<br>Typical peak |            | 1:30PM-2:30PM<br>Shift peak |              | 5PM-6PM<br>Typical peak |            |
|---------------------------------|-----------------------------|--------------|-------------------------|------------|-----------------------------|--------------|-------------------------|------------|
|                                 | Enter                       | Exit         | Enter                   | Exit       | Enter                       | Exit         | Enter                   | Exit       |
| Scout                           | 2,880                       | 2,880        | 288*                    | 288*       | 2,880                       | 2,880        | 288*                    | 288*       |
| Employees of related Industrial | 1,465                       | 783          | 147*                    | 78*        | 793                         | 1,626        | 79*                     | 163*       |
| Trucks                          | 100                         | 100          | 100                     | 100        | 100                         | 100          | 100                     | 100        |
| <b>Totals</b>                   | <b>4,445</b>                | <b>3,763</b> | <b>535</b>              | <b>466</b> | <b>3,773</b>                | <b>4,606</b> | <b>467</b>              | <b>551</b> |

\*Assumed as 10% of highest peak



The trips shown in this memorandum are based on the most recent information provided by Scout and the noted assumptions. It is understood that the IJR/IMR may evaluate multiple time periods and may include additional areas east of I-77 to accommodate FHWA regulations. RKA's analysis will include the areas west of I-77 and will focus on the typical commuter peak periods.

Please contact me if you would like to discuss or amend any of the assumptions as we move forward.

Sincerely,

*Ramey Kemp Associates*



Jeff Ingham, P.E., PTOE, RSP2I

South Carolina Director

843-819-0270

jingham@rameykemp.com

**Attachment C:  
Trip Distribution Memorandum**

## MEMORANDUM

DATE: MAY 30, 2023

TO: ALLISON BUSCH, PE – THOMAS &amp; HUTTON

CC: JEFF INGHAM, PE, PTOE, RSP2I - RAMEY KEMP ASSOCIATES

FROM: MICHAEL DENNIS, PE - RAMEY KEMP ASSOCIATES

REFERENCE: SCOUT PLANT TRIP DISTRIBUTION - REVISED

The original draft distributions were based on the existing COATS Model, the recent counts taken, and engineering judgement. The revised external trip distribution potential of the Scout factory and Scout-related industrial development was developed as a result of consultation with SCDOT's consultant RS&H after reviewing RKA's original distributions for the project. RKA's original distributions were amended slightly at several locations and further broken down in others. However, in general, both sets of external distributions were very similar. It is noted that the model distribution does not take into account any plant buildup on the eastern side of I-77, or account how vacant land to the west and north/northeast of the plant may develop.

Draft Vehicle Distribution

The internal and turn movement distributions were developed using the updated trip generation memo (RKA-May 10, 2023) which has a trip generation split of 60%/40% (Scout vs Scout-related industries). These distributions were also developed using the COATS Model, the recent counts taken, and engineering judgement. Where needed, intersection distributions have been included to clarify any questions that may arise.

Draft Truck Distribution

The external and internal truck distribution for the Scout plant was based on information provided by Scout (attached). It was assumed that the majority of the truck traffic would use I-77. It was also assumed that the proportionate distribution used for I-77 vehicle distributions would apply for truck traffic as well.

The draft distribution schematics are attached.

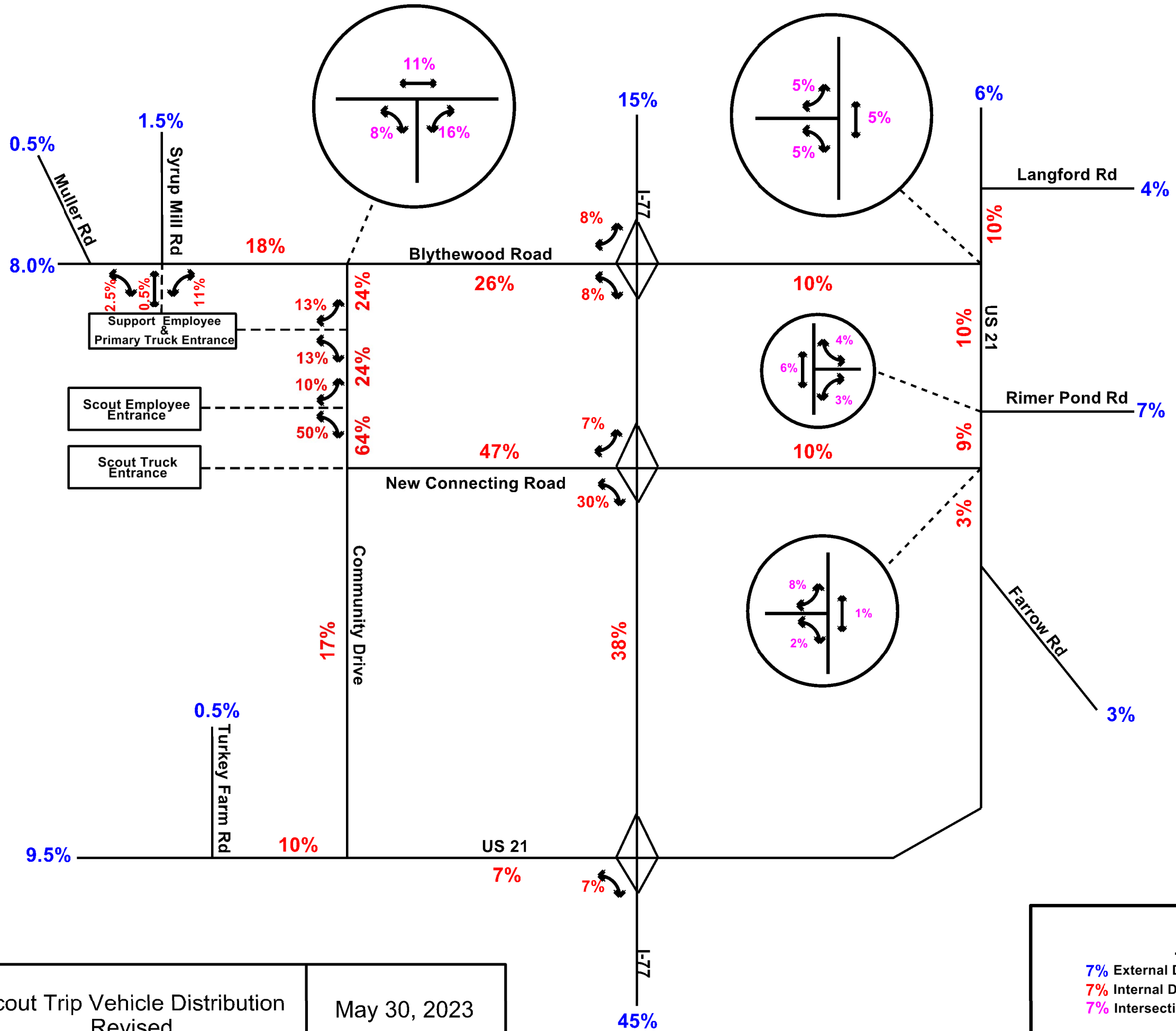
Sincerely,  
Ramey Kemp Associates



Michael A. Dennis, P.E.  
South Carolina Public Traffic Lead

[mdennis@rameykemp.com](mailto:mdennis@rameykemp.com)

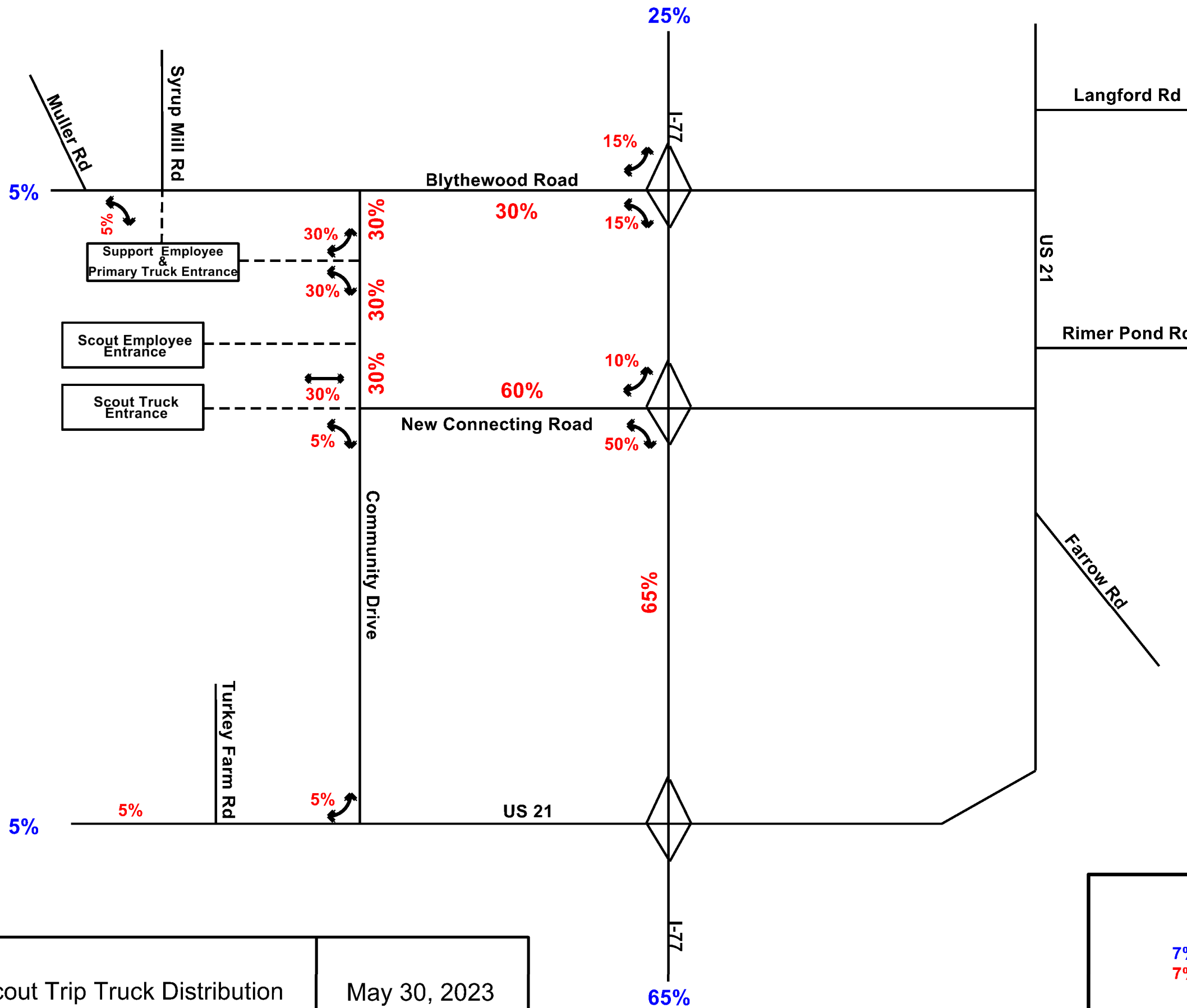
Gervais Street, Suite 150  
Columbia, South Carolina 29201  
Phone: (803) 234-6821.



**LEGEND**

- 7% External Distribution Percentages
- 7% Internal Distribution Percentages
- 7% Intersection Distribution Percentages

NTS



**LEGEND**

7% External Distribution Percentages  
7% Internal Distribution Percentages

NTS

**Attachment D:  
2046 No-Build HCS Analysis**

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                          |
|------------------------|---|-------------------------|--------------------------|
| Segment Number         | 5 | Segment Name            | Btw Killian Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 7200     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2265  | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1049  |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.44  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 14.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                 |
|------------------------|---|-------------------------|-----------------|
| Segment Number         | 6 | Segment Name            | NB Off to US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 220                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 2265  | 890   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 25.00 | 7.00  |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.800 | 0.935 |
| Flow Rate (vi), pc/h                   | 3146  | 1058  |
| Capacity (cmd), pc/h                   | 7200  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 7200  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.44  | 0.50  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 3812.6 | Flow Outer Lanes (VOA), pc/h/ln               | 766  |
| Downstream Equilibrium Distance (LEQ), ft  | -      | Off-Ramp Influence Area Speed (SR), mi/h      | 62.0 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2380   | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -      | Ramp Junction Speed (S), mi/h                 | 66.0 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 15.9 |
| Level of Service (LOS)                     | C      | Density in Ramp Influence Area (DR), pc/mi/ln | 22.7 |



# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 7 | Segment Name            | Btw US 21 NB Off and US 21 NB On |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1585     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1375  | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 637   |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.27  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.3 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 8.5  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                     |
|------------------------|---|-------------------------|---------------------|
| Segment Number         | 8 | Segment Name            | NB On from NB US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 785                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1375  | 170   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 25.00 | 3.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.800 | 0.971 |
| Flow Rate (vi), pc/h                  | 1910  | 195   |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.29  | 0.10  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 0.0  | Flow Outer Lanes (vOA), pc/h/ln               | 766  |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 65.2 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1144 | Outer Lanes Freeway Speed (SO), mi/h          | 74.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1339 | Ramp Junction Speed (S), mi/h                 | 68.1 |
| Number of Outer Lanes on Freeway (NO), ln  | 1    | Average Density (D), pc/mi/ln                 | 10.3 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 11.0 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 9 | Segment Name            | Btw NB US 21 on and SB US 21 On |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 750      | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1545  | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 715   |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.30  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 9.5  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 10 | Segment Name            | NB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 745                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1545  | 90    |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 25.00 | 24.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.800 | 0.806 |
| Flow Rate (vi), pc/h                  | 2146  | 124   |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.32  | 0.06  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 863  |
| Downstream Equilibrium Distance (LEQ), ft  | 4585.0 | On-Ramp Influence Area Speed (SR), mi/h       | 66.1 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1283   | Outer Lanes Freeway Speed (SO), mi/h          | 73.7 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1407   | Ramp Junction Speed (S), mi/h                 | 68.8 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 11.0 |
| Level of Service (LOS)                     | B      | Density in Ramp Influence Area (DR), pc/mi/ln | 11.8 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3300     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1635  | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 757   |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.32  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 10.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 12 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6580     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1635  | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1136  |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.47  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 15.2 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                         |
|------------------------|----|-------------------------|-------------------------|
| Segment Number         | 13 | Segment Name            | NB Off to Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 190                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 1635  | 710   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 25.00 | 10.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.800 | 0.909 |
| Flow Rate (vi), pc/h                   | 2271  | 868   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.47  | 0.41  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 62.6 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2271 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 62.6 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 18.1 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 22.1 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                 |
|------------------------|----|-------------------------|---------------------------------|
| Segment Number         | 14 | Segment Name            | Btw Blythewood NB Off and NB On |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3380     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 925   | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 642   |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.27  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 8.6  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | NB On from Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15              |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 740                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 925   | 289   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 25.00 | 5.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.800 | 0.952 |
| Flow Rate (vi), pc/h                  | 1285  | 337   |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.34  | 0.16  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 66.0 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1285 | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1622 | Ramp Junction Speed (S), mi/h                 | 66.0 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 12.3 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 13.4 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                  |
|------------------------|----|-------------------------|----------------------------------|
| Segment Number         | 16 | Segment Name            | Btw Blythewood Rd and E Peach Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19090    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1214  | Heavy Vehicle Adjustment Factor (fHV)     | 0.800 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 843   |
| Total Trucks, %               | 25.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.35  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 11.2 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 5 | Segment Name            | Btw E Peach Rd and Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19290    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1810  | Heavy Vehicle Adjustment Factor (fHV)     | 0.840 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1197  |
| Total Trucks, %               | 19.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.50  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.6 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 16.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                         |
|------------------------|---|-------------------------|-------------------------|
| Segment Number         | 6 | Segment Name            | SB Off to Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 170                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 1810  | 260   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 19.00 | 18.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.840 | 0.847 |
| Flow Rate (vi), pc/h                   | 2394  | 341   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.50  | 0.16  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 64.1 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2394 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 64.1 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 18.7 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 23.3 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 7 | Segment Name            | Btw Blythewood SB Off and SB On |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3645     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.50  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1550  | Heavy Vehicle Adjustment Factor (fHV)     | 0.840 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1025  |
| Total Trucks, %               | 19.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.43  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 13.7 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                       |
|------------------------|---|-------------------------|-----------------------|
| Segment Number         | 8 | Segment Name            | SB On from Blythewood |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15           |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 660                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1550  | 1354  |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 19.00 | 5.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.840 | 0.952 |
| Flow Rate (vi), pc/h                  | 2050  | 1580  |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.76  | 0.75  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 61.5 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2050 | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 3630 | Ramp Junction Speed (S), mi/h                 | 61.5 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 29.5 |
| Level of Service (LOS)                     | D    | Density in Ramp Influence Area (DR), pc/mi/ln | 29.0 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                             |
|------------------------|---|-------------------------|-----------------------------|
| Segment Number         | 9 | Segment Name            | Btw Blythewood Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 07:00-07:15                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 9920     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2904  | Heavy Vehicle Adjustment Factor (fHV)     | 0.840 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1920  |
| Total Trucks, %               | 19.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.80  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 65.6 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 29.3 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | D    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                 |
|------------------------|----|-------------------------|-----------------|
| Segment Number         | 10 | Segment Name            | SB Off to US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 270                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 2904  | 190   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 19.00 | 13.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.840 | 0.885 |
| Flow Rate (vi), pc/h                   | 3841  | 239   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.80  | 0.11  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 64.4 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 3841 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 64.4 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 29.8 |
| Level of Service (LOS)                     | D    | Density in Ramp Influence Area (DR), pc/mi/ln | 34.9 |



# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                       |
|------------------------|----|-------------------------|---------------------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 SB Off and On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15                           |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1569     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2714  | Heavy Vehicle Adjustment Factor (fHV)     | 0.840 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1795  |
| Total Trucks, %               | 19.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.75  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 68.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 26.4 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | D    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 12 | Segment Name            | SB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 800                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 2714  | 870   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 19.00 | 9.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.840 | 0.917 |
| Flow Rate (vi), pc/h                  | 3590  | 1054  |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.65  | 0.55  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 9999.0 | Flow Outer Lanes (vOA), pc/h/ln               | 0    |
| Downstream Equilibrium Distance (LEQ), ft  | 9999.0 | On-Ramp Influence Area Speed (SR), mi/h       | 71.7 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 0      | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 0      | Ramp Junction Speed (S), mi/h                 | 71.7 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 21.6 |
| Level of Service (LOS)                     | C      | Density in Ramp Influence Area (DR), pc/mi/ln | 21.6 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |   |
|------------------------|----|-------------------------|---|
| Segment Number         | 13 | Segment Name            | Btw SB on from SB US 21 and SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15                                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1055     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 3584  | Heavy Vehicle Adjustment Factor (fHV)     | 0.840 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1580  |
| Total Trucks, %               | 19.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.66  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 22.2 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 14 | Segment Name            | SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 630                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 3584  | 684   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 19.00 | 4.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.840 | 0.962 |
| Flow Rate (vi), pc/h                  | 4741  | 790   |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.77  | 0.38  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 1920 |
| Downstream Equilibrium Distance (LEQ), ft  | 1847.4 | On-Ramp Influence Area Speed (SR), mi/h       | 61.5 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2821   | Outer Lanes Freeway Speed (SO), mi/h          | 69.9 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 3611   | Ramp Junction Speed (S), mi/h                 | 64.2 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 28.7 |
| Level of Service (LOS)                     | D      | Density in Ramp Influence Area (DR), pc/mi/ln | 29.4 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | Btw US 21 and Killian Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 07:00-07:15              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6900     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 4268  | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 2199  |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.92  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 59.1 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 37.2 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | E    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                          |
|------------------------|---|-------------------------|--------------------------|
| Segment Number         | 5 | Segment Name            | Btw Killian Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 7200     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 3935  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1774  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.74  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 68.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 25.9 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                 |
|------------------------|---|-------------------------|-----------------|
| Segment Number         | 6 | Segment Name            | NB Off to US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 220                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 3935  | 1276  |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 17.00 | 10.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.855 | 0.909 |
| Flow Rate (vi), pc/h                   | 5114  | 1560  |
| Capacity (cmd), pc/h                   | 7200  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 7200  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.74  | 0.74  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 5157.3 | Flow Outer Lanes (VOA), pc/h/ln               | 1674 |
| Downstream Equilibrium Distance (LEQ), ft  | -      | Off-Ramp Influence Area Speed (SR), mi/h      | 60.5 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 3648   | Outer Lanes Freeway Speed (SO), mi/h          | 79.6 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -      | Ramp Junction Speed (S), mi/h                 | 65.4 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 27.1 |
| Level of Service (LOS)                     | D      | Density in Ramp Influence Area (DR), pc/mi/ln | 33.6 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 7 | Segment Name            | Btw US 21 NB Off and US 21 NB On |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1585     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2659  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1254  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.52  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.2 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 16.9 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                     |
|------------------------|---|-------------------------|---------------------|
| Segment Number         | 8 | Segment Name            | NB On from NB US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 785                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 2659  | 110   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 17.00 | 11.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.855 | 0.901 |
| Flow Rate (vi), pc/h                  | 3455  | 136   |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.54  | 0.07  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 87.7 | Flow Outer Lanes (vOA), pc/h/ln               | 1509 |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 64.3 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2253 | Outer Lanes Freeway Speed (SO), mi/h          | 71.4 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 2389 | Ramp Junction Speed (S), mi/h                 | 66.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 1    | Average Density (D), pc/mi/ln                 | 19.4 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 19.2 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 9 | Segment Name            | Btw NB US 21 on and SB US 21 On |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 750      | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2769  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1299  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.54  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.7 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 17.6 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 10 | Segment Name            | NB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 745                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 2769  | 190   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 17.00 | 11.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.855 | 0.901 |
| Flow Rate (vi), pc/h                  | 3598  | 234   |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.57  | 0.11  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 1567 |
| Downstream Equilibrium Distance (LEQ), ft  | 7822.9 | On-Ramp Influence Area Speed (SR), mi/h       | 64.9 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2331   | Outer Lanes Freeway Speed (SO), mi/h          | 71.2 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 2565   | Ramp Junction Speed (S), mi/h                 | 67.2 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 20.5 |
| Level of Service (LOS)                     | C      | Density in Ramp Influence Area (DR), pc/mi/ln | 20.8 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3300     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2959  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1377  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.57  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 18.8 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 12 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6580     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2959  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 2066  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.86  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 62.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 33.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | D    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                         |
|------------------------|----|-------------------------|-------------------------|
| Segment Number         | 13 | Segment Name            | NB Off to Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 190                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 2959  | 1234  |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 17.00 | 8.00  |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.855 | 0.926 |
| Flow Rate (vi), pc/h                   | 3845  | 1481  |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.86  | 0.71  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 60.8 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 4132 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 60.8 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 34.0 |
| Level of Service (LOS)                     | E    | Density in Ramp Influence Area (DR), pc/mi/ln | 38.1 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                 |
|------------------------|----|-------------------------|---------------------------------|
| Segment Number         | 14 | Segment Name            | Btw Blythewood NB Off and NB On |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3380     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1725  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1326  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.55  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 18.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | NB On from Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30              |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 740                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1725  | 332   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 17.00 | 6.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.855 | 0.943 |
| Flow Rate (vi), pc/h                  | 2242  | 391   |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.63  | 0.19  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 63.9 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2651 | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 3042 | Ramp Junction Speed (S), mi/h                 | 63.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 23.8 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 24.5 |



# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                  |
|------------------------|----|-------------------------|----------------------------------|
| Segment Number         | 16 | Segment Name            | Btw Blythewood Rd and E Peach Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19090    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2057  | Heavy Vehicle Adjustment Factor (fHV)     | 0.855 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1521  |
| Total Trucks, %               | 17.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.63  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 72.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 21.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 5 | Segment Name            | Btw E Peach Rd and Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19290    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1980  | Heavy Vehicle Adjustment Factor (fHV)     | 0.826 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1332  |
| Total Trucks, %               | 21.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.55  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 18.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                         |
|------------------------|---|-------------------------|-------------------------|
| Segment Number         | 6 | Segment Name            | SB Off to Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 170                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 1980  | 340   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 21.00 | 14.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.826 | 0.877 |
| Flow Rate (vi), pc/h                   | 2663  | 431   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.55  | 0.21  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 63.9 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2663 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 63.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 20.8 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 25.6 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 7 | Segment Name            | Btw Blythewood SB Off and SB On |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3645     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.50  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1640  | Heavy Vehicle Adjustment Factor (fHV)     | 0.826 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1103  |
| Total Trucks, %               | 21.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.46  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 14.7 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                       |
|------------------------|---|-------------------------|-----------------------|
| Segment Number         | 8 | Segment Name            | SB On from Blythewood |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30           |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 660                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1640  | 701   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 21.00 | 6.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.826 | 0.943 |
| Flow Rate (vi), pc/h                  | 2206  | 826   |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.63  | 0.39  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 63.7 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2206 | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 3032 | Ramp Junction Speed (S), mi/h                 | 63.7 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 23.8 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 24.7 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                             |
|------------------------|---|-------------------------|-----------------------------|
| Segment Number         | 9 | Segment Name            | Btw Blythewood Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 16:15-16:30                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 9920     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2341  | Heavy Vehicle Adjustment Factor (fHV)     | 0.826 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1574  |
| Total Trucks, %               | 21.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.66  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 71.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 22.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                 |
|------------------------|----|-------------------------|-----------------|
| Segment Number         | 10 | Segment Name            | SB Off to US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 270                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 2341  | 170   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 21.00 | 18.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.826 | 0.847 |
| Flow Rate (vi), pc/h                   | 3149  | 223   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.66  | 0.11  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 64.5 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 3149 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 64.5 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 24.4 |
| Level of Service (LOS)                     | D    | Density in Ramp Influence Area (DR), pc/mi/ln | 28.9 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                       |
|------------------------|----|-------------------------|---------------------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 SB Off and On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30                           |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1569     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2171  | Heavy Vehicle Adjustment Factor (fHV)     | 0.826 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1460  |
| Total Trucks, %               | 21.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.61  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 72.7 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 20.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 12 | Segment Name            | SB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 800                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 2171  | 650   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 21.00 | 10.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.826 | 0.909 |
| Flow Rate (vi), pc/h                  | 2920  | 795   |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.52  | 0.42  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 9999.0 | Flow Outer Lanes (vOA), pc/h/ln               | 0    |
| Downstream Equilibrium Distance (LEQ), ft  | 9999.0 | On-Ramp Influence Area Speed (SR), mi/h       | 74.4 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 0      | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 0      | Ramp Junction Speed (S), mi/h                 | 74.4 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 16.6 |
| Level of Service (LOS)                     | B      | Density in Ramp Influence Area (DR), pc/mi/ln | 16.6 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |   |
|------------------------|----|-------------------------|---|
| Segment Number         | 13 | Segment Name            | Btw SB on from SB US 21 and SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30                                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1055     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2821  | Heavy Vehicle Adjustment Factor (fHV)     | 0.826 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1265  |
| Total Trucks, %               | 21.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.53  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.2 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 17.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 14 | Segment Name            | SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 630                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 2821  | 606   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 21.00 | 5.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.826 | 0.952 |
| Flow Rate (vi), pc/h                  | 3795  | 707   |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.63  | 0.34  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 1537 |
| Downstream Equilibrium Distance (LEQ), ft  | 2570.5 | On-Ramp Influence Area Speed (SR), mi/h       | 63.8 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2258   | Outer Lanes Freeway Speed (SO), mi/h          | 71.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 2965   | Ramp Junction Speed (S), mi/h                 | 66.2 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 22.7 |
| Level of Service (LOS)                     | C      | Density in Ramp Influence Area (DR), pc/mi/ln | 24.4 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | Btw US 21 and Killian Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 16:15-16:30              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6900     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 3427  | Heavy Vehicle Adjustment Factor (fHV)     | 0.741 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1713  |
| Total Trucks, %               | 35.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.71  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 69.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 24.7 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                          |
|------------------------|---|-------------------------|--------------------------|
| Segment Number         | 5 | Segment Name            | Btw Killian Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 7200     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2392  | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1279  |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.53  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.1 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 17.3 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                 |
|------------------------|---|-------------------------|-----------------|
| Segment Number         | 6 | Segment Name            | NB Off to US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 220                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 2392  | 1979  |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 39.00 | 7.00  |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.719 | 0.935 |
| Flow Rate (vi), pc/h                   | 3696  | 2352  |
| Capacity (cmd), pc/h                   | 7200  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 7200  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.53  | 1.12  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 0.0  | Flow Outer Lanes (vOA), pc/h/ln               | 659  |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 58.2 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 3178 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 61.3 |
| Number of Outer Lanes on Freeway (NO), ln  | 1    | Average Density (D), pc/mi/ln                 | 20.9 |
| Level of Service (LOS)                     | F    | Density in Ramp Influence Area (DR), pc/mi/ln | 29.6 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 7 | Segment Name            | Btw US 21 NB Off and US 21 NB On |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1585     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 413   | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 495   |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.21  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 6.6  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                     |
|------------------------|---|-------------------------|---------------------|
| Segment Number         | 8 | Segment Name            | NB On from NB US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 785                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 413   | 30    |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 39.00 | 0.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.719 | 1.000 |
| Flow Rate (vi), pc/h                  | 638   | 33    |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.21  | 0.02  |

## Speed and Density

|  |     |   |      |
|--|-----|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 0.0 | Flow Outer Lanes (vOA), pc/h/ln               | 595  |
| Downstream Equilibrium Distance (LEQ), ft  | -   | On-Ramp Influence Area Speed (SR), mi/h       | 65.4 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 890 | Outer Lanes Freeway Speed (SO), mi/h          | 74.7 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 923 | Ramp Junction Speed (S), mi/h                 | 68.8 |
| Number of Outer Lanes on Freeway (NO), ln  | 1   | Average Density (D), pc/mi/ln                 | 7.4  |
| Level of Service (LOS)                     | A   | Density in Ramp Influence Area (DR), pc/mi/ln | 7.8  |



# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 9 | Segment Name            | Btw NB US 21 on and SB US 21 On |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 750      | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 443   | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 506   |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.21  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 6.7  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 10 | Segment Name            | NB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 745                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 443   | 60    |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 39.00 | 35.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.719 | 0.741 |
| Flow Rate (vi), pc/h                  | 685   | 90    |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.22  | 0.04  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 610  |
| Downstream Equilibrium Distance (LEQ), ft  | 3238.0 | On-Ramp Influence Area Speed (SR), mi/h       | 66.3 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 908    | Outer Lanes Freeway Speed (SO), mi/h          | 74.6 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 998    | Ramp Junction Speed (S), mi/h                 | 69.2 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 7.7  |
| Level of Service (LOS)                     | A      | Density in Ramp Influence Area (DR), pc/mi/ln | 8.6  |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3300     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 503   | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 536   |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.22  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 7.1  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 12 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6580     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 503   | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 804   |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.34  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 10.7 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                         |
|------------------------|----|-------------------------|-------------------------|
| Segment Number         | 13 | Segment Name            | NB Off to Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 190                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 503   | 452   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 39.00 | 22.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.719 | 0.820 |
| Flow Rate (vi), pc/h                   | 777   | 612   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.34  | 0.29  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 63.4 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1608 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 63.4 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 12.7 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 16.4 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                 |
|------------------------|----|-------------------------|---------------------------------|
| Segment Number         | 14 | Segment Name            | Btw Blythewood NB Off and NB On |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3380     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 51    | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 498   |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.21  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 6.6  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | NB On from Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45              |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 740                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 51    | 715   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 39.00 | 19.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.719 | 0.840 |
| Flow Rate (vi), pc/h                  | 79    | 946   |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.40  | 0.45  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 65.7 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 996  | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1942 | Ramp Junction Speed (S), mi/h                 | 65.7 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 14.8 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 15.6 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                  |
|------------------------|----|-------------------------|----------------------------------|
| Segment Number         | 16 | Segment Name            | Btw Blythewood Rd and E Peach Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19090    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 766   | Heavy Vehicle Adjustment Factor (fHV)     | 0.719 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 971   |
| Total Trucks, %               | 39.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.40  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 12.9 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 5 | Segment Name            | Btw E Peach Rd and Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19290    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 970   | Heavy Vehicle Adjustment Factor (fHV)     | 0.763 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 706   |
| Total Trucks, %               | 31.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.29  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 9.4  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                         |
|------------------------|---|-------------------------|-------------------------|
| Segment Number         | 6 | Segment Name            | SB Off to Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 170                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 970   | 757   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 31.00 | 10.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.763 | 0.909 |
| Flow Rate (vi), pc/h                   | 1413  | 925   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.29  | 0.44  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 62.4 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1413 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 62.4 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 11.3 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 14.9 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 7 | Segment Name            | Btw Blythewood SB Off and SB On |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3645     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.50  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 213   | Heavy Vehicle Adjustment Factor (fHV)     | 0.763 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 155   |
| Total Trucks, %               | 31.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.06  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 2.1  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                       |
|------------------------|---|-------------------------|-----------------------|
| Segment Number         | 8 | Segment Name            | SB On from Blythewood |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45           |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 660                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 213   | 658   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 31.00 | 10.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.763 | 0.909 |
| Flow Rate (vi), pc/h                  | 310   | 804   |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.23  | 0.38  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 66.0 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 310  | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1114 | Ramp Junction Speed (S), mi/h                 | 66.0 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 8.4  |
| Level of Service (LOS)                     | A    | Density in Ramp Influence Area (DR), pc/mi/ln | 9.7  |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                             |
|------------------------|---|-------------------------|-----------------------------|
| Segment Number         | 9 | Segment Name            | Btw Blythewood Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 05:30-05:45                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 9920     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 871   | Heavy Vehicle Adjustment Factor (fHV)     | 0.763 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 634   |
| Total Trucks, %               | 31.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.26  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 8.5  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                 |
|------------------------|----|-------------------------|-----------------|
| Segment Number         | 10 | Segment Name            | SB Off to US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 270                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 871   | 60    |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 31.00 | 19.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.763 | 0.840 |
| Flow Rate (vi), pc/h                   | 1268  | 79    |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.26  | 0.04  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 64.9 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1268 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 64.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 9.8  |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 12.7 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                       |
|------------------------|----|-------------------------|---------------------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 SB Off and On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45                           |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1569     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 811   | Heavy Vehicle Adjustment Factor (fHV)     | 0.763 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 590   |
| Total Trucks, %               | 31.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.25  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.2 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 7.9  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 12 | Segment Name            | SB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 800                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 811   | 260   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 31.00 | 19.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.763 | 0.840 |
| Flow Rate (vi), pc/h                  | 1181  | 344   |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.21  | 0.18  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 9999.0 | Flow Outer Lanes (vOA), pc/h/ln               | 0    |
| Downstream Equilibrium Distance (LEQ), ft  | 9999.0 | On-Ramp Influence Area Speed (SR), mi/h       | 75.0 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 0      | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 0      | Ramp Junction Speed (S), mi/h                 | 74.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 6.8  |
| Level of Service (LOS)                     | A      | Density in Ramp Influence Area (DR), pc/mi/ln | 6.8  |



# HCS Basic Freeway Report

## Project Information

|                        |    |                         |   |
|------------------------|----|-------------------------|---|
| Segment Number         | 13 | Segment Name            | Btw SB on from SB US 21 and SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45                                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1055     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1071  | Heavy Vehicle Adjustment Factor (fHV)     | 0.763 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 520   |
| Total Trucks, %               | 31.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.22  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 6.9  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 14 | Segment Name            | SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 630                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1071  | 1556  |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 31.00 | 5.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.763 | 0.952 |
| Flow Rate (vi), pc/h                  | 1560  | 1816  |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.47  | 0.86  |

## Speed and Density

|  |       |   |      |
|--|-------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -     | Flow Outer Lanes (vOA), pc/h/ln               | 632  |
| Downstream Equilibrium Distance (LEQ), ft  | 661.0 | On-Ramp Influence Area Speed (SR), mi/h       | 64.3 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 928   | Outer Lanes Freeway Speed (SO), mi/h          | 74.5 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 2744  | Ramp Junction Speed (S), mi/h                 | 66.0 |
| Number of Outer Lanes on Freeway (NO), ln  | 1     | Average Density (D), pc/mi/ln                 | 17.1 |
| Level of Service (LOS)                     | C     | Density in Ramp Influence Area (DR), pc/mi/ln | 22.2 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | Btw US 21 and Killian Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 05:30-05:45              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6900     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2627  | Heavy Vehicle Adjustment Factor (fHV)     | 0.654 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1488  |
| Total Trucks, %               | 53.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.62  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 72.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 20.6 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                          |
|------------------------|---|-------------------------|--------------------------|
| Segment Number         | 5 | Segment Name            | Btw Killian Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 7200     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 3724  | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1775  |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.74  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 68.4 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 25.9 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                 |
|------------------------|---|-------------------------|-----------------|
| Segment Number         | 6 | Segment Name            | NB Off to US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 220                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 3724  | 2010  |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 23.00 | 16.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.813 | 0.862 |
| Flow Rate (vi), pc/h                   | 5090  | 2591  |
| Capacity (cmd), pc/h                   | 7200  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 7200  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.74  | 1.23  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 0.0  | Flow Outer Lanes (vOA), pc/h/ln               | 1345 |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 57.5 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 3979 | Outer Lanes Freeway Speed (SO), mi/h          | 80.9 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 62.0 |
| Number of Outer Lanes on Freeway (NO), ln  | 1    | Average Density (D), pc/mi/ln                 | 28.6 |
| Level of Service (LOS)                     | F    | Density in Ramp Influence Area (DR), pc/mi/ln | 36.5 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 7 | Segment Name            | Btw US 21 NB Off and US 21 NB On |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1585     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1714  | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 911   |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.38  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 12.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                     |
|------------------------|---|-------------------------|---------------------|
| Segment Number         | 8 | Segment Name            | NB On from NB US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 785                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1714  | 60    |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 23.00 | 6.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.813 | 0.943 |
| Flow Rate (vi), pc/h                  | 2342  | 71    |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.39  | 0.04  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 0.0  | Flow Outer Lanes (vOA), pc/h/ln               | 1096 |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 65.0 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1637 | Outer Lanes Freeway Speed (SO), mi/h          | 72.9 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1708 | Ramp Junction Speed (S), mi/h                 | 67.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 1    | Average Density (D), pc/mi/ln                 | 13.8 |
| Level of Service (LOS)                     | B    | Density in Ramp Influence Area (DR), pc/mi/ln | 13.9 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 9 | Segment Name            | Btw NB US 21 on and SB US 21 On |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 750      | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1774  | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 935   |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.39  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 12.5 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 10 | Segment Name            | NB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 745                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1774  | 90    |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 23.00 | 33.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.813 | 0.752 |
| Flow Rate (vi), pc/h                  | 2424  | 133   |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.41  | 0.06  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 1127 |
| Downstream Equilibrium Distance (LEQ), ft  | 6264.7 | On-Ramp Influence Area Speed (SR), mi/h       | 65.8 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1677   | Outer Lanes Freeway Speed (SO), mi/h          | 72.7 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 1810   | Ramp Junction Speed (S), mi/h                 | 68.3 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 14.3 |
| Level of Service (LOS)                     | B      | Density in Ramp Influence Area (DR), pc/mi/ln | 14.9 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3300     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 1.00  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1864  | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 979   |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.41  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 13.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                             |
|------------------------|----|-------------------------|-----------------------------|
| Segment Number         | 12 | Segment Name            | Btw US 21 and Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6580     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1864  | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1469  |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.61  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 72.6 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 20.2 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                         |
|------------------------|----|-------------------------|-------------------------|
| Segment Number         | 13 | Segment Name            | NB Off to Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 190                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 1864  | 928   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 23.00 | 15.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.813 | 0.870 |
| Flow Rate (vi), pc/h                   | 2547  | 1185  |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.61  | 0.56  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 61.6 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2937 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 61.6 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 23.8 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 27.8 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                 |
|------------------------|----|-------------------------|---------------------------------|
| Segment Number         | 14 | Segment Name            | Btw Blythewood NB Off and NB On |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3380     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 936   | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 876   |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.36  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.7 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 11.7 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | NB On from Blythewood Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45              |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 740                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 936   | 901   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 23.00 | 12.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.813 | 0.893 |
| Flow Rate (vi), pc/h                  | 1279  | 1121  |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.60  | 0.53  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 64.3 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1752 | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 2873 | Ramp Junction Speed (S), mi/h                 | 64.3 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 22.3 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 22.8 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                  |
|------------------------|----|-------------------------|----------------------------------|
| Segment Number         | 16 | Segment Name            | Btw Blythewood Rd and E Peach Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19090    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1837  | Heavy Vehicle Adjustment Factor (fHV)     | 0.813 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1437  |
| Total Trucks, %               | 23.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.60  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 72.9 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 19.7 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                  |
|------------------------|---|-------------------------|----------------------------------|
| Segment Number         | 5 | Segment Name            | Btw E Peach Rd and Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45                      |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 19290    | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.67  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1810  | Heavy Vehicle Adjustment Factor (fHV)     | 0.787 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1278  |
| Total Trucks, %               | 27.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.53  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.1 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 17.2 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Freeway Diverge Report

## Project Information

|                        |   |                         |                         |
|------------------------|---|-------------------------|-------------------------|
| Segment Number         | 6 | Segment Name            | SB Off to Blythewood Rd |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45             |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 170                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 1810  | 756   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 27.00 | 16.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.787 | 0.862 |
| Flow Rate (vi), pc/h                   | 2555  | 974   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.53  | 0.46  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 62.3 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2555 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 62.3 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 20.5 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 24.7 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                                 |
|------------------------|---|-------------------------|---------------------------------|
| Segment Number         | 7 | Segment Name            | Btw Blythewood SB Off and SB On |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 3645     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.50  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1054  | Heavy Vehicle Adjustment Factor (fHV)     | 0.787 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 744   |
| Total Trucks, %               | 27.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.31  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 9.9  |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | A    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Merge Report

## Project Information

|                        |   |                         |                       |
|------------------------|---|-------------------------|-----------------------|
| Segment Number         | 8 | Segment Name            | SB On from Blythewood |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45           |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 660                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1054  | 835   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 27.00 | 7.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.787 | 0.935 |
| Flow Rate (vi), pc/h                  | 1488  | 992   |
| Capacity (cmd), pc/h                  | 4800  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.52  | 0.47  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (VOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | On-Ramp Influence Area Speed (SR), mi/h       | 64.8 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1488 | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 2480 | Ramp Junction Speed (S), mi/h                 | 64.8 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 19.1 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 20.3 |

# HCS Basic Freeway Report

## Project Information

|                        |   |                         |                             |
|------------------------|---|-------------------------|-----------------------------|
| Segment Number         | 9 | Segment Name            | Btw Blythewood Rd and US 21 |
| Analysis Period Number | 1 | Segment Analysis Period | 13:30-13:45                 |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 9920     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1889  | Heavy Vehicle Adjustment Factor (fHV)     | 0.787 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1334  |
| Total Trucks, %               | 27.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.56  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 73.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 18.1 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | C    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Freeway Diverge Report

## Project Information

|                        |    |                         |                 |
|------------------------|----|-------------------------|-----------------|
| Segment Number         | 10 | Segment Name            | SB Off to US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45     |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 2       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Deceleration Length (LD), ft | 1500    | 270                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|  |       |       |
|--|-------|-------|
| Demand Volume (Vi), veh/h              | 1889  | 100   |
| Peak Hour Factor (PHF)                 | 0.90  | 0.90  |
| Total Trucks, %                        | 27.00 | 24.00 |
| Heavy Vehicle Adjustment Factor (fHV)  | 0.787 | 0.806 |
| Flow Rate (vi), pc/h                   | 2667  | 138   |
| Capacity (cmd), pc/h                   | 4800  | 2100  |
| Initial Adjusted Capacity (cmda), pc/h | 4800  | -     |
| Final Adjusted Capacity (cmda), pc/h   | 4800  | 2100  |
| Volume-to-Capacity Ratio (v/c)         | 0.56  | 0.07  |

## Speed and Density

|  |      |   |      |
|--|------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -    | Flow Outer Lanes (vOA), pc/h/ln               | -    |
| Downstream Equilibrium Distance (LEQ), ft  | -    | Off-Ramp Influence Area Speed (SR), mi/h      | 64.8 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 2667 | Outer Lanes Freeway Speed (SO), mi/h          | 82.3 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | -    | Ramp Junction Speed (S), mi/h                 | 64.8 |
| Number of Outer Lanes on Freeway (NO), ln  | 0    | Average Density (D), pc/mi/ln                 | 20.6 |
| Level of Service (LOS)                     | C    | Density in Ramp Influence Area (DR), pc/mi/ln | 24.8 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                                       |
|------------------------|----|-------------------------|---------------------------------------|
| Segment Number         | 11 | Segment Name            | Btw US 21 SB Off and On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45                           |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 2        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1569     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | 0.83  |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 1789  | Heavy Vehicle Adjustment Factor (fHV)     | 0.787 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 1263  |
| Total Trucks, %               | 27.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.53  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 74.2 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 17.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 12 | Segment Name            | SB On from SB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 25.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 800                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 1789  | 290   |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 27.00 | 23.00 |
| Heavy Vehicle Adjustment Factor (fHV) | 0.787 | 0.813 |
| Flow Rate (vi), pc/h                  | 2526  | 396   |
| Capacity (cmd), pc/h                  | 7200  | 1900  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 1900  |
| Volume-to-Capacity Ratio (v/c)        | 0.41  | 0.21  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | 9999.0 | Flow Outer Lanes (vOA), pc/h/ln               | 0    |
| Downstream Equilibrium Distance (LEQ), ft  | 9999.0 | On-Ramp Influence Area Speed (SR), mi/h       | 75.0 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 0      | Outer Lanes Freeway Speed (SO), mi/h          | 75.0 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 0      | Ramp Junction Speed (S), mi/h                 | 74.9 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 13.0 |
| Level of Service (LOS)                     | B      | Density in Ramp Influence Area (DR), pc/mi/ln | 13.0 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |   |
|------------------------|----|-------------------------|---|
| Segment Number         | 13 | Segment Name            | Btw SB on from SB US 21 and SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45                                     |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 1055     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | -     |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 2079  | Heavy Vehicle Adjustment Factor (fHV)     | 0.787 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 978   |
| Total Trucks, %               | 27.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.41  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 75.0 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 13.0 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | B    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |



# HCS Freeway Merge Report

## Project Information

|                        |    |                         |                     |
|------------------------|----|-------------------------|---------------------|
| Segment Number         | 14 | Segment Name            | SB On from NB US 21 |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45         |

## Geometric Data

|   | Freeway | Ramp                 |
|---|---------|----------------------|
| Number of Lanes (N), ln                           | 3       | 1                    |
| Free-Flow Speed (FFS), mi/h                       | 75.0    | 45.0                 |
| Segment Length (L) / Acceleration Length (LA), ft | 1500    | 630                  |
| Terrain Type                                      | Level   | Level                |
| Percent Grade, %                                  | -       | -                    |
| Segment Type / Ramp Type                          | Freeway | Right-Sided One-Lane |

## Adjustment Factors

|   |                    |                    |
|---|--------------------|--------------------|
| Driver Population                           | All Familiar       | All Familiar       |
| Weather Type                                | Non-Severe Weather | Non-Severe Weather |
| Incident Type                               | No Incident        | -                  |
| Proportion of CAVs in Traffic Stream        | 0                  | -                  |
| Final Speed Adjustment Factor (SAF)         | 1.000              | 1.000              |
| Demand Adjustment Factor (DAF)              | 1.000              | 1.000              |
| Capacity Adjustment Factor for CAVs, CAFCAV | 1.000              | -                  |
| Final Capacity Adjustment Factor (CAF)      | 1.000              | 1.000              |

## Demand and Capacity

|                                       |       |       |
|---------------------------------------|-------|-------|
| Demand Volume (Vi), veh/h             | 2079  | 1938  |
| Peak Hour Factor (PHF)                | 0.90  | 0.90  |
| Total Trucks, %                       | 27.00 | 4.00  |
| Heavy Vehicle Adjustment Factor (fHV) | 0.787 | 0.962 |
| Flow Rate (vi), pc/h                  | 2935  | 2238  |
| Capacity (cmd), pc/h                  | 7200  | 2100  |
| Adjusted Capacity (cmda), pc/h        | 7200  | 2100  |
| Volume-to-Capacity Ratio (v/c)        | 0.72  | 1.00  |

## Speed and Density

|  |        |   |      |
|--|--------|---|------|
| Upstream Equilibrium Distance (LEQ), ft    | -      | Flow Outer Lanes (vOA), pc/h/ln               | 1189 |
| Downstream Equilibrium Distance (LEQ), ft  | 1892.6 | On-Ramp Influence Area Speed (SR), mi/h       | 59.4 |
| Flow in Lanes 1 and 2 (v12), pc/h          | 1746   | Outer Lanes Freeway Speed (SO), mi/h          | 72.5 |
| Flow Entering Ramp-Infl. Area (vR12), pc/h | 3984   | Ramp Junction Speed (S), mi/h                 | 62.0 |
| Number of Outer Lanes on Freeway (NO), ln  | 1      | Average Density (D), pc/mi/ln                 | 27.8 |
| Level of Service (LOS)                     | D      | Density in Ramp Influence Area (DR), pc/mi/ln | 31.6 |

# HCS Basic Freeway Report

## Project Information

|                        |    |                         |                          |
|------------------------|----|-------------------------|--------------------------|
| Segment Number         | 15 | Segment Name            | Btw US 21 and Killian Rd |
| Analysis Period Number | 1  | Segment Analysis Period | 13:30-13:45              |

## Geometric Data

|                                   |          |                                    |       |
|-----------------------------------|----------|------------------------------------|-------|
| Number of Lanes (N), ln           | 3        | Terrain Type                       | Level |
| Segment Length (L), ft            | 6900     | Percent Grade, %                   | -     |
| Measured or Base Free-Flow Speed  | Measured | Grade Length, mi                   | -     |
| Base Free-Flow Speed (BFFS), mi/h | -        | Total Ramp Density (TRD), ramps/mi | -     |
| Lane Width, ft                    | -        | Free-Flow Speed (FFS), mi/h        | 75.0  |
| Right-Side Lateral Clearance, ft  | -        |                                    |       |

## Adjustment Factors

|                                      |                    |  |       |
|--------------------------------------|--------------------|--|-------|
| Driver Population                    | All Familiar       | Final Speed Adjustment Factor (SAF)    | 1.000 |
| Weather Type                         | Non-Severe Weather | Demand Adjustment Factor (DAF)         | 1.000 |
| Incident Type                        | No Incident        | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Proportion of CAVs in Traffic Stream | 0                  | Capacity Adj. Factor for CAVs, CAFCAV  | 1.000 |

## Demand and Capacity

|                               |       |   |       |
|-------------------------------|-------|---|-------|
| Demand Volume (V), veh/h      | 3897  | Heavy Vehicle Adjustment Factor (fHV)     | 0.690 |
| Peak Hour Factor (PHF)        | 0.90  | Flow Rate (vp), pc/h/ln                   | 2092  |
| Total Trucks, %               | 45.00 | Capacity (c), pc/h/ln                     | 2400  |
| Single-Unit Trucks (SUT), %   | -     | Initial Adjusted Capacity (cadj), pc/h/ln | 2400  |
| Tractor-Trailers (TT), %      | -     | Final Adjusted Capacity (cadj), pc/h/ln   | 2400  |
| Passenger Car Equivalent (ET) | 2.00  | Volume-to-Capacity Ratio (v/c)            | 0.87  |

## Speed and Density

|  |      |                         |      |
|--|------|-------------------------|------|
| Lane Width Adjustment (fLW)              | -    | Average Speed (S), mi/h | 61.8 |
| Right-Side Lateral Clearance Adj. (fRLC) | -    | Density (D), pc/mi/ln   | 33.9 |
| Total Ramp Density Adjustment            | -    | Level of Service (LOS)  | D    |
| Adjusted Free-Flow Speed (FFSadj), mi/h  | 75.0 |                         |      |

**Attachment E:  
2046 No-Build Synchro Analysis**

HCM 6th TWSC  
102: US 21 & I-77 SB Ramps

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.6  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↘    |      | ↗    |      |      |      |      | ↑↑   | ↗    |      | ↑↑   |      |
| Traffic Vol, veh/h       | 90   | 0    | 100  | 0    | 0    | 0    | 0    | 490  | 684  | 0    | 711  | 0    |
| Future Vol, veh/h        | 90   | 0    | 100  | 0    | 0    | 0    | 0    | 490  | 684  | 0    | 711  | 0    |
| 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           | -    | -    | Free | -    | -    | None | -    | -    | Free | -    | -    | None |
| Storage Length           | 0    | -    | 0    | -    | -    | -    | -    | -    | 200  | -    | -    | -    |
| Veh in Median Storage, # | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 12   | 0    | 11   | 0    | 0    | 0    | 0    | 3    | 7    | 0    | 7    | 4    |
| Mvmt Flow                | 100  | 0    | 111  | 0    | 0    | 0    | 0    | 544  | 760  | 0    | 790  | 0    |

| Major/Minor          | Minor2 | Major1 |   | Major2 |   |
|----------------------|--------|--------|---|--------|---|
| Conflicting Flow All | 1062   | -      | - | -      | 0 |
| Stage 1              | 790    | -      | - | -      | - |
| Stage 2              | 272    | -      | - | -      | - |
| Critical Hdwy        | 7.04   | -      | - | -      | - |
| Critical Hdwy Stg 1  | 6.04   | -      | - | -      | - |
| Critical Hdwy Stg 2  | 6.04   | -      | - | -      | - |
| Follow-up Hdwy       | 3.62   | -      | - | -      | - |
| Pot Cap-1 Maneuver   | 203    | 0      | 0 | 0      | - |
| Stage 1              | 383    | 0      | 0 | 0      | - |
| Stage 2              | 720    | 0      | 0 | 0      | - |
| Platoon blocked, %   |        |        |   |        |   |
| Mov Cap-1 Maneuver   | 203    | 0      | - | -      | - |
| Mov Cap-2 Maneuver   | 307    | 0      | - | -      | - |
| Stage 1              | 383    | 0      | - | -      | - |
| Stage 2              | 720    | 0      | - | -      | - |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 22.3 | 0  | 0  |
| HCM LOS              | C    |    |    |

| Minor Lane/Major Mvmt | NBT | EBLn1 | EBLn2 | SBT |
|-----------------------|-----|-------|-------|-----|
| Capacity (veh/h)      | -   | 307   | -     | -   |
| HCM Lane V/C Ratio    | -   | 0.326 | -     | -   |
| HCM Control Delay (s) | -   | 22.3  | 0     | -   |
| HCM Lane LOS          | -   | C     | A     | -   |
| HCM 95th %tile Q(veh) | -   | 1.4   | -     | -   |

HCM 6th TWSC  
103: US 21 & I-77 NB Ramps

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 44.6 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      | ↘    |      | ↗    |      | ↑↑   |      |      | ↑↑   | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 0    | 390  | 0    | 500  | 0    | 410  | 0    | 0    | 1191 | 90   |
| Future Vol, veh/h        | 0    | 0    | 0    | 390  | 0    | 500  | 0    | 410  | 0    | 0    | 1191 | 90   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | Free | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | -    | 0    | -    | 0    | -    | -    | -    | -    | -    | 225  |
| Veh in Median Storage, # | -    | 2    | -    | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 13   | 0    | 4    | 0    | 5    | 2    | 0    | 5    | 13   |
| Mvmt Flow                | 0    | 0    | 0    | 433  | 0    | 556  | 0    | 456  | 0    | 0    | 1323 | 100  |



















| Major/Minor          | Minor1 | Major1 |   |   | Major2 |   |   |   |   |
|----------------------|--------|--------|---|---|--------|---|---|---|---|
| Conflicting Flow All | 1118   | -      | - | - | 0      | - | - | - | 0 |
| Stage 1              | 456    | -      | - | - | -      | - | - | - | - |
| Stage 2              | 662    | -      | - | - | -      | - | - | - | - |
| Critical Hdwy        | 7.06   | -      | - | - | -      | - | - | - | - |
| Critical Hdwy Stg 1  | 6.06   | -      | - | - | -      | - | - | - | - |
| Critical Hdwy Stg 2  | 6.06   | -      | - | - | -      | - | - | - | - |
| Follow-up Hdwy       | 3.63   | -      | - | - | -      | - | - | - | - |
| Pot Cap-1 Maneuver   | ~ 185  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Stage 1              | 574    | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Stage 2              | 446    | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Platoon blocked, %   |        |        |   |   |        |   |   |   |   |
| Mov Cap-1 Maneuver   | ~ 185  | 0      | - | - | -      | - | - | - | - |
| Mov Cap-2 Maneuver   | ~ 311  | 0      | - | - | -      | - | - | - | - |
| Stage 1              | 574    | 0      | - | - | -      | - | - | - | - |
| Stage 2              | 446    | 0      | - | - | -      | - | - | - | - |

| Approach             | WB    | NB | SB |
|----------------------|-------|----|----|
| HCM Control Delay, s | 227.9 | 0  | 0  |
| HCM LOS              | F     |    |    |

| Minor Lane/Major Mvmt | NBTWBLn1WBLn2 | SBT |
|-----------------------|---------------|-----|
| Capacity (veh/h)      | - 311         | -   |
| HCM Lane V/C Ratio    | - 1.393       | -   |
| HCM Control Delay (s) | - 227.9       | 0   |
| HCM Lane LOS          | - F           | A   |
| HCM 95th %tile Q(veh) | - 22.5        | -   |

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

HCM 6th Signalized Intersection Summary  
 204: Blythwood Rd & I-77 SB Ramps

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement                     | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations          |   |  |  |  |  |   |  |   |   |   |  |  |
| Traffic Volume (veh/h)       | 0   | 812   | 619   | 735   | 1236  | 0   | 0  | 0   | 0   | 130   | 0   | 130   |
| Future Volume (veh/h)        | 0   | 812   | 619   | 735   | 1236  | 0   | 0  | 0   | 0   | 130   | 0   | 130   |
| Initial Q (Qb), veh          | 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  |
| Parking Bus, Adj             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Work Zone On Approach        |   | No  |   |   | No  |   |  |   |   |   | No  |   |
| Adj Sat Flow, veh/h/ln       | 0   | 1841  | 1870  | 1870  | 1856  | 0   |  |   |   | 1811  | 1900  | 1618  |
| Adj Flow Rate, veh/h         | 0   | 902   | 0   | 817   | 1373  | 0   |  |   |   | 144   | 0   | 144   |
| Peak Hour Factor             | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |  |   |   | 0.90  | 0.90  | 0.90  |
| Percent Heavy Veh, %         | 0   | 4   | 2   | 2   | 3   | 0   |  |   |   | 6   | 0   | 19  |
| Cap, veh/h                   | 0   | 758   |   | 624   | 1445  | 0   |  |   |   | 220   | 0   | 167   |
| Arrive On Green              | 0.00  | 0.41  | 0.00  | 0.32  | 0.78  | 0.00  |  |   |   | 0.12  | 0.00  | 0.12  |
| Sat Flow, veh/h              | 0   | 1841  | 1585  | 1781  | 1856  | 0   |  |   |   | 1810  | 0   | 1372  |
| Grp Volume(v), veh/h         | 0   | 902   | 0   | 817   | 1373  | 0   |  |   |   | 144   | 0   | 144   |
| Grp Sat Flow(s),veh/h/ln     | 0   | 1841  | 1585  | 1781  | 1856  | 0   |  |   |   | 1810  | 0   | 1372  |
| Q Serve(g_s), s              | 0.0   | 49.4  | 0.0   | 38.0  | 75.6  | 0.0   |  |   |   | 9.1   | 0.0   | 12.4  |
| Cycle Q Clear(g_c), s        | 0.0   | 49.4  | 0.0   | 38.0  | 75.6  | 0.0   |  |   |   | 9.1   | 0.0   | 12.4  |
| Prop In Lane                 | 0.00  |   | 1.00  | 1.00  |   | 0.00  |  |   |   | 1.00  |   | 1.00  |
| Lane Grp Cap(c), veh/h       | 0   | 758   |   | 624   | 1445  | 0   |  |   |   | 220   | 0   | 167   |
| V/C Ratio(X)                 | 0.00  | 1.19  |   | 1.31  | 0.95  | 0.00  |  |   |   | 0.65  | 0.00  | 0.86  |
| Avail Cap(c_a), veh/h        | 0   | 758   |   | 624   | 1445  | 0   |  |   |   | 241   | 0   | 183   |
| HCM Platoon Ratio            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I)           | 0.00  | 1.00  | 0.00  | 0.09  | 0.09  | 0.00  |  |   |   | 1.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh     | 0.0   | 35.3  | 0.0   | 36.2  | 11.3  | 0.0   |  |   |   | 50.3  | 0.0   | 51.7  |
| Incr Delay (d2), s/veh       | 0.0   | 98.4  | 0.0   | 140.2   | 2.0   | 0.0   |  |   |   | 5.5   | 0.0   | 30.5  |
| Initial Q Delay(d3),s/veh    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |  |   |   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 0.0   | 42.0  | 0.0   | 42.1  | 23.4  | 0.0   |  |   |   | 4.5   | 0.0   | 5.7   |
| Unsig. Movement Delay, s/veh |   |   |   |   |   |   |  |   |   |   |   |   |
| LnGrp Delay(d),s/veh         | 0.0   | 133.7   | 0.0   | 176.4   | 13.3  | 0.0   |  |   |   | 55.8  | 0.0   | 82.3  |
| LnGrp LOS                    | A   | F   |   | F   | B   | A   |  |   |   | E   | A   | F   |
| Approach Vol, veh/h          |   | 902   |   |   | 2190  |   |  |   |   |   | 288   |   |
| Approach Delay, s/veh        |   | 133.7   |   |   | 74.2  |   |  |   |   |   | 69.0  |   |
| Approach LOS                 |   | F   |   |   | E   |   |  |   |   |   | E   |   |
| Timer - Assigned Phs         | 1   | 2   |   | 4   |   | 6   |  |   |   |   |   |   |
| Phs Duration (G+Y+Rc), s     | 44.0  | 55.4  |   | 20.6  |   | 99.4  |  |   |   |   |   |   |
| Change Period (Y+Rc), s      | 6.0   | 6.0   |   | 6.0   |   | 6.0   |  |   |   |   |   |   |
| Max Green Setting (Gmax), s  | 38.0  | 48.0  |   | 16.0  |   | 92.0  |  |   |   |   |   |   |
| Max Q Clear Time (g_c+I1), s | 40.0  | 51.4  |   | 14.4  |   | 77.6  |  |   |   |   |   |   |
| Green Ext Time (p_c), s      | 0.0   | 0.0   |   | 0.2   |   | 12.2  |  |   |   |   |   |   |



















Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 89.6 |
| HCM 6th LOS        | F    |

Notes

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

HCM 6th Signalized Intersection Summary  
 205: I-77 NB Ramps & Blythewood Rd

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |  |  |   |   |  |  |  |  |  |   |   |   |
| Traffic Volume (veh/h)   | 114   | 828   | 0   | 0   | 1591  | 175   | 380  | 0   | 330   | 0   | 0   | 0   |
| Future Volume (veh/h)  | 114   | 828   | 0   | 0   | 1591  | 175   | 380  | 0   | 330   | 0   | 0   | 0   |
| Initial Q (Qb), veh  | 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  |   |   |   |
| Parking Bus, Adj   | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00   | 1.00  | 1.00  |   |   |   |
| Work Zone On Approach  |   | No  |   |   | No  |   |  | No  |   |   |   |   |
| Adj Sat Flow, veh/h/ln   | 1574  | 1826  | 0   | 0   | 1856  | 1826  | 1841   | 1900  | 1796  |   |   |   |
| Adj Flow Rate, veh/h   | 127   | 920   | 0   | 0   | 1768  | 0   | 422  | 0   | 367   |   |   |   |
| Peak Hour Factor   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90   | 0.90  | 0.90  |   |   |   |
| Percent Heavy Veh, %   | 22  | 5   | 0   | 0   | 3   | 5   | 4  | 0   | 7   |   |   |   |
| Cap, veh/h   | 60  | 1324  | 0   | 0   | 1345  |   | 317  | 0   | 266   |   |   |   |
| Arrive On Green  | 0.73  | 0.73  | 0.00  | 0.00  | 0.73  | 0.00  | 0.17   | 0.00  | 0.17  |   |   |   |
| Sat Flow, veh/h  | 227   | 1826  | 0   | 0   | 1856  | 1547  | 1810   | 0   | 1522  |   |   |   |
| Grp Volume(v), veh/h   | 127   | 920   | 0   | 0   | 1768  | 0   | 422  | 0   | 367   |   |   |   |
| Grp Sat Flow(s),veh/h/ln   | 227   | 1826  | 0   | 0   | 1856  | 1547  | 1810   | 0   | 1522  |   |   |   |
| Q Serve(g_s), s  | 0.0   | 33.5  | 0.0   | 0.0   | 87.0  | 0.0   | 21.0   | 0.0   | 21.0  |   |   |   |
| Cycle Q Clear(g_c), s  | 87.0  | 33.5  | 0.0   | 0.0   | 87.0  | 0.0   | 21.0   | 0.0   | 21.0  |   |   |   |
| Prop In Lane   | 1.00  |   | 0.00  | 0.00  |   | 1.00  | 1.00   |   | 1.00  |   |   |   |
| Lane Grp Cap(c), veh/h   | 60  | 1324  | 0   | 0   | 1345  |   | 317  | 0   | 266   |   |   |   |
| V/C Ratio(X)   | 2.12  | 0.69  | 0.00  | 0.00  | 1.31  |   | 1.33   | 0.00  | 1.38  |   |   |   |
| Avail Cap(c_a), veh/h  | 60  | 1324  | 0   | 0   | 1345  |   | 317  | 0   | 266   |   |   |   |
| HCM Platoon Ratio  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00   | 1.00  | 1.00  |   |   |   |
| Upstream Filter(I)   | 0.09  | 0.09  | 0.00  | 0.00  | 1.00  | 0.00  | 1.00   | 0.00  | 1.00  |   |   |   |
| Uniform Delay (d), s/veh   | 60.0  | 9.1   | 0.0   | 0.0   | 16.5  | 0.0   | 49.5   | 0.0   | 49.5  |   |   |   |
| Incr Delay (d2), s/veh   | 507.6   | 0.3   | 0.0   | 0.0   | 146.8   | 0.0   | 169.8  | 0.0   | 191.8   |   |   |   |
| Initial Q Delay(d3),s/veh  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   |   |   |   |
| %ile BackOfQ(50%),veh/ln   | 10.3  | 11.3  | 0.0   | 0.0   | 85.5  | 0.0   | 24.4   | 0.0   | 22.1  |   |   |   |
| Unsig. Movement Delay, s/veh   |   |   |   |   |   |   |  |   |   |   |   |   |
| LnGrp Delay(d),s/veh   | 567.6   | 9.4   | 0.0   | 0.0   | 163.3   | 0.0   | 219.3  | 0.0   | 241.3   |   |   |   |
| LnGrp LOS  | F   | A   | A   | A   | F   |   | F  | A   | F   |   |   |   |
| Approach Vol, veh/h  |   | 1047  |   |   | 1768  |   |  | 789   |   |   |   |   |
| Approach Delay, s/veh  |   | 77.1  |   |   | 163.3   |   |  | 229.5   |   |   |   |   |
| Approach LOS   |   | E   |   |   | F   |   |  | F   |   |   |   |   |
| Timer - Assigned Phs   |   | 2   |   |   |   | 6   |  | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   | 93.0  |   |   |   | 93.0  |  | 27.0  |   |   |   |   |
| Change Period (Y+Rc), s  |   | 6.0   |   |   |   | 6.0   |  | 6.0   |   |   |   |   |
| Max Green Setting (Gmax), s  |   | 87.0  |   |   |   | 87.0  |  | 21.0  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s   |   | 89.0  |   |   |   | 89.0  |  | 23.0  |   |   |   |   |
| Green Ext Time (p_c), s  |   | 0.0   |   |   |   | 0.0   |  | 0.0   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |  |   |   |   |   |   |
| HCM 6th Ctrl Delay   |   |   |   |   | 152.8   |   |  |   |   |   |   |   |
| HCM 6th LOS  |   |   |   |   | F   |   |  |   |   |   |   |   |
| <b>Notes</b>   |   |   |   |   |   |   |  |   |   |   |   |   |
| Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay. |   |   |   |   |   |   |  |   |   |   |   |   |

HCM 6th TWSC  
102: US 21 & I-77 SB Ramps

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.4  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↘    |      | ↗    |      |      |      |      | ↑↑   | ↗    |      | ↑↑   |      |
| Traffic Vol, veh/h       | 65   | 0    | 105  | 0    | 0    | 0    | 0    | 498  | 606  | 0    | 953  | 0    |
| Future Vol, veh/h        | 65   | 0    | 105  | 0    | 0    | 0    | 0    | 498  | 606  | 0    | 953  | 0    |
| 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           | -    | -    | Free | -    | -    | None | -    | -    | Free | -    | -    | None |
| Storage Length           | 0    | -    | 0    | -    | -    | -    | -    | -    | 200  | -    | -    | -    |
| Veh in Median Storage, # | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 28   | 0    | 9    | 0    | 0    | 0    | 0    | 4    | 8    | 0    | 5    | 5    |
| Mvmt Flow                | 72   | 0    | 117  | 0    | 0    | 0    | 0    | 553  | 673  | 0    | 1059 | 0    |

| Major/Minor          | Minor2 | Major1 |   | Major2 |   |
|----------------------|--------|--------|---|--------|---|
| Conflicting Flow All | 1336   | -      | - | -      | 0 |
| Stage 1              | 1059   | -      | - | -      | - |
| Stage 2              | 277    | -      | - | -      | - |
| Critical Hdwy        | 7.36   | -      | - | -      | - |
| Critical Hdwy Stg 1  | 6.36   | -      | - | -      | - |
| Critical Hdwy Stg 2  | 6.36   | -      | - | -      | - |
| Follow-up Hdwy       | 3.78   | -      | - | -      | - |
| Pot Cap-1 Maneuver   | 115    | 0      | 0 | 0      | - |
| Stage 1              | 243    | 0      | 0 | 0      | - |
| Stage 2              | 673    | 0      | 0 | 0      | - |
| Platoon blocked, %   |        |        |   |        |   |
| Mov Cap-1 Maneuver   | 115    | 0      | - | -      | - |
| Mov Cap-2 Maneuver   | 200    | 0      | - | -      | - |
| Stage 1              | 243    | 0      | - | -      | - |
| Stage 2              | 673    | 0      | - | -      | - |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 32.8 | 0  | 0  |
| HCM LOS              | D    |    |    |

| Minor Lane/Major Mvmt | NBT | EBLn1 | EBLn2 | SBT |
|-----------------------|-----|-------|-------|-----|
| Capacity (veh/h)      | -   | 200   | -     | -   |
| HCM Lane V/C Ratio    | -   | 0.361 | -     | -   |
| HCM Control Delay (s) | -   | 32.8  | 0     | -   |
| HCM Lane LOS          | -   | D     | A     | -   |
| HCM 95th %tile Q(veh) | -   | 1.5   | -     | -   |



HCM 6th TWSC  
103: US 21 & I-77 NB Ramps

| Intersection             |       |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 122.8 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |       |      |      | ↘    |      | ↗    |      | ↑↑   |      |      | ↑↑   | ↗    |
| Traffic Vol, veh/h       | 0     | 0    | 0    | 571  | 0    | 705  | 0    | 453  | 0    | 0    | 1032 | 190  |
| Future Vol, veh/h        | 0     | 0    | 0    | 571  | 0    | 705  | 0    | 453  | 0    | 0    | 1032 | 190  |
| Conflicting Peds, #/hr   | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop  | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -     | -    | None | -    | -    | Free | -    | -    | None | -    | -    | Free |
| Storage Length           | -     | -    | -    | 0    | -    | 0    | -    | -    | -    | -    | -    | 225  |
| Veh in Median Storage, # | -     | 2    | -    | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -     | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90    | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0     | 0    | 0    | 9    | 0    | 6    | 0    | 7    | 8    | 0    | 5    | 5    |
| Mvmt Flow                | 0     | 0    | 0    | 634  | 0    | 783  | 0    | 503  | 0    | 0    | 1147 | 211  |













| Major/Minor          | Minor1 | Major1 |   |   | Major2 |   |   |   |   |
|----------------------|--------|--------|---|---|--------|---|---|---|---|
| Conflicting Flow All | 1077   | -      | - | - | 0      | - | - | - | 0 |
| Stage 1              | 503    | -      | - | - | -      | - | - | - | - |
| Stage 2              | 574    | -      | - | - | -      | - | - | - | - |
| Critical Hdwy        | 6.98   | -      | - | - | -      | - | - | - | - |
| Critical Hdwy Stg 1  | 5.98   | -      | - | - | -      | - | - | - | - |
| Critical Hdwy Stg 2  | 5.98   | -      | - | - | -      | - | - | - | - |
| Follow-up Hdwy       | 3.59   | -      | - | - | -      | - | - | - | - |
| Pot Cap-1 Maneuver   | ~ 203  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Stage 1              | ~ 553  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Stage 2              | ~ 508  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Platoon blocked, %   |        |        |   |   |        |   |   |   |   |
| Mov Cap-1 Maneuver   | ~ 203  | 0      | - | - | -      | - | - | - | - |
| Mov Cap-2 Maneuver   | ~ 334  | 0      | - | - | -      | - | - | - | - |
| Stage 1              | ~ 553  | 0      | - | - | -      | - | - | - | - |
| Stage 2              | ~ 508  | 0      | - | - | -      | - | - | - | - |

| Approach             | WB       | NB | SB |
|----------------------|----------|----|----|
| HCM Control Delay, s | \$ 442.2 | 0  | 0  |
| HCM LOS              | F        |    |    |

| Minor Lane/Major Mvmt | NBTWBLn1WBLn2 | SBT |
|-----------------------|---------------|-----|
| Capacity (veh/h)      | - 334         | -   |
| HCM Lane V/C Ratio    | - 1.9         | -   |
| HCM Control Delay (s) | - \$ 442.2    | 0   |
| HCM Lane LOS          | - F           | A   |
| HCM 95th %tile Q(veh) | - 43.1        | -   |

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

HCM 6th Signalized Intersection Summary  
 204: Blythwood Rd & I-77 SB Ramps

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   | ↑   | ↗   | ↖   | ↑   |   |  |   |   |   | ↖   | ↗   |
| Traffic Volume (veh/h)   | 0   | 950   | 341   | 360   | 1236  | 0   | 0  | 0   | 0   | 215   | 0   | 125   |
| Future Volume (veh/h)  | 0   | 950   | 341   | 360   | 1236  | 0   | 0  | 0   | 0   | 215   | 0   | 125   |
| Initial Q (Qb), veh  | 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  |
| Parking Bus, Adj   | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Work Zone On Approach  |   | No  |   |   | No  |   |  |   |   |   | No  |   |
| Adj Sat Flow, veh/h/ln   | 0   | 1856  | 1826  | 1826  | 1870  | 0   |  |   |   | 1841  | 1900  | 1530  |
| Adj Flow Rate, veh/h   | 0   | 1056  | 0   | 400   | 1373  | 0   |  |   |   | 239   | 0   | 139   |
| Peak Hour Factor   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |  |   |   | 0.90  | 0.90  | 0.90  |
| Percent Heavy Veh, %   | 0   | 3   | 5   | 5   | 2   | 0   |  |   |   | 4   | 0   | 25  |
| Cap, veh/h   | 0   | 900   |   | 427   | 1395  | 0   |  |   |   | 285   | 0   | 204   |
| Arrive On Green  | 0.00  | 0.48  | 0.00  | 0.21  | 0.75  | 0.00  |  |   |   | 0.16  | 0.00  | 0.16  |
| Sat Flow, veh/h  | 0   | 1856  | 1547  | 1739  | 1870  | 0   |  |   |   | 1810  | 0   | 1296  |
| Grp Volume(v), veh/h   | 0   | 1056  | 0   | 400   | 1373  | 0   |  |   |   | 239   | 0   | 139   |
| Grp Sat Flow(s),veh/h/ln   | 0   | 1856  | 1547  | 1739  | 1870  | 0   |  |   |   | 1810  | 0   | 1296  |
| Q Serve(g_s), s  | 0.0   | 60.0  | 0.0   | 23.7  | 86.9  | 0.0   |  |   |   | 15.9  | 0.0   | 12.5  |
| Cycle Q Clear(g_c), s  | 0.0   | 60.0  | 0.0   | 23.7  | 86.9  | 0.0   |  |   |   | 15.9  | 0.0   | 12.5  |
| Prop In Lane   | 0.00  |   | 1.00  | 1.00  |   | 0.00  |  |   |   | 1.00  |   | 1.00  |
| Lane Grp Cap(c), veh/h   | 0   | 900   |   | 427   | 1395  | 0   |  |   |   | 285   | 0   | 204   |
| V/C Ratio(X)   | 0.00  | 1.17  |   | 0.94  | 0.98  | 0.00  |  |   |   | 0.84  | 0.00  | 0.68  |
| Avail Cap(c_a), veh/h  | 0   | 900   |   | 480   | 1395  | 0   |  |   |   | 468   | 0   | 335   |
| HCM Platoon Ratio  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I)   | 0.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  |  |   |   | 1.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   | 0.0   | 31.9  | 0.0   | 40.9  | 15.1  | 0.0   |  |   |   | 50.6  | 0.0   | 49.2  |
| Incr Delay (d2), s/veh   | 0.0   | 90.0  | 0.0   | 24.5  | 20.4  | 0.0   |  |   |   | 7.0   | 0.0   | 4.0   |
| Initial Q Delay(d3),s/veh  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |  |   |   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   | 0.0   | 48.0  | 0.0   | 14.2  | 37.0  | 0.0   |  |   |   | 7.7   | 0.0   | 4.3   |
| Unsig. Movement Delay, s/veh   |   |   |   |   |   |   |  |   |   |   |   |   |
| LnGrp Delay(d),s/veh   | 0.0   | 121.9   | 0.0   | 65.4  | 35.5  | 0.0   |  |   |   | 57.6  | 0.0   | 53.2  |
| LnGrp LOS  | A   | F   |   | E   | D   | A   |  |   |   | E   | A   | D   |
| Approach Vol, veh/h  |   | 1056  |   |   | 1773  |   |  |   |   |   | 378   |   |
| Approach Delay, s/veh  |   | 121.9   |   |   | 42.2  |   |  |   |   |   | 56.0  |   |
| Approach LOS   |   | F   |   |   | D   |   |  |   |   |   | E   |   |
| Timer - Assigned Phs   | 1   | 2   |   | 4   |   | 6   |  |   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   | 32.3  | 66.0  |   | 25.5  |   | 98.3  |  |   |   |   |   |   |
| Change Period (Y+Rc), s  | 6.0   | 6.0   |   | 6.0   |   | 6.0   |  |   |   |   |   |   |
| Max Green Setting (Gmax), s  | 30.0  | 60.0  |   | 32.0  |   | 60.0  |  |   |   |   |   |   |
| Max Q Clear Time (g_c+I1), s   | 25.7  | 62.0  |   | 17.9  |   | 88.9  |  |   |   |   |   |   |
| Green Ext Time (p_c), s  | 0.5   | 0.0   |   | 1.6   |   | 0.0   |  |   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |  |   |   |   |   |   |
| HCM 6th Ctrl Delay   |   |   |   | 70.1  |   |   |  |   |   |   |   |   |
| HCM 6th LOS  |   |   |   | E   |   |   |  |   |   |   |   |   |
| <b>Notes</b>   |   |   |   |   |   |   |  |   |   |   |   |   |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. |   |   |   |   |   |   |  |   |   |   |   |   |

HCM 6th Signalized Intersection Summary  
 205: I-77 NB Ramps & Blythewood Rd

| Movement   | EBL   | EBT   | EBR  | WBL  | WBT   | WBR  | NBL   | NBT   | NBR   | SBL | SBT | SBR |
|--|-------|-------|------|------|-------|------|-------|-------|-------|-----|-----|-----|
| Lane Configurations  |       |       |      |      |       |      |       |       |       |     |     |     |
| Traffic Volume (veh/h)   | 162   | 1003  | 0    | 0    | 1037  | 170  | 559   | 0     | 675   | 0   | 0   | 0   |
| Future Volume (veh/h)  | 162   | 1003  | 0    | 0    | 1037  | 170  | 559   | 0     | 675   | 0   | 0   | 0   |
| Initial Q (Qb), veh  | 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  |     |     |     |
| Parking Bus, Adj   | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |     |     |     |
| Work Zone On Approach  |       | No    |      |      | No    |      |       | No    |       |     |     |     |
| Adj Sat Flow, veh/h/ln   | 1633  | 1870  | 0    | 0    | 1856  | 1870 | 1856  | 1900  | 1885  |     |     |     |
| Adj Flow Rate, veh/h   | 180   | 1114  | 0    | 0    | 1152  | 0    | 621   | 0     | 750   |     |     |     |
| Peak Hour Factor   | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |     |     |     |
| Percent Heavy Veh, %   | 18    | 2     | 0    | 0    | 3     | 2    | 3     | 0     | 1     |     |     |     |
| Cap, veh/h   | 80    | 1122  | 0    | 0    | 1113  |      | 483   | 0     | 426   |     |     |     |
| Arrive On Green  | 0.60  | 0.60  | 0.00 | 0.00 | 0.60  | 0.00 | 0.27  | 0.00  | 0.27  |     |     |     |
| Sat Flow, veh/h  | 426   | 1870  | 0    | 0    | 1856  | 1585 | 1810  | 0     | 1598  |     |     |     |
| Grp Volume(v), veh/h   | 180   | 1114  | 0    | 0    | 1152  | 0    | 621   | 0     | 750   |     |     |     |
| Grp Sat Flow(s),veh/h/ln   | 426   | 1870  | 0    | 0    | 1856  | 1585 | 1810  | 0     | 1598  |     |     |     |
| Q Serve(g_s), s  | 0.0   | 53.0  | 0.0  | 0.0  | 54.0  | 0.0  | 24.0  | 0.0   | 24.0  |     |     |     |
| Cycle Q Clear(g_c), s  | 54.0  | 53.0  | 0.0  | 0.0  | 54.0  | 0.0  | 24.0  | 0.0   | 24.0  |     |     |     |
| Prop In Lane   | 1.00  |       | 0.00 | 0.00 |       | 1.00 | 1.00  |       | 1.00  |     |     |     |
| Lane Grp Cap(c), veh/h   | 80    | 1122  | 0    | 0    | 1113  |      | 483   | 0     | 426   |     |     |     |
| V/C Ratio(X)   | 2.25  | 0.99  | 0.00 | 0.00 | 1.03  |      | 1.29  | 0.00  | 1.76  |     |     |     |
| Avail Cap(c_a), veh/h  | 80    | 1122  | 0    | 0    | 1113  |      | 483   | 0     | 426   |     |     |     |
| HCM Platoon Ratio  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |     |     |     |
| Upstream Filter(I)   | 0.09  | 0.09  | 0.00 | 0.00 | 1.00  | 0.00 | 1.00  | 0.00  | 1.00  |     |     |     |
| Uniform Delay (d), s/veh   | 45.0  | 17.8  | 0.0  | 0.0  | 18.0  | 0.0  | 33.0  | 0.0   | 33.0  |     |     |     |
| Incr Delay (d2), s/veh   | 566.1 | 6.6   | 0.0  | 0.0  | 36.3  | 0.0  | 144.1 | 0.0   | 351.7 |     |     |     |
| Initial Q Delay(d3),s/veh  | 0.0   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   | 0.0   |     |     |     |
| %ile BackOfQ(50%),veh/ln   | 14.3  | 21.0  | 0.0  | 0.0  | 31.0  | 0.0  | 29.5  | 0.0   | 50.6  |     |     |     |
| Unsig. Movement Delay, s/veh   |       |       |      |      |       |      |       |       |       |     |     |     |
| LnGrp Delay(d),s/veh   | 611.1 | 24.4  | 0.0  | 0.0  | 54.3  | 0.0  | 177.1 | 0.0   | 384.7 |     |     |     |
| LnGrp LOS  | F     | C     | A    | A    | F     |      | F     | A     | F     |     |     |     |
| Approach Vol, veh/h  |       | 1294  |      |      | 1152  |      |       | 1371  |       |     |     |     |
| Approach Delay, s/veh  |       | 106.0 |      |      | 54.3  |      |       | 290.7 |       |     |     |     |
| Approach LOS   |       | F     |      |      | D     |      |       | F     |       |     |     |     |
| Timer - Assigned Phs   |       | 2     |      |      |       | 6    |       | 8     |       |     |     |     |
| Phs Duration (G+Y+Rc), s   |       | 60.0  |      |      |       | 60.0 |       | 30.0  |       |     |     |     |
| Change Period (Y+Rc), s  |       | 6.0   |      |      |       | 6.0  |       | 6.0   |       |     |     |     |
| Max Green Setting (Gmax), s  |       | 54.0  |      |      |       | 54.0 |       | 24.0  |       |     |     |     |
| Max Q Clear Time (g_c+I1), s   |       | 56.0  |      |      |       | 56.0 |       | 26.0  |       |     |     |     |
| Green Ext Time (p_c), s  |       | 0.0   |      |      |       | 0.0  |       | 0.0   |       |     |     |     |
| <b>Intersection Summary</b>  |       |       |      |      |       |      |       |       |       |     |     |     |
| HCM 6th Ctrl Delay   |       |       |      |      | 156.7 |      |       |       |       |     |     |     |
| HCM 6th LOS  |       |       |      |      | F     |      |       |       |       |     |     |     |
| <b>Notes</b>   |       |       |      |      |       |      |       |       |       |     |     |     |
| Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay. |       |       |      |      |       |      |       |       |       |     |     |     |

HCM 6th TWSC  
 102: US 21 & I-77 SB Ramps

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↘    |      | ↗    |      |      |      |      | ↑↑   | ↗    |      | ↑↑   |      |
| Traffic Vol, veh/h       | 45   | 0    | 15   | 0    | 0    | 0    | 0    | 301  | 1556 | 0    | 2070 | 0    |
| Future Vol, veh/h        | 45   | 0    | 15   | 0    | 0    | 0    | 0    | 301  | 1556 | 0    | 2070 | 0    |
| 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           | -    | -    | Free | -    | -    | None | -    | -    | Free | -    | -    | None |
| Storage Length           | 0    | -    | 0    | -    | -    | -    | -    | -    | 200  | -    | -    | -    |
| Veh in Median Storage, # | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 20   | 0    | 8    | 0    | 0    | 0    | 0    | 8    | 3    | 0    | 7    | 12   |
| Mvmt Flow                | 50   | 0    | 17   | 0    | 0    | 0    | 0    | 334  | 1729 | 0    | 2300 | 0    |

| Major/Minor          | Minor2 | Major1 |   | Major2 |     |
|----------------------|--------|--------|---|--------|-----|
| Conflicting Flow All | 2467   | -      | - | -      | 0   |
| Stage 1              | 2300   | -      | - | -      | -   |
| Stage 2              | 167    | -      | - | -      | -   |
| Critical Hdwy        | 7.2    | -      | - | -      | -   |
| Critical Hdwy Stg 1  | 6.2    | -      | - | -      | -   |
| Critical Hdwy Stg 2  | 6.2    | -      | - | -      | -   |
| Follow-up Hdwy       | 3.7    | -      | - | -      | -   |
| Pot Cap-1 Maneuver   | ~ 19   | 0      | 0 | 0      | - 0 |
| Stage 1              | ~ 48   | 0      | 0 | 0      | - 0 |
| Stage 2              | 794    | 0      | 0 | 0      | - 0 |
| Platoon blocked, %   |        |        |   |        | -   |
| Mov Cap-1 Maneuver   | ~ 19   | 0      | - | -      | -   |
| Mov Cap-2 Maneuver   | ~ 43   | 0      | - | -      | -   |
| Stage 1              | ~ 48   | 0      | - | -      | -   |
| Stage 2              | 794    | 0      | - | -      | -   |

| Approach             | EB       | NB | SB |
|----------------------|----------|----|----|
| HCM Control Delay, s | \$ 337.8 | 0  | 0  |
| HCM LOS              | F        |    |    |

| Minor Lane/Major Mvmt | NBT | EBLn1    | EBLn2 | SBT |
|-----------------------|-----|----------|-------|-----|
| Capacity (veh/h)      | -   | 43       | -     | -   |
| HCM Lane V/C Ratio    | -   | 1.163    | -     | -   |
| HCM Control Delay (s) | -   | \$ 337.8 | 0     | -   |
| HCM Lane LOS          | -   | F        | A     | -   |
| HCM 95th %tile Q(veh) | -   | 4.8      | -     | -   |

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

HCM 6th TWSC  
 103: US 21 & I-77 NB Ramps

| Intersection             |       |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 925.1 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |       |      |      | ↘    |      | ↗    |      | ↑↑   |      |      | ↑↑   | ↗    |
| Traffic Vol, veh/h       | 0     | 0    | 0    | 1754 | 0    | 225  | 0    | 316  | 0    | 0    | 576  | 60   |
| Future Vol, veh/h        | 0     | 0    | 0    | 1754 | 0    | 225  | 0    | 316  | 0    | 0    | 576  | 60   |
| Conflicting Peds, #/hr   | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop  | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -     | -    | None | -    | -    | Free | -    | -    | None | -    | -    | Free |
| Storage Length           | -     | -    | -    | 0    | -    | 0    | -    | -    | -    | -    | -    | 225  |
| Veh in Median Storage, # | -     | 2    | -    | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -     | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90    | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0     | 0    | 0    | 8    | 0    | 16   | 0    | 9    | 9    | 0    | 11   | 27   |
| Mvmt Flow                | 0     | 0    | 0    | 1949 | 0    | 250  | 0    | 351  | 0    | 0    | 640  | 67   |

| Major/Minor          | Minor1 | Major1 |   |   | Major2 |   |   |   |   |
|----------------------|--------|--------|---|---|--------|---|---|---|---|
| Conflicting Flow All | 671    | -      | - | - | 0      | - | - | - | 0 |
| Stage 1              | 351    | -      | - | - | -      | - | - | - | - |
| Stage 2              | 320    | -      | - | - | -      | - | - | - | - |
| Critical Hdwy        | 6.96   | -      | - | - | -      | - | - | - | - |
| Critical Hdwy Stg 1  | 5.96   | -      | - | - | -      | - | - | - | - |
| Critical Hdwy Stg 2  | 5.96   | -      | - | - | -      | - | - | - | - |
| Follow-up Hdwy       | 3.58   | -      | - | - | -      | - | - | - | - |
| Pot Cap-1 Maneuver   | ~ 377  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Stage 1              | ~ 666  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Stage 2              | ~ 691  | 0      | 0 | 0 | -      | 0 | 0 | - | 0 |
| Platoon blocked, %   |        |        |   |   |        |   |   |   |   |
| Mov Cap-1 Maneuver   | ~ 377  | 0      | - | - | -      | - | - | - | - |
| Mov Cap-2 Maneuver   | ~ 481  | 0      | - | - | -      | - | - | - | - |
| Stage 1              | ~ 666  | 0      | - | - | -      | - | - | - | - |
| Stage 2              | ~ 691  | 0      | - | - | -      | - | - | - | - |



















| Approach             | WB        | NB | SB |
|----------------------|-----------|----|----|
| HCM Control Delay, s | \$ 1395.6 | 0  | 0  |
| HCM LOS              | F         |    |    |

| Minor Lane/Major Mvmt | NBTWBLn1WBLn2 | SBT |
|-----------------------|---------------|-----|
| Capacity (veh/h)      | - 481         | -   |
| HCM Lane V/C Ratio    | - 4.052       | -   |
| HCM Control Delay (s) | \$ 1395.6     | 0   |
| HCM Lane LOS          | - F           | A   |
| HCM 95th %tile Q(veh) | - 187.4       | -   |

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

# HCM 6th Signalized Intersection Summary

## 204: Blythwood Rd & I-77 SB Ramps

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |  |  |  |  |   |  |   |   |   |  |  |
| Traffic Volume (veh/h)   | 0   | 1227  | 428   | 230   | 1251  | 0   | 0  | 0   | 0   | 55  | 0   | 702   |
| Future Volume (veh/h)  | 0   | 1227  | 428   | 230   | 1251  | 0   | 0  | 0   | 0   | 55  | 0   | 702   |
| Initial Q (Qb), veh  | 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  |
| Parking Bus, Adj   | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Work Zone On Approach  |   | No  |   |   | No  |   |  |   |   |   | No  |   |
| Adj Sat Flow, veh/h/ln   | 0   | 1841  | 1841  | 1856  | 1841  | 0   |  |   |   | 1841  | 1900  | 1544  |
| Adj Flow Rate, veh/h   | 0   | 1363  | 0   | 256   | 1390  | 0   |  |   |   | 61  | 0   | 780   |
| Peak Hour Factor   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |  |   |   | 0.90  | 0.90  | 0.90  |
| Percent Heavy Veh, %   | 0   | 4   | 4   | 3   | 4   | 0   |  |   |   | 4   | 0   | 24  |
| Cap, veh/h   | 0   | 873   |   | 287   | 1200  | 0   |  |   |   | 458   | 0   | 331   |
| Arrive On Green  | 0.00  | 0.47  | 0.00  | 0.13  | 0.65  | 0.00  |  |   |   | 0.25  | 0.00  | 0.25  |
| Sat Flow, veh/h  | 0   | 1841  | 1560  | 1767  | 1841  | 0   |  |   |   | 1810  | 0   | 1309  |
| Grp Volume(v), veh/h   | 0   | 1363  | 0   | 256   | 1390  | 0   |  |   |   | 61  | 0   | 780   |
| Grp Sat Flow(s),veh/h/ln   | 0   | 1841  | 1560  | 1767  | 1841  | 0   |  |   |   | 1810  | 0   | 1309  |
| Q Serve(g_s), s  | 0.0   | 60.0  | 0.0   | 13.9  | 82.5  | 0.0   |  |   |   | 3.3   | 0.0   | 32.0  |
| Cycle Q Clear(g_c), s  | 0.0   | 60.0  | 0.0   | 13.9  | 82.5  | 0.0   |  |   |   | 3.3   | 0.0   | 32.0  |
| Prop In Lane   | 0.00  |   | 1.00  | 1.00  |   | 0.00  |  |   |   | 1.00  |   | 1.00  |
| Lane Grp Cap(c), veh/h   | 0   | 873   |   | 287   | 1200  | 0   |  |   |   | 458   | 0   | 331   |
| V/C Ratio(X)   | 0.00  | 1.56  |   | 0.89  | 1.16  | 0.00  |  |   |   | 0.13  | 0.00  | 2.36  |
| Avail Cap(c_a), veh/h  | 0   | 873   |   | 476   | 1200  | 0   |  |   |   | 458   | 0   | 331   |
| HCM Platoon Ratio  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I)   | 0.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  |  |   |   | 1.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   | 0.0   | 33.2  | 0.0   | 41.6  | 22.0  | 0.0   |  |   |   | 36.5  | 0.0   | 47.2  |
| Incr Delay (d2), s/veh   | 0.0   | 258.0   | 0.0   | 11.5  | 80.8  | 0.0   |  |   |   | 0.1   | 0.0   | 619.3   |
| Initial Q Delay(d3),s/veh  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |  |   |   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   | 0.0   | 88.1  | 0.0   | 8.8   | 58.3  | 0.0   |  |   |   | 1.5   | 0.0   | 67.3  |
| Unsig. Movement Delay, s/veh   |   |   |   |   |   |   |  |   |   |   |   |   |
| LnGrp Delay(d),s/veh   | 0.0   | 291.3   | 0.0   | 53.1  | 102.8   | 0.0   |  |   |   | 36.6  | 0.0   | 666.6   |
| LnGrp LOS  | A   | F   |   | D   | F   | A   |  |   |   | D   | A   | F   |
| Approach Vol, veh/h  |   | 1363  |   |   | 1646  |   |  |   |   |   | 841   |   |
| Approach Delay, s/veh  |   | 291.3   |   |   | 95.0  |   |  |   |   |   | 620.9   |   |
| Approach LOS   |   | F   |   |   | F   |   |  |   |   |   | F   |   |
| Timer - Assigned Phs   | 1   | 2   |   | 4   |   | 6   |  |   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   | 22.5  | 66.0  |   | 38.0  |   | 88.5  |  |   |   |   |   |   |
| Change Period (Y+Rc), s  | 6.0   | 6.0   |   | 6.0   |   | 6.0   |  |   |   |   |   |   |
| Max Green Setting (Gmax), s  | 30.0  | 60.0  |   | 32.0  |   | 60.0  |  |   |   |   |   |   |
| Max Q Clear Time (g_c+I1), s   | 15.9  | 62.0  |   | 34.0  |   | 84.5  |  |   |   |   |   |   |
| Green Ext Time (p_c), s  | 0.6   | 0.0   |   | 0.0   |   | 0.0   |  |   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |  |   |   |   |   |   |
| HCM 6th Ctrl Delay   |   |   |   | 279.4   |   |   |  |   |   |   |   |   |
| HCM 6th LOS  |   |   |   | F   |   |   |  |   |   |   |   |   |
| <b>Notes</b>   |   |   |   |   |   |   |  |   |   |   |   |   |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. |   |   |   |   |   |   |  |   |   |   |   |   |

HCM 6th Signalized Intersection Summary  
 205: I-77 NB Ramps & Blythewood Rd

| Movement   | EBL    | EBT   | EBR  | WBL  | WBT   | WBR  | NBL  | NBT  | NBR  | SBL | SBT | SBR |
|--|--------|-------|------|------|-------|------|------|------|------|-----|-----|-----|
| Lane Configurations  |        |       |      |      |       |      |      |      |      |     |     |     |
| Traffic Volume (veh/h)   | 585    | 697   | 0    | 0    | 1079  | 130  | 402  | 0    | 50   | 0   | 0   | 0   |
| Future Volume (veh/h)  | 585    | 697   | 0    | 0    | 1079  | 130  | 402  | 0    | 50   | 0   | 0   | 0   |
| Initial Q (Qb), veh  | 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 |     |     |     |
| Parking Bus, Adj   | 1.00   | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |     |     |     |
| Work Zone On Approach  |        | No    |      |      | No    |      |      | No   |      |     |     |     |
| Adj Sat Flow, veh/h/ln   | 1678   | 1841  | 0    | 0    | 1856  | 1826 | 1796 | 1900 | 1856 |     |     |     |
| Adj Flow Rate, veh/h   | 650    | 774   | 0    | 0    | 1199  | 0    | 447  | 0    | 56   |     |     |     |
| Peak Hour Factor   | 0.90   | 0.90  | 0.90 | 0.90 | 0.90  | 0.90 | 0.90 | 0.90 | 0.90 |     |     |     |
| Percent Heavy Veh, %   | 15     | 4     | 0    | 0    | 3     | 5    | 7    | 0    | 3    |     |     |     |
| Cap, veh/h   | 122    | 904   | 0    | 0    | 912   |      | 553  | 0    | 480  |     |     |     |
| Arrive On Green  | 0.49   | 0.49  | 0.00 | 0.00 | 0.49  | 0.00 | 0.31 | 0.00 | 0.31 |     |     |     |
| Sat Flow, veh/h  | 419    | 1841  | 0    | 0    | 1856  | 1547 | 1810 | 0    | 1572 |     |     |     |
| Grp Volume(v), veh/h   | 650    | 774   | 0    | 0    | 1199  | 0    | 447  | 0    | 56   |     |     |     |
| Grp Sat Flow(s),veh/h/ln   | 419    | 1841  | 0    | 0    | 1856  | 1547 | 1810 | 0    | 1572 |     |     |     |
| Q Serve(g_s), s  | 0.0    | 21.8  | 0.0  | 0.0  | 29.0  | 0.0  | 13.5 | 0.0  | 1.5  |     |     |     |
| Cycle Q Clear(g_c), s  | 29.0   | 21.8  | 0.0  | 0.0  | 29.0  | 0.0  | 13.5 | 0.0  | 1.5  |     |     |     |
| Prop In Lane   | 1.00   |       | 0.00 | 0.00 |       | 1.00 | 1.00 |      | 1.00 |     |     |     |
| Lane Grp Cap(c), veh/h   | 122    | 904   | 0    | 0    | 912   |      | 553  | 0    | 480  |     |     |     |
| V/C Ratio(X)   | 5.33   | 0.86  | 0.00 | 0.00 | 1.32  |      | 0.81 | 0.00 | 0.12 |     |     |     |
| Avail Cap(c_a), veh/h  | 122    | 904   | 0    | 0    | 912   |      | 889  | 0    | 773  |     |     |     |
| HCM Platoon Ratio  | 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 | 0.00 | 1.00  | 0.00 | 1.00 | 0.00 | 1.00 |     |     |     |
| Uniform Delay (d), s/veh   | 29.5   | 13.2  | 0.0  | 0.0  | 15.0  | 0.0  | 18.9 | 0.0  | 14.8 |     |     |     |
| Incr Delay (d2), s/veh   | 1966.1 | 8.1   | 0.0  | 0.0  | 149.7 | 0.0  | 2.9  | 0.0  | 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  |     |     |     |
| %ile BackOfQ(50%),veh/ln   | 68.2   | 9.1   | 0.0  | 0.0  | 47.7  | 0.0  | 5.5  | 0.0  | 0.5  |     |     |     |
| Unsig. Movement Delay, s/veh   |        |       |      |      |       |      |      |      |      |     |     |     |
| LnGrp Delay(d),s/veh   | 1995.7 | 21.3  | 0.0  | 0.0  | 164.7 | 0.0  | 21.8 | 0.0  | 14.9 |     |     |     |
| LnGrp LOS  | F      | C     | A    | A    | F     |      | C    | A    | B    |     |     |     |
| Approach Vol, veh/h  |        | 1424  |      |      | 1199  |      |      | 503  |      |     |     |     |
| Approach Delay, s/veh  |        | 922.5 |      |      | 164.7 |      |      | 21.1 |      |     |     |     |
| Approach LOS   |        | F     |      |      | F     |      |      | C    |      |     |     |     |
| Timer - Assigned Phs   |        | 2     |      |      |       | 6    |      | 8    |      |     |     |     |
| Phs Duration (G+Y+Rc), s   |        | 35.0  |      |      |       | 35.0 |      | 24.0 |      |     |     |     |
| Change Period (Y+Rc), s  |        | 6.0   |      |      |       | 6.0  |      | 6.0  |      |     |     |     |
| Max Green Setting (Gmax), s  |        | 29.0  |      |      |       | 29.0 |      | 29.0 |      |     |     |     |
| Max Q Clear Time (g_c+I1), s   |        | 31.0  |      |      |       | 31.0 |      | 15.5 |      |     |     |     |
| Green Ext Time (p_c), s  |        | 0.0   |      |      |       | 0.0  |      | 2.6  |      |     |     |     |
| <b>Intersection Summary</b>  |        |       |      |      |       |      |      |      |      |     |     |     |
| HCM 6th Ctrl Delay   |        |       |      |      | 486.8 |      |      |      |      |     |     |     |
| HCM 6th LOS  |        |       |      |      | F     |      |      |      |      |     |     |     |
| <b>Notes</b>   |        |       |      |      |       |      |      |      |      |     |     |     |
| Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay. |        |       |      |      |       |      |      |      |      |     |     |     |

HCM 6th TWSC  
102: US 21 & I-77 SB Ramps

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↖    |      | ↗    |      |      |      |      | ↑↑   | ↗    |      | ↑↑   |      |
| Traffic Vol, veh/h       | 50   | 0    | 50   | 0    | 0    | 0    | 0    | 507  | 1938 | 0    | 1981 | 0    |
| Future Vol, veh/h        | 50   | 0    | 50   | 0    | 0    | 0    | 0    | 507  | 1938 | 0    | 1981 | 0    |
| 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           | -    | -    | Free | -    | -    | None | -    | -    | Free | -    | -    | None |
| Storage Length           | 0    | -    | 0    | -    | -    | -    | -    | -    | 200  | -    | -    | -    |
| Veh in Median Storage, # | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 20   | 0    | 8    | 0    | 0    | 0    | 0    | 8    | 3    | 0    | 7    | 12   |
| Mvmt Flow                | 56   | 0    | 56   | 0    | 0    | 0    | 0    | 563  | 2153 | 0    | 2201 | 0    |

| Major/Minor          | Minor2 | Major1 |   | Major2 |     |
|----------------------|--------|--------|---|--------|-----|
| Conflicting Flow All | 2483   | -      | - | -      | 0   |
| Stage 1              | 2201   | -      | - | -      | -   |
| Stage 2              | 282    | -      | - | -      | -   |
| Critical Hdwy        | 7.2    | -      | - | -      | -   |
| Critical Hdwy Stg 1  | 6.2    | -      | - | -      | -   |
| Critical Hdwy Stg 2  | 6.2    | -      | - | -      | -   |
| Follow-up Hdwy       | 3.7    | -      | - | -      | -   |
| Pot Cap-1 Maneuver   | ~ 19   | 0      | 0 | 0      | - 0 |
| Stage 1              | ~ 55   | 0      | 0 | 0      | - 0 |
| Stage 2              | 690    | 0      | 0 | 0      | - 0 |
| Platoon blocked, %   |        |        |   |        | -   |
| Mov Cap-1 Maneuver   | ~ 19   | 0      | - | -      | -   |
| Mov Cap-2 Maneuver   | ~ 49   | 0      | - | -      | -   |
| Stage 1              | ~ 55   | 0      | - | -      | -   |
| Stage 2              | 690    | 0      | - | -      | -   |

| Approach             | EB       | NB | SB |
|----------------------|----------|----|----|
| HCM Control Delay, s | \$ 304.5 | 0  | 0  |
| HCM LOS              | F        |    |    |

| Minor Lane/Major Mvmt | NBT | EBLn1    | EBLn2 | SBT |
|-----------------------|-----|----------|-------|-----|
| Capacity (veh/h)      | -   | 49       | -     | -   |
| HCM Lane V/C Ratio    | -   | 1.134    | -     | -   |
| HCM Control Delay (s) | -   | \$ 304.5 | 0     | -   |
| HCM Lane LOS          | -   | F        | A     | -   |
| HCM 95th %tile Q(veh) | -   | 5        | -     | -   |

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



HCM 6th TWSC  
 103: US 21 & I-77 NB Ramps

| Intersection             |       |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 978.9 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |       |      |      | ↘    |      | ↗    |      | ↑↑   |      |      | ↑↑   | ↗    |
| Traffic Vol, veh/h       | 0     | 0    | 0    | 1605 | 0    | 405  | 0    | 497  | 0    | 0    | 666  | 90   |
| Future Vol, veh/h        | 0     | 0    | 0    | 1605 | 0    | 405  | 0    | 497  | 0    | 0    | 666  | 90   |
| Conflicting Peds, #/hr   | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop  | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -     | -    | None | -    | -    | Free | -    | -    | None | -    | -    | Free |
| Storage Length           | -     | -    | -    | 0    | -    | 0    | -    | -    | -    | -    | -    | 225  |
| Veh in Median Storage, # | -     | 2    | -    | -    | 1    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -     | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90    | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0     | 0    | 0    | 8    | 0    | 16   | 0    | 9    | 9    | 0    | 11   | 27   |
| Mvmt Flow                | 0     | 0    | 0    | 1783 | 0    | 450  | 0    | 552  | 0    | 0    | 740  | 100  |













| Major/Minor          | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 922    | -      | -      |
| Stage 1              | 552    | -      | -      |
| Stage 2              | 370    | -      | -      |
| Critical Hdwy        | 6.96   | -      | -      |
| Critical Hdwy Stg 1  | 5.96   | -      | -      |
| Critical Hdwy Stg 2  | 5.96   | -      | -      |
| Follow-up Hdwy       | 3.58   | -      | -      |
| Pot Cap-1 Maneuver   | ~ 258  | 0      | 0      |
| Stage 1              | ~ 524  | 0      | 0      |
| Stage 2              | ~ 651  | 0      | 0      |
| Platoon blocked, %   |        |        |        |
| Mov Cap-1 Maneuver   | ~ 258  | 0      | -      |
| Mov Cap-2 Maneuver   | ~ 380  | 0      | -      |
| Stage 1              | ~ 524  | 0      | -      |
| Stage 2              | ~ 651  | 0      | -      |

| Approach             | WB        | NB | SB |
|----------------------|-----------|----|----|
| HCM Control Delay, s | \$ 1688.3 | 0  | 0  |
| HCM LOS              | F         |    |    |

| Minor Lane/Major Mvmt | NBTWBLn1WBLn2 | SBT |
|-----------------------|---------------|-----|
| Capacity (veh/h)      | - 380         | -   |
| HCM Lane V/C Ratio    | - 4.693       | -   |
| HCM Control Delay (s) | \$ 1688.3     | 0   |
| HCM Lane LOS          | - F           | A   |
| HCM 95th %tile Q(veh) | - 179.2       | -   |

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

HCM 6th Signalized Intersection Summary  
 204: Blythewood Rd & I-77 SB Ramps

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   | ↑   | ↗   | ↖   | ↑   |   |  |   |   |   | ↖   | ↗   |
| Traffic Volume (veh/h)   | 0   | 1906  | 570   | 265   | 1608  | 0   | 0  | 0   | 0   | 140   | 0   | 616   |
| Future Volume (veh/h)  | 0   | 1906  | 570   | 265   | 1608  | 0   | 0  | 0   | 0   | 140   | 0   | 616   |
| Initial Q (Qb), veh  | 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  |
| Parking Bus, Adj   | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Work Zone On Approach  |   | No  |   |   | No  |   |  |   |   |   | No  |   |
| Adj Sat Flow, veh/h/ln   | 0   | 1841  | 1856  | 1856  | 1841  | 0   |  |   |   | 1841  | 1900  | 1544  |
| Adj Flow Rate, veh/h   | 0   | 2118  | 0   | 294   | 1787  | 0   |  |   |   | 156   | 0   | 684   |
| Peak Hour Factor   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |  |   |   | 0.90  | 0.90  | 0.90  |
| Percent Heavy Veh, %   | 0   | 4   | 3   | 3   | 4   | 0   |  |   |   | 4   | 0   | 24  |
| Cap, veh/h   | 0   | 851   |   | 324   | 1216  | 0   |  |   |   | 446   | 0   | 323   |
| Arrive On Green  | 0.00  | 0.46  | 0.00  | 0.15  | 0.66  | 0.00  |  |   |   | 0.25  | 0.00  | 0.25  |
| Sat Flow, veh/h  | 0   | 1841  | 1572  | 1767  | 1841  | 0   |  |   |   | 1810  | 0   | 1309  |
| Grp Volume(v), veh/h   | 0   | 2118  | 0   | 294   | 1787  | 0   |  |   |   | 156   | 0   | 684   |
| Grp Sat Flow(s),veh/h/ln   | 0   | 1841  | 1572  | 1767  | 1841  | 0   |  |   |   | 1810  | 0   | 1309  |
| Q Serve(g_s), s  | 0.0   | 60.0  | 0.0   | 17.1  | 85.7  | 0.0   |  |   |   | 9.2   | 0.0   | 32.0  |
| Cycle Q Clear(g_c), s  | 0.0   | 60.0  | 0.0   | 17.1  | 85.7  | 0.0   |  |   |   | 9.2   | 0.0   | 32.0  |
| Prop In Lane   | 0.00  |   | 1.00  | 1.00  |   | 0.00  |  |   |   | 1.00  |   | 1.00  |
| Lane Grp Cap(c), veh/h   | 0   | 851   |   | 324   | 1216  | 0   |  |   |   | 446   | 0   | 323   |
| V/C Ratio(X)   | 0.00  | 2.49  |   | 0.91  | 1.47  | 0.00  |  |   |   | 0.35  | 0.00  | 2.12  |
| Avail Cap(c_a), veh/h  | 0   | 851   |   | 464   | 1216  | 0   |  |   |   | 446   | 0   | 323   |
| HCM Platoon Ratio  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |   |   | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I)   | 0.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  |  |   |   | 1.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   | 0.0   | 34.9  | 0.0   | 43.2  | 22.0  | 0.0   |  |   |   | 40.3  | 0.0   | 48.9  |
| Incr Delay (d2), s/veh   | 0.0   | 672.9   | 0.0   | 16.5  | 215.7   | 0.0   |  |   |   | 0.5   | 0.0   | 513.7   |
| Initial Q Delay(d3),s/veh  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |  |   |   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   | 0.0   | 184.9   | 0.0   | 10.8  | 105.6   | 0.0   |  |   |   | 4.2   | 0.0   | 56.5  |
| Unsig. Movement Delay, s/veh   |   |   |   |   |   |   |  |   |   |   |   |   |
| LnGrp Delay(d),s/veh   | 0.0   | 707.8   | 0.0   | 59.7  | 237.7   | 0.0   |  |   |   | 40.7  | 0.0   | 562.6   |
| LnGrp LOS  | A   | F   |   | E   | F   | A   |  |   |   | D   | A   | F   |
| Approach Vol, veh/h  |   | 2118  |   |   | 2081  |   |  |   |   |   | 840   |   |
| Approach Delay, s/veh  |   | 707.8   |   |   | 212.5   |   |  |   |   |   | 465.6   |   |
| Approach LOS   |   | F   |   |   | F   |   |  |   |   |   | F   |   |
| Timer - Assigned Phs   | 1   | 2   |   | 4   |   | 6   |  |   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   | 25.7  | 66.0  |   | 38.0  |   | 91.7  |  |   |   |   |   |   |
| Change Period (Y+Rc), s  | 6.0   | 6.0   |   | 6.0   |   | 6.0   |  |   |   |   |   |   |
| Max Green Setting (Gmax), s  | 30.0  | 60.0  |   | 32.0  |   | 60.0  |  |   |   |   |   |   |
| Max Q Clear Time (g_c+I1), s   | 19.1  | 62.0  |   | 34.0  |   | 87.7  |  |   |   |   |   |   |
| Green Ext Time (p_c), s  | 0.7   | 0.0   |   | 0.0   |   | 0.0   |  |   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |  |   |   |   |   |   |
| HCM 6th Ctrl Delay   |   |   | 462.9   |   |   |   |  |   |   |   |   |   |
| HCM 6th LOS  |   |   | F   |   |   |   |  |   |   |   |   |   |
| <b>Notes</b>   |   |   |   |   |   |   |  |   |   |   |   |   |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. |   |   |   |   |   |   |  |   |   |   |   |   |

HCM 6th Signalized Intersection Summary  
 205: I-77 NB Ramps & Blythewood Rd

| Movement   | EBL    | EBT    | EBR  | WBL  | WBT   | WBR  | NBL   | NBT   | NBR  | SBL | SBT | SBR |
|--|--------|--------|------|------|-------|------|-------|-------|------|-----|-----|-----|
| Lane Configurations  |        |        |      |      |       |      |       |       |      |     |     |     |
| Traffic Volume (veh/h)   | 736    | 1310   | 0    | 0    | 1310  | 165  | 563   | 0     | 365  | 0   | 0   | 0   |
| Future Volume (veh/h)  | 736    | 1310   | 0    | 0    | 1310  | 165  | 563   | 0     | 365  | 0   | 0   | 0   |
| Initial Q (Qb), veh  | 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 |     |     |     |
| Parking Bus, Adj   | 1.00   | 1.00   | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |     |     |     |
| Work Zone On Approach  |        | No     |      |      | No    |      |       | No    |      |     |     |     |
| Adj Sat Flow, veh/h/ln   | 1678   | 1841   | 0    | 0    | 1856  | 1826 | 1796  | 1900  | 1856 |     |     |     |
| Adj Flow Rate, veh/h   | 818    | 1456   | 0    | 0    | 1456  | 0    | 626   | 0     | 406  |     |     |     |
| Peak Hour Factor   | 0.90   | 0.90   | 0.90 | 0.90 | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |     |     |     |
| Percent Heavy Veh, %   | 15     | 4      | 0    | 0    | 3     | 5    | 7     | 0     | 3    |     |     |     |
| Cap, veh/h   | 120    | 982    | 0    | 0    | 990   |      | 483   | 0     | 419  |     |     |     |
| Arrive On Green  | 0.53   | 0.53   | 0.00 | 0.00 | 0.53  | 0.00 | 0.27  | 0.00  | 0.27 |     |     |     |
| Sat Flow, veh/h  | 327    | 1841   | 0    | 0    | 1856  | 1547 | 1810  | 0     | 1572 |     |     |     |
| Grp Volume(v), veh/h   | 818    | 1456   | 0    | 0    | 1456  | 0    | 626   | 0     | 406  |     |     |     |
| Grp Sat Flow(s),veh/h/ln   | 327    | 1841   | 0    | 0    | 1856  | 1547 | 1810  | 0     | 1572 |     |     |     |
| Q Serve(g_s), s  | 0.0    | 32.0   | 0.0  | 0.0  | 32.0  | 0.0  | 16.0  | 0.0   | 15.3 |     |     |     |
| Cycle Q Clear(g_c), s  | 32.0   | 32.0   | 0.0  | 0.0  | 32.0  | 0.0  | 16.0  | 0.0   | 15.3 |     |     |     |
| Prop In Lane   | 1.00   |        | 0.00 | 0.00 |       | 1.00 | 1.00  |       | 1.00 |     |     |     |
| Lane Grp Cap(c), veh/h   | 120    | 982    | 0    | 0    | 990   |      | 483   | 0     | 419  |     |     |     |
| V/C Ratio(X)   | 6.82   | 1.48   | 0.00 | 0.00 | 1.47  |      | 1.30  | 0.00  | 0.97 |     |     |     |
| Avail Cap(c_a), veh/h  | 120    | 982    | 0    | 0    | 990   |      | 483   | 0     | 419  |     |     |     |
| HCM Platoon Ratio  | 1.00   | 1.00   | 1.00 | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 |     |     |     |
| Upstream Filter(I)   | 0.09   | 0.09   | 0.00 | 0.00 | 1.00  | 0.00 | 1.00  | 0.00  | 1.00 |     |     |     |
| Uniform Delay (d), s/veh   | 30.0   | 14.0   | 0.0  | 0.0  | 14.0  | 0.0  | 22.0  | 0.0   | 21.7 |     |     |     |
| Incr Delay (d2), s/veh   | 2619.1 | 217.9  | 0.0  | 0.0  | 217.6 | 0.0  | 148.5 | 0.0   | 35.6 |     |     |     |
| Initial Q Delay(d3),s/veh  | 0.0    | 0.0    | 0.0  | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   | 0.0  |     |     |     |
| %ile BackOfQ(50%),veh/ln   | 88.9   | 69.2   | 0.0  | 0.0  | 70.2  | 0.0  | 26.0  | 0.0   | 9.2  |     |     |     |
| Unsig. Movement Delay, s/veh   |        |        |      |      |       |      |       |       |      |     |     |     |
| LnGrp Delay(d),s/veh   | 2649.1 | 231.9  | 0.0  | 0.0  | 231.6 | 0.0  | 170.5 | 0.0   | 57.4 |     |     |     |
| LnGrp LOS  | F      | F      | A    | A    | F     |      | F     | A     | E    |     |     |     |
| Approach Vol, veh/h  |        | 2274   |      |      | 1456  |      |       | 1032  |      |     |     |     |
| Approach Delay, s/veh  |        | 1101.4 |      |      | 231.6 |      |       | 126.0 |      |     |     |     |
| Approach LOS   |        | F      |      |      | F     |      |       | F     |      |     |     |     |
| Timer - Assigned Phs   |        | 2      |      |      |       | 6    |       | 8     |      |     |     |     |
| Phs Duration (G+Y+Rc), s   |        | 38.0   |      |      |       | 38.0 |       | 22.0  |      |     |     |     |
| Change Period (Y+Rc), s  |        | 6.0    |      |      |       | 6.0  |       | 6.0   |      |     |     |     |
| Max Green Setting (Gmax), s  |        | 32.0   |      |      |       | 32.0 |       | 16.0  |      |     |     |     |
| Max Q Clear Time (g_c+I1), s   |        | 34.0   |      |      |       | 34.0 |       | 18.0  |      |     |     |     |
| Green Ext Time (p_c), s  |        | 0.0    |      |      |       | 0.0  |       | 0.0   |      |     |     |     |
| <b>Intersection Summary</b>  |        |        |      |      |       |      |       |       |      |     |     |     |
| HCM 6th Ctrl Delay   |        |        |      |      | 624.1 |      |       |       |      |     |     |     |
| HCM 6th LOS  |        |        |      |      | F     |      |       |       |      |     |     |     |
| <b>Notes</b>   |        |        |      |      |       |      |       |       |      |     |     |     |
| Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay. |        |        |      |      |       |      |       |       |      |     |     |     |

Intersection: 101: US 21 & Community Rd

| Movement              | EB   | EB  | NB  | NB  | NB  | SB  | SB  |
|-----------------------|------|-----|-----|-----|-----|-----|-----|
| Directions Served     | L    | TR  | L   | T   | TR  | T   | TR  |
| Maximum Queue (ft)    | 461  | 285 | 174 | 249 | 390 | 212 | 336 |
| Average Queue (ft)    | 221  | 73  | 81  | 72  | 181 | 74  | 150 |
| 95th Queue (ft)       | 375  | 208 | 143 | 172 | 324 | 143 | 273 |
| Link Distance (ft)    | 1238 |     |     | 617 | 617 | 361 | 361 |
| Upstream Blk Time (%) |      |     |     |     |     |     | 0   |
| Queuing Penalty (veh) |      |     |     |     |     |     | 1   |
| Storage Bay Dist (ft) |      | 260 | 250 |     |     |     |     |
| Storage Blk Time (%)  | 5    | 0   |     | 0   |     | 0   |     |
| Queuing Penalty (veh) | 8    | 0   |     | 0   |     | 0   |     |

Intersection: 102: US 21 & I-77 SB Ramps

| Movement              | EB   | NB  |
|-----------------------|------|-----|
| Directions Served     | L    | T   |
| Maximum Queue (ft)    | 137  | 15  |
| Average Queue (ft)    | 59   | 1   |
| 95th Queue (ft)       | 112  | 8   |
| Link Distance (ft)    | 2245 | 530 |
| Upstream Blk Time (%) |      |     |
| Queuing Penalty (veh) |      |     |
| Storage Bay Dist (ft) |      |     |
| Storage Blk Time (%)  |      |     |
| Queuing Penalty (veh) |      |     |

Intersection: 103: US 21 & I-77 NB Ramps

| Movement              | SB  | SB  | SB  | B49 | NW   | NW  |
|-----------------------|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | T   | R   | T   | <    | R   |
| Maximum Queue (ft)    | 8   | 28  | 12  | 9   | 2367 | 225 |
| Average Queue (ft)    | 0   | 2   | 0   | 0   | 2133 | 201 |
| 95th Queue (ft)       | 6   | 24  | 8   | 5   | 3007 | 315 |
| Link Distance (ft)    | 575 | 575 |     | 200 | 2304 |     |
| Upstream Blk Time (%) |     |     |     |     | 83   |     |
| Queuing Penalty (veh) |     |     |     |     | 0    |     |
| Storage Bay Dist (ft) |     |     | 225 |     |      | 200 |
| Storage Blk Time (%)  |     |     |     |     | 91   | 1   |
| Queuing Penalty (veh) |     |     |     |     | 456  | 3   |

Intersection: 204: Blythewood Rd & I-77 SB Ramps

| Movement              | EB  | EB  | WB  | WB  | SB   | SB  |
|-----------------------|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | R   | L   | T   | LT   | R   |
| Maximum Queue (ft)    | 680 | 696 | 337 | 576 | 580  | 298 |
| Average Queue (ft)    | 616 | 582 | 183 | 201 | 200  | 55  |
| 95th Queue (ft)       | 809 | 907 | 303 | 400 | 500  | 242 |
| Link Distance (ft)    | 610 | 610 |     | 840 | 1886 |     |
| Upstream Blk Time (%) | 64  | 46  |     | 0   |      |     |
| Queuing Penalty (veh) | 464 | 336 |     | 0   |      |     |
| Storage Bay Dist (ft) |     |     | 320 |     |      | 375 |
| Storage Blk Time (%)  |     |     | 1   | 0   | 7    | 0   |
| Queuing Penalty (veh) |     |     | 15  | 0   | 9    | 0   |

Intersection: 205: I-77 NB Ramps & Blythewood Rd

| Movement              | EB  | EB   | WB  | WB  | NB  | NB   |
|-----------------------|-----|------|-----|-----|-----|------|
| Directions Served     | L   | T    | T   | R   | LT  | R    |
| Maximum Queue (ft)    | 305 | 858  | 483 | 345 | 390 | 1640 |
| Average Queue (ft)    | 205 | 778  | 377 | 96  | 314 | 1454 |
| 95th Queue (ft)       | 401 | 1085 | 621 | 351 | 541 | 2096 |
| Link Distance (ft)    |     | 840  | 469 |     |     | 1586 |
| Upstream Blk Time (%) |     | 24   | 2   |     |     | 80   |
| Queuing Penalty (veh) |     | 225  | 32  |     |     | 0    |
| Storage Bay Dist (ft) | 280 |      |     | 320 | 365 |      |
| Storage Blk Time (%)  | 8   | 61   | 14  | 0   | 5   | 83   |
| Queuing Penalty (veh) | 69  | 69   | 25  | 1   | 15  | 314  |

Intersection: 206: Creech Rd/McNulty St & Blythewood Rd

| Movement              | EB  | WB  | NB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | L   | TR  | LTR |
| Maximum Queue (ft)    | 584 | 454 | 506 | 422 | 259 |
| Average Queue (ft)    | 551 | 390 | 404 | 279 | 232 |
| 95th Queue (ft)       | 607 | 547 | 637 | 628 | 249 |
| Link Distance (ft)    | 469 | 402 | 495 | 495 | 228 |
| Upstream Blk Time (%) | 85  | 31  | 50  | 44  | 99  |
| Queuing Penalty (veh) | 982 | 0   | 0   | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

**Intersection: 101: US 21 & Community Rd**

| Movement              | EB   | EB  | NB  | NB  | NB  | SB  | SB  | B40 |
|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L    | TR  | L   | T   | TR  | T   | TR  | T   |
| Maximum Queue (ft)    | 1299 | 285 | 222 | 189 | 257 | 339 | 415 | 44  |
| Average Queue (ft)    | 1189 | 234 | 111 | 63  | 145 | 158 | 254 | 2   |
| 95th Queue (ft)       | 1577 | 380 | 192 | 139 | 236 | 278 | 388 | 28  |
| Link Distance (ft)    | 1238 |     |     | 617 | 617 | 361 | 361 | 530 |
| Upstream Blk Time (%) | 57   |     |     |     |     | 0   | 2   |     |
| Queuing Penalty (veh) | 0    |     |     |     |     | 1   | 9   |     |
| Storage Bay Dist (ft) |      | 260 | 250 |     |     |     |     |     |
| Storage Blk Time (%)  | 54   | 0   | 0   |     |     | 3   |     |     |
| Queuing Penalty (veh) | 197  | 2   | 0   |     |     | 0   |     |     |

**Intersection: 102: US 21 & I-77 SB Ramps**

| Movement              | EB   | NB  |
|-----------------------|------|-----|
| Directions Served     | L    | T   |
| Maximum Queue (ft)    | 129  | 12  |
| Average Queue (ft)    | 54   | 0   |
| 95th Queue (ft)       | 120  | 6   |
| Link Distance (ft)    | 2245 | 530 |
| Upstream Blk Time (%) |      |     |
| Queuing Penalty (veh) |      |     |
| Storage Bay Dist (ft) |      |     |
| Storage Blk Time (%)  |      |     |
| Queuing Penalty (veh) |      |     |

**Intersection: 103: US 21 & I-77 NB Ramps**

| Movement              | SB  | SB  | SB  | B49 | B55 | NW   | NW  |
|-----------------------|-----|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | T   | R   | T   | T   | <    | R   |
| Maximum Queue (ft)    | 36  | 54  | 8   | 3   | 6   | 2362 | 225 |
| Average Queue (ft)    | 2   | 3   | 0   | 0   | 0   | 2275 | 204 |
| 95th Queue (ft)       | 20  | 25  | 6   | 2   | 4   | 2679 | 312 |
| Link Distance (ft)    | 575 | 575 |     | 200 | 319 | 2304 |     |
| Upstream Blk Time (%) |     |     |     |     |     | 91   |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0    |     |
| Storage Bay Dist (ft) |     |     | 225 |     |     |      | 200 |
| Storage Blk Time (%)  |     |     |     |     |     | 92   | 1   |
| Queuing Penalty (veh) |     |     |     |     |     | 646  | 6   |

**Intersection: 204: Blythewood Rd & I-77 SB Ramps**

| Movement              | EB  | EB  | WB  | WB  | SB   | SB  |
|-----------------------|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | R   | L   | T   | LT   | R   |
| Maximum Queue (ft)    | 678 | 694 | 344 | 581 | 678  | 398 |
| Average Queue (ft)    | 619 | 556 | 146 | 246 | 292  | 112 |
| 95th Queue (ft)       | 797 | 953 | 307 | 470 | 617  | 373 |
| Link Distance (ft)    | 610 | 610 |     | 840 | 1886 |     |
| Upstream Blk Time (%) | 71  | 48  |     |     |      |     |
| Queuing Penalty (veh) | 432 | 290 |     |     |      |     |
| Storage Bay Dist (ft) |     |     | 320 |     |      | 375 |
| Storage Blk Time (%)  |     |     | 0   | 4   | 14   | 0   |
| Queuing Penalty (veh) |     |     | 0   | 13  | 18   | 0   |

**Intersection: 205: I-77 NB Ramps & Blythewood Rd**

| Movement              | EB  | EB   | WB  | WB  | NB  | NB   |
|-----------------------|-----|------|-----|-----|-----|------|
| Directions Served     | L   | T    | T   | R   | LT  | R    |
| Maximum Queue (ft)    | 305 | 858  | 486 | 345 | 390 | 1638 |
| Average Queue (ft)    | 230 | 787  | 359 | 137 | 366 | 1536 |
| 95th Queue (ft)       | 411 | 1044 | 601 | 415 | 501 | 1954 |
| Link Distance (ft)    |     | 840  | 469 |     |     | 1586 |
| Upstream Blk Time (%) |     | 22   | 2   |     |     | 85   |
| Queuing Penalty (veh) |     | 256  | 27  |     |     | 0    |
| Storage Bay Dist (ft) | 280 |      |     | 320 | 365 |      |
| Storage Blk Time (%)  | 2   | 61   | 14  | 0   | 1   | 80   |
| Queuing Penalty (veh) | 21  | 99   | 24  | 1   | 4   | 446  |

**Intersection: 206: Creech Rd/McNulty St & Blythewood Rd**

| Movement              | EB   | WB  | NB  | NB  | SB  |
|-----------------------|------|-----|-----|-----|-----|
| Directions Served     | LTR  | LTR | L   | TR  | LTR |
| Maximum Queue (ft)    | 568  | 460 | 516 | 488 | 240 |
| Average Queue (ft)    | 523  | 387 | 368 | 209 | 199 |
| 95th Queue (ft)       | 712  | 547 | 618 | 561 | 281 |
| Link Distance (ft)    | 469  | 402 | 495 | 495 | 228 |
| Upstream Blk Time (%) | 68   | 40  | 43  | 22  | 74  |
| Queuing Penalty (veh) | 1138 | 0   | 0   | 0   | 0   |
| Storage Bay Dist (ft) |      |     |     |     |     |
| Storage Blk Time (%)  |      |     |     |     |     |
| Queuing Penalty (veh) |      |     |     |     |     |

**Intersection: 101: US 21 & Community Rd**

| Movement              | EB   | EB  | NB  | NB  | NB  | SB  | SB  | B40 | B40 |
|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L    | TR  | L   | T   | TR  | T   | TR  | T   | T   |
| Maximum Queue (ft)    | 1294 | 285 | 275 | 635 | 576 | 99  | 479 | 568 | 575 |
| Average Queue (ft)    | 1268 | 151 | 274 | 606 | 69  | 17  | 442 | 269 | 442 |
| 95th Queue (ft)       | 1289 | 356 | 277 | 750 | 250 | 60  | 518 | 662 | 739 |
| Link Distance (ft)    | 1238 |     |     | 617 | 617 | 361 | 361 | 530 | 530 |
| Upstream Blk Time (%) | 79   |     |     | 55  | 0   |     | 62  | 3   | 26  |
| Queuing Penalty (veh) | 0    |     |     | 193 | 0   |     | 643 | 19  | 182 |
| Storage Bay Dist (ft) |      | 260 | 250 |     |     |     |     |     |     |
| Storage Blk Time (%)  | 68   | 0   | 88  | 2   |     |     |     |     |     |
| Queuing Penalty (veh) | 275  | 2   | 88  | 10  |     |     |     |     |     |

**Intersection: 102: US 21 & I-77 SB Ramps**

| Movement              | EB   | SB  | SB  | B45 | B45 |
|-----------------------|------|-----|-----|-----|-----|
| Directions Served     | L    | T   | T   | T   | T   |
| Maximum Queue (ft)    | 102  | 266 | 305 | 317 | 332 |
| Average Queue (ft)    | 35   | 126 | 173 | 93  | 133 |
| 95th Queue (ft)       | 83   | 307 | 386 | 310 | 369 |
| Link Distance (ft)    | 2245 | 194 | 194 | 328 | 328 |
| Upstream Blk Time (%) |      | 10  | 46  | 2   | 8   |
| Queuing Penalty (veh) |      | 105 | 481 | 16  | 87  |
| Storage Bay Dist (ft) |      |     |     |     |     |
| Storage Blk Time (%)  |      |     |     |     |     |
| Queuing Penalty (veh) |      |     |     |     |     |

**Intersection: 103: US 21 & I-77 NB Ramps**

| Movement              | NB  | NB  | SB  | SB  | SB  | NW   | NW  |
|-----------------------|-----|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | T   | T   | T   | R   | <    | R   |
| Maximum Queue (ft)    | 48  | 48  | 54  | 71  | 28  | 2367 | 225 |
| Average Queue (ft)    | 3   | 3   | 9   | 5   | 1   | 2338 | 163 |
| 95th Queue (ft)       | 22  | 20  | 36  | 31  | 16  | 2362 | 329 |
| Link Distance (ft)    | 148 | 148 | 575 | 575 |     | 2304 |     |
| Upstream Blk Time (%) |     |     |     |     |     | 98   |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0    |     |
| Storage Bay Dist (ft) |     |     |     |     | 225 |      | 200 |
| Storage Blk Time (%)  |     |     |     |     |     | 97   | 0   |
| Queuing Penalty (veh) |     |     |     |     |     | 218  | 6   |



**Intersection: 204: Blythewood Rd & I-77 SB Ramps**

| Movement              | EB  | EB  | WB  | WB  | SB   | SB  |
|-----------------------|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | R   | L   | T   | LT   | R   |
| Maximum Queue (ft)    | 688 | 683 | 345 | 860 | 1949 | 400 |
| Average Queue (ft)    | 605 | 534 | 279 | 829 | 1845 | 400 |
| 95th Queue (ft)       | 810 | 965 | 482 | 958 | 2281 | 402 |
| Link Distance (ft)    | 610 | 610 |     | 840 | 1886 |     |
| Upstream Blk Time (%) | 64  | 51  |     | 18  | 85   |     |
| Queuing Penalty (veh) | 535 | 428 |     | 260 | 0    |     |
| Storage Bay Dist (ft) |     |     | 320 |     |      | 375 |
| Storage Blk Time (%)  |     |     | 0   | 63  | 10   | 87  |
| Queuing Penalty (veh) |     |     | 1   | 145 | 68   | 48  |

**Intersection: 205: I-77 NB Ramps & Blythewood Rd**

| Movement              | EB  | EB   | WB  | WB  | NB  | NB   |
|-----------------------|-----|------|-----|-----|-----|------|
| Directions Served     | L   | T    | T   | R   | LT  | R    |
| Maximum Queue (ft)    | 305 | 856  | 491 | 345 | 390 | 590  |
| Average Queue (ft)    | 302 | 802  | 481 | 246 | 242 | 83   |
| 95th Queue (ft)       | 327 | 1033 | 503 | 502 | 420 | 399  |
| Link Distance (ft)    |     | 840  | 469 |     |     | 1586 |
| Upstream Blk Time (%) |     | 17   | 49  |     |     |      |
| Queuing Penalty (veh) |     | 224  | 594 |     |     |      |
| Storage Bay Dist (ft) | 280 |      |     | 320 | 365 |      |
| Storage Blk Time (%)  | 79  | 8    | 80  | 0   | 10  | 0    |
| Queuing Penalty (veh) | 552 | 48   | 103 | 2   | 5   | 0    |

**Intersection: 206: Creech Rd/McNulty St & Blythewood Rd**

| Movement              | EB  | WB  | NB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | L   | TR  | LTR |
| Maximum Queue (ft)    | 211 | 460 | 466 | 313 | 261 |
| Average Queue (ft)    | 24  | 410 | 253 | 62  | 209 |
| 95th Queue (ft)       | 107 | 525 | 524 | 295 | 303 |
| Link Distance (ft)    | 469 | 402 | 495 | 495 | 228 |
| Upstream Blk Time (%) |     | 84  | 10  | 7   | 82  |
| Queuing Penalty (veh) |     | 0   | 0   | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

**Intersection: 101: US 21 & Community Rd**

| Movement              | EB   | EB  | NB  | NB  | NB  | SB  | SB  | B40 | B40 | B40 |
|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L    | TR  | L   | T   | TR  | T   | TR  | T   | T   |     |
| Maximum Queue (ft)    | 1301 | 285 | 275 | 636 | 519 | 282 | 479 | 560 | 574 | 234 |
| Average Queue (ft)    | 1267 | 164 | 274 | 599 | 106 | 75  | 438 | 213 | 384 | 29  |
| 95th Queue (ft)       | 1290 | 373 | 280 | 780 | 330 | 205 | 523 | 595 | 713 | 192 |
| Link Distance (ft)    | 1238 |     |     | 617 | 617 | 361 | 361 | 530 | 530 | 530 |
| Upstream Blk Time (%) | 79   |     |     | 57  | 0   | 0   | 57  | 2   | 15  |     |
| Queuing Penalty (veh) | 0    |     |     | 240 | 0   | 1   | 581 | 13  | 100 |     |
| Storage Bay Dist (ft) |      | 260 | 250 |     |     |     |     |     |     |     |
| Storage Blk Time (%)  | 68   | 0   | 88  | 1   |     | 0   |     |     |     |     |
| Queuing Penalty (veh) | 367  | 3   | 159 | 6   |     | 0   |     |     |     |     |

**Intersection: 102: US 21 & I-77 SB Ramps**

| Movement              | EB   | SB  | SB  | B45 | B45 |
|-----------------------|------|-----|-----|-----|-----|
| Directions Served     | L    | T   | T   | T   | T   |
| Maximum Queue (ft)    | 111  | 240 | 284 | 204 | 233 |
| Average Queue (ft)    | 38   | 61  | 95  | 33  | 44  |
| 95th Queue (ft)       | 89   | 224 | 287 | 181 | 212 |
| Link Distance (ft)    | 2245 | 194 | 194 | 328 | 328 |
| Upstream Blk Time (%) |      | 6   | 17  | 1   | 3   |
| Queuing Penalty (veh) |      | 61  | 165 | 5   | 30  |
| Storage Bay Dist (ft) |      |     |     |     |     |
| Storage Blk Time (%)  |      |     |     |     |     |
| Queuing Penalty (veh) |      |     |     |     |     |

**Intersection: 103: US 21 & I-77 NB Ramps**

| Movement              | NB  | NB  | SB  | SB  | SB  | NW   | NW  |
|-----------------------|-----|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | T   | T   | T   | R   | <    | R   |
| Maximum Queue (ft)    | 50  | 65  | 55  | 92  | 22  | 2365 | 225 |
| Average Queue (ft)    | 2   | 7   | 7   | 5   | 1   | 2338 | 187 |
| 95th Queue (ft)       | 19  | 37  | 33  | 37  | 11  | 2360 | 326 |
| Link Distance (ft)    | 148 | 148 | 575 | 575 |     | 2304 |     |
| Upstream Blk Time (%) |     |     |     |     |     | 98   |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0    |     |
| Storage Bay Dist (ft) |     |     |     |     | 225 |      | 200 |
| Storage Blk Time (%)  |     |     |     |     |     | 95   | 1   |
| Queuing Penalty (veh) |     |     |     |     |     | 385  | 10  |

**Intersection: 204: Blythewood Rd & I-77 SB Ramps**

| Movement              | EB  | EB  | WB  | WB  | SB   | SB  |
|-----------------------|-----|-----|-----|-----|------|-----|
| Directions Served     | T   | R   | L   | T   | LT   | R   |
| Maximum Queue (ft)    | 693 | 697 | 345 | 857 | 1949 | 400 |
| Average Queue (ft)    | 655 | 644 | 238 | 820 | 1807 | 399 |
| 95th Queue (ft)       | 701 | 821 | 455 | 931 | 2395 | 418 |
| Link Distance (ft)    | 610 | 610 |     | 840 | 1886 |     |
| Upstream Blk Time (%) | 80  | 67  |     | 7   | 80   |     |
| Queuing Penalty (veh) | 956 | 801 |     | 127 | 0    |     |
| Storage Bay Dist (ft) |     |     | 320 |     |      | 375 |
| Storage Blk Time (%)  |     |     | 0   | 39  | 6    | 75  |
| Queuing Penalty (veh) |     |     | 0   | 104 | 35   | 105 |

**Intersection: 205: I-77 NB Ramps & Blythewood Rd**

| Movement              | EB   | EB  | WB  | WB  | NB  | NB   |
|-----------------------|------|-----|-----|-----|-----|------|
| Directions Served     | L    | T   | T   | R   | LT  | R    |
| Maximum Queue (ft)    | 305  | 858 | 489 | 345 | 390 | 1647 |
| Average Queue (ft)    | 304  | 816 | 480 | 271 | 387 | 1407 |
| 95th Queue (ft)       | 308  | 972 | 491 | 504 | 412 | 2104 |
| Link Distance (ft)    |      | 840 | 469 |     |     | 1586 |
| Upstream Blk Time (%) |      | 22  | 28  |     |     | 68   |
| Queuing Penalty (veh) |      | 449 | 412 |     |     | 0    |
| Storage Bay Dist (ft) | 280  |     |     | 320 | 365 |      |
| Storage Blk Time (%)  | 82   | 7   | 66  | 0   | 71  | 1    |
| Queuing Penalty (veh) | 1077 | 52  | 109 | 4   | 259 | 7    |

**Intersection: 206: Creech Rd/McNulty St & Blythewood Rd**

| Movement              | EB  | WB  | NB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | L   | TR  | LTR |
| Maximum Queue (ft)    | 401 | 460 | 510 | 426 | 256 |
| Average Queue (ft)    | 104 | 429 | 336 | 152 | 236 |
| 95th Queue (ft)       | 292 | 459 | 594 | 484 | 262 |
| Link Distance (ft)    | 469 | 402 | 495 | 495 | 228 |
| Upstream Blk Time (%) | 1   | 77  | 29  | 22  | 97  |
| Queuing Penalty (veh) | 10  | 0   | 0   | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

**Exhibit B to**  
**Project Connect**  
**Revised Alternatives Analysis**  
**(Interchange Screening Memo)**

Applicant:  
South Carolina Department of Commerce  
Richland County

## I-77 AT EXIT 26 INTERCHANGE CONCEPT SCREENING

The following document summarizes the screening process of several interchange layouts for the proposed new interchange of I-77 at Exit 26. In addition to interchange layouts, several intersection options were evaluated for the intersection of Community Road with the proposed new roadway (Connector Road) due to its proximity to the ramp terminal intersections of the new interchange.

### Interchange Concept Overview

The following interchange layouts were considered for the proposed new interchange at Exit 26:

- Dogbone Interchange
  - Incorporates roundabouts at the ramp terminal intersections.



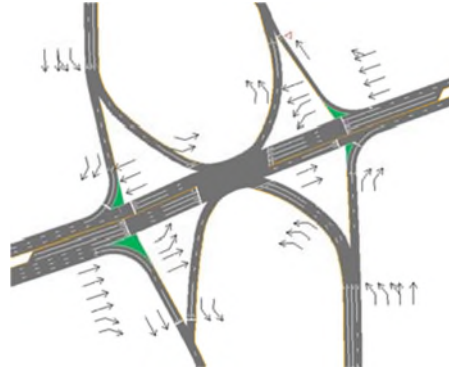
- Dual Ramp Diamond
  - Incorporates signalized ramp terminal intersections with a free-flow loop ramp movement for I-77 Northbound to westbound traffic. Includes a second ramp to I-77 Southbound from southbound Community Road.



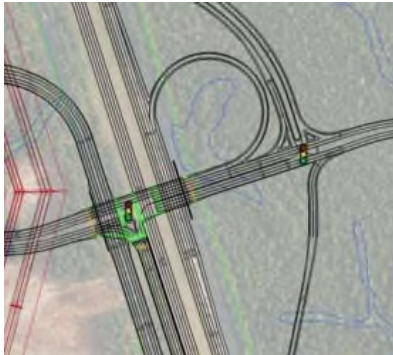
- Diverging Diamond (DDI)
  - Incorporates signalized ramp terminal intersections and allows left turns to flow to the I-77 on-ramps without conflicting traffic.



- Single Point Urban Interchange (SPUI)
  - Incorporates a single signalized ramp terminal intersection.



- Offset Interchange
  - The offset interchange incorporates all ramps on the east side of I-77 except the I-77 Southbound on-ramp to improve intersection spacing with Community Road.



**Interchange Concept Evaluation**

These interchange layouts were evaluated based on ability to accommodate the future traffic demand, required lane calls, and resulting spacing to the adjacent intersection with Community Road.

- Dogbone
  - Interchange layout cannot accommodate future traffic demand.
- Dual Ramp Diamond
  - Interchange layout accommodates future traffic demand with reasonable lane calls.
  - Maintains acceptable spacing with the Community Road intersection.
- DDI
  - Interchange layout accommodates future traffic demand with reasonable lane calls.
  - Required layout for crossover intersections creates a spacing issue with adjacent intersection at Community Road.
- SPUI
  - Requires triple lefts for the northbound to westbound movement to achieve acceptable operations.
  - Triple left turn configuration is not desirable per SCDOT.
- Offset Interchange
  - Interchange layout accommodates future traffic demand with reasonable lane calls.
  - Single ramp terminal intersection on east side of I-77 improves spacing to Community Road intersection.

### Interchange Concept Screening Results

The following is a ranking of the evaluated interchange concepts with interchanges ranked from worst to best based on the screening criteria listed in the previous section:

- Dogbone - Worst
  - Does not accommodate design year traffic demand.
  - Eliminated from future consideration.
- SPUI – Fair
  - Requires undesirable lane configuration.
  - Eliminated from future consideration.
- DDI – Better
  - Layout requires undesirable spacing to adjacent intersection.
  - Eliminated from future consideration.
- Dual Ramp Diamond – Best
  - Provides good operations and spacing to adjacent intersection.
  - **Reasonable build alternative.**
- Offset Interchange – Best
  - Provides good operations and spacing to adjacent intersection.
  - **Reasonable build alternative.**

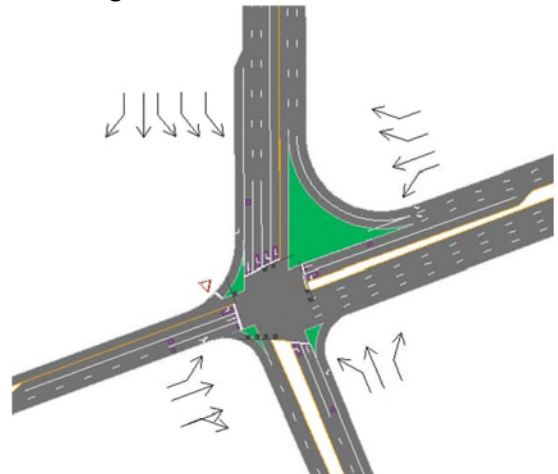
### Intersection Concept Overview

The following intersection layouts were considered for the intersection of Community Road and Connector Road:

- Roundabout



- Signal





- Offset Signal (inside)



- Realigned Signal (outside)



- Jughandle



- Signal + Southbound Ramp





### **Intersection Concept Evaluation**

These intersection layouts were evaluated based on ability to accommodate the future traffic demand, required lane calls, and ability to prevent queue spillback into the proposed new interchange.

- Roundabout
  - Intersection concept cannot accommodate future traffic demand.
  - Queues from the intersection impact interchange operations.
- Signal
  - Intersection operates with high delay.
  - Queues are managed through the use of dual free-flow westbound right turn lanes and do not impact interchange operations.
- Offset Signal (Inside)
  - Signal is offset to the north and west of the base location which improves intersection spacing to the interchange.
  - New Connector Road is the primary westbound to northbound and southbound to eastbound movements and Community Road passes under Connector Road and ties into the intersection on the east side.
  - Heavy westbound right-turn and southbound left-turn movements converted to through movements improve operations.
  - Intersection operates well and queues do not impact interchange operations.
- Realigned Signal (Outside)
  - Signal is realigned to the west of the base location which improves intersection spacing to the interchange.
  - New Connector Road is the primary westbound to northbound and southbound to eastbound movements and Community Road ties into the intersection on the south side.
  - Heavy westbound right-turn and southbound left-turn movements converted to through movements improve operations.
  - Intersection operates well and queues do not impact interchange operations.
- Jughandle
  - Community Road passes under the new Connector Road and all traffic moving to/from the Connector Road utilizes jughandles in northeast and southeast quadrants which operate under free-flow conditions.
  - Northern jughandle intersection on Community Road cannot accommodate the significant eastbound left-turn and northbound left-turn traffic demand.
  - Intersection queues back up through the jughandle ramp and impacts interchange operations.
- Signal + Southbound Ramp
  - Traditional signalized intersection.
  - Incorporates a secondary ramp which allows southbound Community Road traffic to access the I-77 Southbound on-ramp while bypassing the Connector Road at Community Road intersection.
  - The additional ramp significantly reduces southbound left-turn traffic demand and improves intersection operations.
  - Intersection operates well and queues do not impact interchange operations.

### **Intersection Concept Screening Results**

The following is a ranking of the four remaining intersection concepts with intersections ranked from worst to best based on operations and required lane calls:

- Roundabout – Worst
  - Does not accommodate design year traffic demand.
  - Eliminated from future consideration.
- Jughandle – Worst
  - Does not accommodate design year traffic demand.
  - Eliminated from future consideration.
- Signal – Fair
  - Operates with high delay.
  - Requires triple turn lanes for the southbound left-turn movement and dual free-flow right turn lanes for the westbound right-turn movement.
  - Eliminated from future consideration.
- Signal + Southbound Ramp – Better
  - Operates acceptably with reasonable lane calls.
  - **Reasonable build alternative.**
- Realigned Signal (outside) – Better
  - Operates acceptably with reasonable lane calls.
  - **Reasonable build alternative.**
- Offset Signal (inside) – Better
  - Operates acceptably with reasonable lane calls.
  - **Reasonable build alternative.**

### **Summary of Screening Results**

The screening process results in two viable interchange layouts for the proposed new interchange with I-77 and three viable intersection layouts for the intersection of Connector Road and Community Road which are summarized as follows:

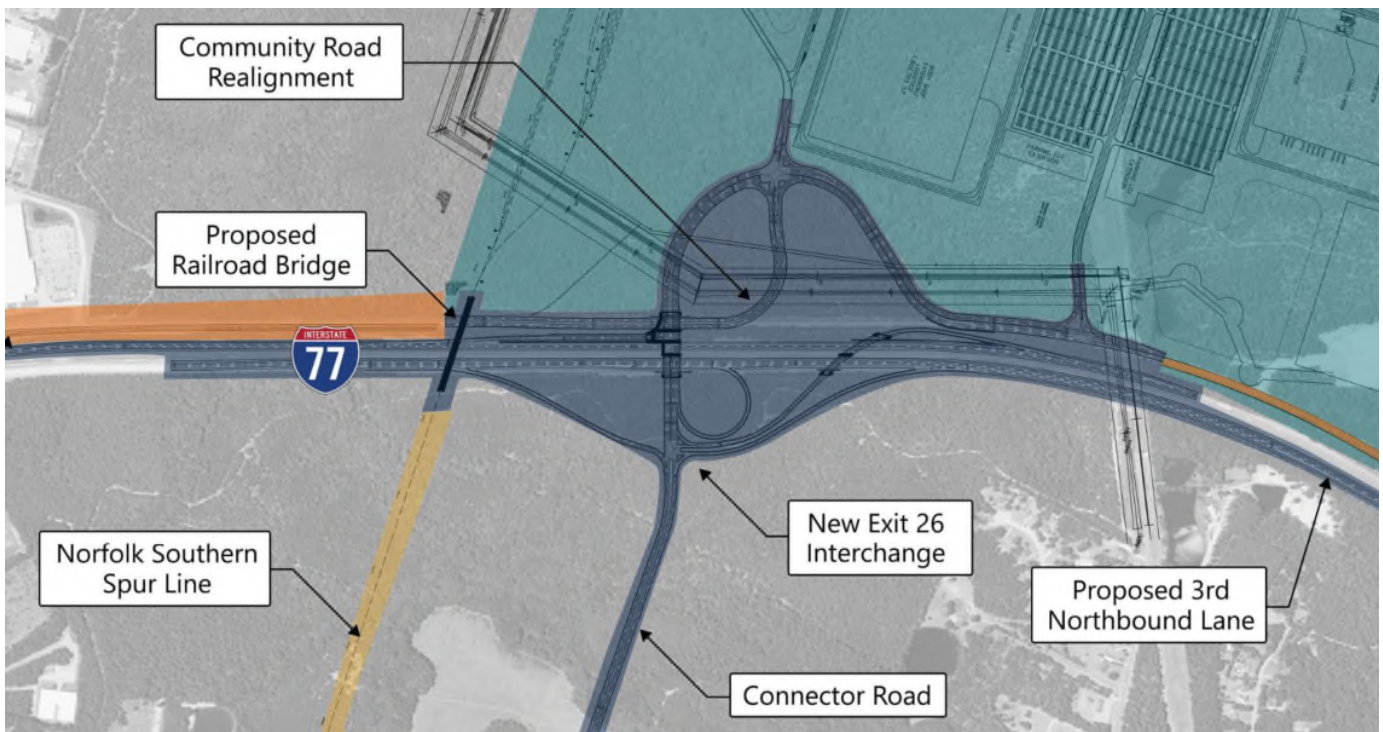
- Viable Interchange Concepts:
  - Offset Interchange
  - Dual Ramp Diamond
- Viable Intersection Concepts:
  - Offset Signal (inside)
  - Realigned Signal (outside)
  - Signal + Southbound Ramp

**Additional Considerations**

The initial screening results yielded multiple reasonable build alternatives. In order to further reduce the number of alternatives, additional considerations were evaluated. From a design and traffic operations standpoint, the introduction of an additional ramp in the Dual Ramp Diamond concept creates an undesirable traffic movement along Community Road which requires a complex signing scheme. In addition, having multiple ramps to serve the same traffic movement does not meet normal driver expectations. Therefore, the “Dual Ramp Diamond” concept and the “Signal + Southbound Ramp” intersection is not preferred.

**Conclusion**

Based on the above analysis and additional considerations, the Offset Interchange depicted in the figure below is the favorable interchange concept.



**Exhibit C to  
Project Connect  
Revised Alternatives Analysis  
(Roadway Connection Avoidance and  
Minimization)**

Applicant:  
South Carolina Department of Commerce  
Richland County

## **I-77 AT EXIT 26 INTERCHANGE CONNECTOR ROAD IMPACT COMPARISON (EAST OF INTERCHANGE)**

As presented in the interchange concept screening memo, several interchange layouts were evaluated for the proposed new interchange of I-77 at Exit 26. Based on the traffic screening evaluation and additional design and construction considerations, the Offset Interchange was selected as the favorable interchange concept. The following document describes the wetland and stream impacts associated with the Connector Road east of the new interchange of I-77 at Exit 26 for the favorable Offset Interchange concept compared to the original permit application.

### **Changes in Impacts**

Impacts to jurisdictional wetlands and streams due to the proposed Connector Road and realignment of US 21 and Farrow Road east of the proposed new interchange with I-77 were compared to the impacts presented in the original permit application. The changes in impacts are summarized below, along with a discussion of additional measures to further avoid and minimize impacts to jurisdictional resources.

### **Avoidance and Minimization Measures**

The Connector Road alignment from I-77 eastward toward US 21 was re-evaluated to determine if further avoidance and minimization measures could be implemented. The attached graphic shows the Limits of Disturbance (LOD) for the Connector Road alignment, US 21 alignment, and Farrow Road alignment as included in the original permit application compared to the revised LOD associated with the Offset Interchange concept.

The original alignment went through large sections of wetland 66 just east of the proposed new interchange. The Offset Interchange alignment shifts proposed Connector Road to the south by introducing a horizontal curve just east of the new interchange. This curve moves the roadway to a narrower portion of Wetland 66, south of the original alignment, which results in a decrease of impacts to Wetland 66 but introduces a new impact to Tributary 59.

Impacts to Wetland 76, Wetland 78, and Tributary 57 were also reduced with the Offset Interchange alignment due to the shift to the south but a small impact was introduced to Tributary 58. Impacts to Wetland 75 were completely avoided with the Offset Interchange alignment. Additional decreases in wetland impacts occurred at Wetland 71 and Wetland 108 with the shift in the US 21 and Farrow Road alignments. An increase in impacts to Wetland 104 is a result of the US 21 and Farrow Road alignments shifting to the north to reduce property impacts. Table 1 below summarizes the impacts to each wetland and tributary, showing avoidance and minimization and overall impact changes associated with the favorable Offset Interchange concept compared to the original submittal.

**Table 1:** Comparison of Impacts for Original Limits of Disturbance (LOD) to Offset Interchange LOD

| Permit Location  | Impacts East of Proposed New Interchange |        |              |                         |        |              |
|--|--|--------|--------------|-------------------------|--------|--------------|
|  | Original LOD:                            |        |              | Offset Interchange LOD: |        |              |
|  | Wetland (SF):                            | Acres: | Stream (LF): | Wetland (SF):           | Acres: | Stream (LF): |
| Wetland #66  | 44,998.73                                | 1.03   |              | 9,471.17                | 0.22   |              |
| Wetland #66  | 46,811.06                                | 1.07   |              | 8,347.04                | 0.19   |              |
| Wetland #78  | 7,935.77                                 | 0.18   |              | 1,757.39                | 0.04   |              |
| Wetland #78  | 6,497.26                                 | 0.15   |              | 2,585.77                | 0.06   |              |
| Wetland #76  | 6,183.30                                 | 0.14   |              | 76.26                   | 0.00   |              |
| Wetland #76  | 2,988.85                                 | 0.07   |              | 2,211.92                | 0.05   |              |
| Wetland #75  | 14,787.19                                | 0.34   |              | 792.99                  | 0.02   |              |
| Wetland #71  | 39,671.52                                | 0.91   |              | 27,580.01               | 0.63   |              |
| Wetland #104   | 15,169.18                                | 0.35   |              | 666.36                  | 0.02   |              |
| Wetland #104   | 3,771.20                                 | 0.09   |              | 41,304.13               | 0.95   |              |
| Wetland #108   | 15,247.95                                | 0.35   |              | 9,143.08                | 0.21   |              |
| Wetland Impact Subtotal:                                       | 204,061.99                               | 4.68   |              | 103,936.11              | 2.39   |              |
|  |  |        |              |                         |        |              |
| Trib #57   |  |        | 249.21       |                         |        | 136.42       |
| Trib #58   |  |        | 206.55       |                         |        | 223.61       |
| Trib #59   |  |        | 0.00         |                         |        | 214.82       |
| Trib Impact Subtotal:  |  |        | 455.76       |                         |        | 574.85       |
|  |  |        |              |                         |        |              |
| Total of Impacts:  | 204,061.99                               | 4.68   | 455.76       | 103,936.11              | 2.39   | 574.85       |
| Total Change in Impacts as compared to the Original Alignment: |  |        |              | -100,125.88             | -2.30  | 119.09       |

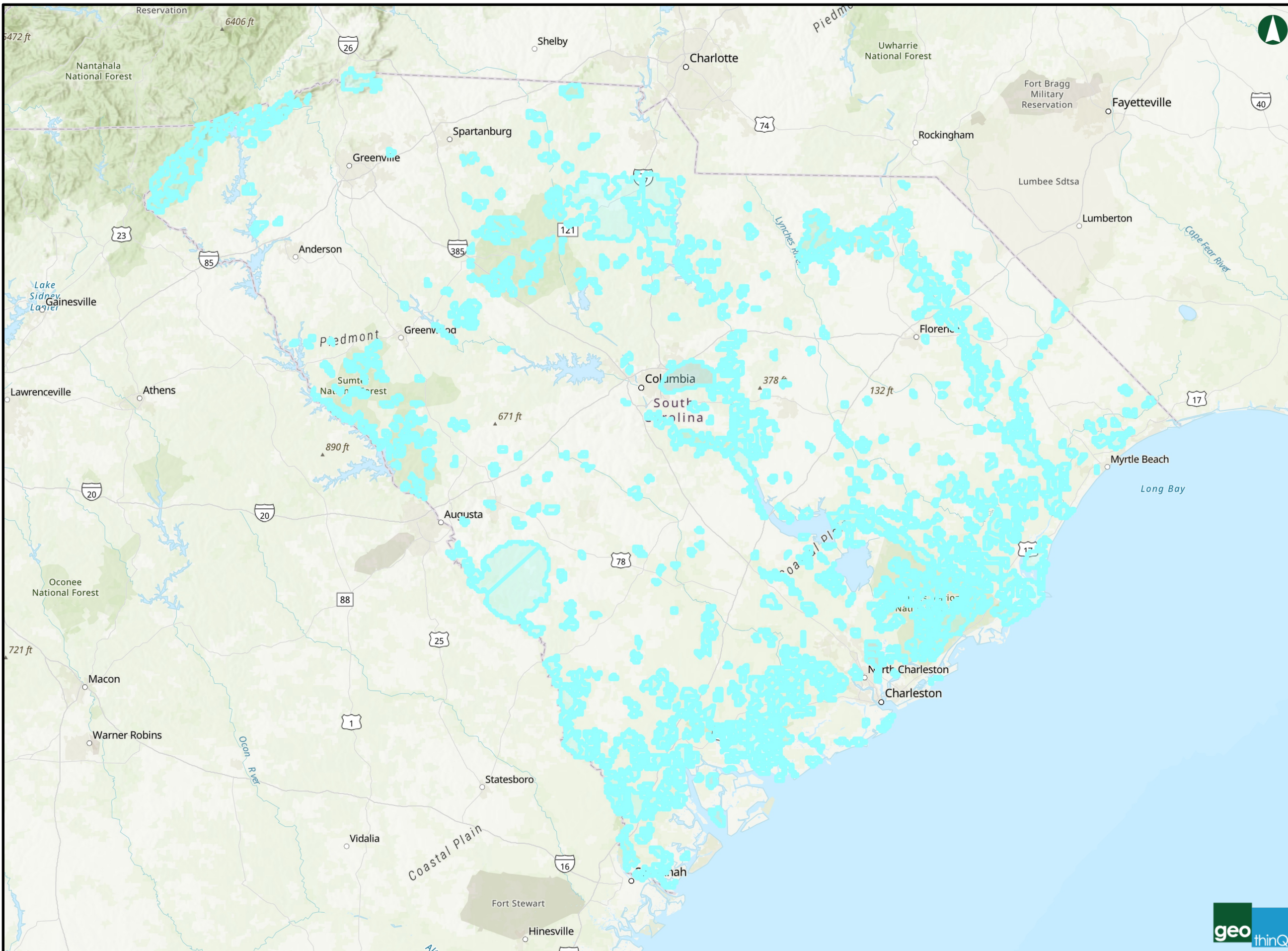
**Summary of Results**

Overall, the shifted Connector Road, US 21, and Farrow Road alignments associated with the favorable Offset Interchange concept result in a decrease of wetland impacts (approximately 2.3 acres) and an increase in stream impacts (approximately 119 linear feet) as compared to the alignments in the original permit application. It should be noted that the shifted Connector Road alignment could be compatible with other interchange concepts.

**Exhibit D to  
Project Connect  
Revised Alternatives Analysis  
(AOI – Parcels Greater than 1,000 acres)**

Applicant:  
South Carolina Department of Commerce  
Richland County





**Exhibit A**

1,000 Acres and Greater Parcels  
05/04/2023

1,000 acre and greater parcels





|    | Owner Name   | Parcel Number   | Calculated Acres | County    | Address                   | City          | State | Zip Code | Zoning Code | Zoning Type | Land Use           |
|----|--|---|------------------|-----------|---------------------------|---------------|-------|----------|-------------|-------------|--------------------|
| 1  | TWIN CREEKS TIMBER LLC   | 155-00-00-005   | 1028.90          | Abbeville | ISLAND FORD RD            | CALHOUN FALLS | SC    | 29628    |             |             | AGRICULTURAL (NEC) |
| 2  | TWIN CREEKS TIMBER LLC   | 106-00-00-025   | 1039.47          | Abbeville | CYPRESS CHURCH RD         | ABBEVILLE     | SC    | 29620    |             |             | AGRICULTURAL (NEC) |
| 3  | WRIGHT, JAMES W  | 103-00-00-022   | 1237.75          | Abbeville | WILL C JOHNSON RD         | CALHOUN FALLS | SC    | 29628    |             |             | RESIDENTIAL (NEC)  |
| 4  | PAN AFRICAN ORTHODOX CHRISTIAN, & CHURCH   | 103-00-00-008   | 1050.48          | Abbeville | BEULAH LAND FARMS DR      | CALHOUN FALLS | SC    | 29628    |             |             | AGRICULTURAL (NEC) |
| 5  | TWIN CREEKS TIMBER LLC   | 155-00-00-005   | 1028.90          | Abbeville | ISLAND FORD RD            | CALHOUN FALLS | SC    | 29628    |             |             | AGRICULTURAL (NEC) |
| 6  | PAN AFRICAN ORTHODOX CHRISTIAN, & CHURCH   | 103-00-00-008   | 1050.48          | Abbeville | BEULAH LAND FARMS DR      | CALHOUN FALLS | SC    | 29628    |             |             | AGRICULTURAL (NEC) |
| 7  | COX LIMITED PARTNERSHIP  | 115-00-00-001   | 1115.36          | Abbeville | MCCALLA PARK RD           | IVA           | SC    | 29655    |             |             | AGRICULTURAL (NEC) |
| 8  | TWIN CREEKS TIMBER LLC   | 106-00-00-025   | 1039.47          | Abbeville | CYPRESS CHURCH RD         | ABBEVILLE     | SC    | 29620    |             |             | AGRICULTURAL (NEC) |
| 9  | WRIGHT, JAMES W  | 103-00-00-022   | 1237.75          | Abbeville | WILL C JOHNSON RD         | CALHOUN FALLS | SC    | 29628    |             |             | RESIDENTIAL (NEC)  |
| 10 | COX LIMITED PARTNERSHIP  | 115-00-00-001   | 1115.36          | Abbeville | MCCALLA PARK RD           | IVA           | SC    | 29655    |             |             | AGRICULTURAL (NEC) |
| 11 | COWDEN FAMILY PLANTATION LLC   | 061-00-01-002   | 1191.46          | Aiken     |                           | JACKSON       | SC    | 29831    |             |             | AGRICULTURAL (NEC) |
| 12 | FOX NATION LLC   | 206-00-04-004   | 1081.79          | Aiken     | 743 CEDAR BRANCH RD       | WINDSOR       | SC    | 29856    |             |             | STORAGE            |
| 13 | GARVIN OIL REAL ESTATE LLC   | 235-00-14-005   | 1488.79          | Aiken     | 303 BARNEY W GARVIN RD    | WAGENER       | SC    | 29164    |             |             | MULTIPLE USES      |
| 14 | DIXIE CLAY CO  | 037-19-01-001   | 1199.41          | Aiken     | DIXIE CLAY RD             | BEECH ISLAND  | SC    | 29842    |             |             | COMMERCIAL (NEC)   |
| 15 | STEWART LAND & CATTLE LLC  | 018-00-02-002   | 1233.88          | Aiken     | 4390/4396 STEWART FARM RD | JACKSON       | SC    | 29831    |             |             | FARMS              |
| 16 | COASTAL LUMBER CO  | 059-00-01-007   | 1359.94          | Aiken     | LANDING RD                | JACKSON       | SC    | 29831    |             |             | AGRICULTURAL (NEC) |
| 17 | THURMOND, JAMES S & THURMOND, HEATHER H  | 165-00-01-003   | 1227.38          | Aiken     | KEDRON CH. RD & KEYS POND | RIDGE SPRING  | SC    | 29129    |             |             | AGRICULTURAL (NEC) |
| 18 | LYDIA H DANE DANE FAMILT LIMITED PARTNERSHIP, & ROGER DANE DANE FAMILY LIMITED PARTNERSHIP | 129-00-10-037   | 1401.29          | Aiken     | 437 OLD FOUR NOTCH RD     | RIDGE SPRING  | SC    | 29129    |             |             | AGRICULTURAL (NEC) |
| 19 | HITCHCOCK FOUNDATION   | 105-13-01-001   | 1310.71          | Aiken     | 1770 DIBBLE RD            | AIKEN         | SC    | 29801    |             |             | TAX EXEMPT         |
| 20 | NAHH LLC   | 022-17-01-001   | 1084.69          | Aiken     | 1677 ASCAUGA LAKE RD      | NORTH AUGUSTA | SC    | 29841    |             |             | AGRICULTURAL (NEC) |
| 21 | MOODY SOUTH CAROLINA LIMITED PARTNERSHIP   | 295-00-01-001   | 1131.32          | Aiken     | 120 LAKE AMELIA RD        | SALLEY        | SC    | 29137    |             |             | AGRICULTURAL (NEC) |
| 22 | COWDEN FAMILY PLANTATION LLC   | 079-00-01-001   | 4430.55          | Aiken     | 856 BROWN RD              | JACKSON       | SC    | 29831    |             |             | FARMS              |
| 23 | COASTAL LUMBER COMPANY   | 028-00-01-001   | 1602.15          | Aiken     | GUM SWAMP ROAD            | JACKSON       | SC    | 29831    |             |             | AGRICULTURAL (NEC) |
| 24 | WALTHER INVESTMENT LLC   | 240-00-02-003   | 3692.47          | Aiken     | 1537 OAK RIDGE CLUB RD    | WINDSOR       | SC    | 29856    |             |             | RES HALL/DORM      |
| 25 | ATOMIC ENERGY COMMISSION   | 315-00-01-002   | 72470.48         | Aiken     |                           | JACKSON       | SC    | 29831    |             |             | PUBLIC (NEC)       |
| 26 | BLUE MAPLE GROUP LLC   | 174-00-01-001   | 2634.11          | Aiken     | 515 HITCHCOCK RD          | AIKEN         | SC    | 29803    |             |             | AGRICULTURAL (NEC) |
| 27 | WOODY HOLDINGS LLC   | 207-00-01-003   | 1854.32          | Aiken     | 231 OAK RIDGE CLUB RD     | WINDSOR       | SC    | 29856    |             |             | MISC BUILDING      |
| 28 | LAUGHLIN, MICHAEL L  | 186-00-01-005   | 1787.01          | Aiken     | 1421 COOKS BRIDGE RD      | AIKEN         | SC    | 29805    |             |             | MULTIPLE USES      |
| 29 | SIMKINS, LEROY H & SIMKINS, SARAH T  | 018-00-01-001   | 2685.36          | Aiken     | 860 GUM SWAMP RD          | JACKSON       | SC    | 29831    |             |             | FARMS              |
| 30 | CITY OF AIKEN  | 100-00-03-001   | 2496.16          | Aiken     | MASON BRANCH RD           | AIKEN         | SC    | 29805    |             |             | AGRICULTURAL (NEC) |
| 31 | NATIONAL AUDUBON SOCIETY INC   | 058-00-01-008   | 2575.65          | Aiken     | 4337 SILVER BLUFF RD      | JACKSON       | SC    | 29831    |             |             | TAX EXEMPT         |
| 32 | WESTERVELT LAND & TIM CO LLC, & TAX DEPARTMENT   | 110-00-00-001   | 1071.20          | Allendale |                           | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 33 | MILBURY PLANTATION LLC   | 040-00-00-001   | 1382.18          | Allendale | 5790 RIVER RD             | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 34 | CREEK PLANTATION LLC   | 002-00-00-001   | 1137.40          | Allendale |                           | MARTIN        | SC    | 29836    |             |             | FARMS              |
| 35 | IVANHOE, PLANTATION  | 097-00-00-005   | 1299.91          | Allendale | HWY 3                     | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 36 | CLARENDON FARMS INC  | 068-00-00-001   | 1086.74          | Allendale | 1007 MILLER CREEK RD      | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 37 | WARLAND & LURAY LP   | 114-00-00-001   | 1056.04          | Allendale |                           | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 38 | CREEK PLANTATION LLC   | 006-00-00-010   | 2539.60          | Allendale | 1616 MILLETT RD           | MARTIN        | SC    | 29836    |             |             | FARMS              |
| 39 | WESTERVELT LAND & TIM CO LLC, & TAX DEPARTMENT   | 093-00-00-005   | 2310.78          | Allendale |                           | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 40 | GROTON LAND CO INC   | 080-00-00-002   | 12822.62         | Allendale | HWY 3 & S-3-49            | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 41 | GROTON LAND CO INC   | 080-00-00-002   | 1532.45          | Allendale | HWY 3 & S-3-49            | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 42 | GROTON LAND CO INC   | 080-00-00-002   | 2479.09          | Allendale | HWY 3 & S-3-49            | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 43 | CLARENDON FARMS INC  | 068-00-00-001   | 3396.39          | Allendale | 1007 MILLER CREEK RD      | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 44 | WESTERVELT LAND & TIM CO LLC, & TAX DEPARTMENT   | 093-00-00-005   | 2554.74          | Allendale |                           | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 45 | WESTERVELT LAND & TIM CO LLC, & TAX DEPARTMENT   | 093-00-00-005   | 1991.90          | Allendale |                           | FAIRFAX       | SC    | 29827    |             |             | FARMS              |
| 46 | MILBURY PLANTATION LLC   | 041-00-00-001   | 6171.42          | Allendale | HWY 3                     | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 47 | BREEN, VIRGINIA L H & HARPER, A  | 060-00-00-002   | 2212.02          | Allendale |                           | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 48 | MORRIS FAMILY LTD PARTNERSHIP  | 021-00-00-003   | 4295.59          | Allendale | HWY 125                   | MARTIN        | SC    | 29836    |             |             | FARMS              |
| 49 | MILBURY PLANTATION LLC   | 043-00-00-006   | 1524.02          | Allendale |                           | ALLENDALE     | SC    | 29810    |             |             | FARMS              |
| 50 | ULMER SITE   | 132-00-00-018; 132-00-00-002;<br>132-00-00-033; 132-00-00-005;<br>132-00-00-006; 133-00-00-046;<br>132-00-00-034; 132-00-00-012;<br>132-00-00-016; 132-00-00-015;<br>132-00-00-015; 132-00-00-003;<br>131-02-07-007 | 1091             | Allendale | POND TOWN ROAD            | ULMER         | SC    | 29849    | RUD         |             |                    |
| 51 | CLEMSON AGRICULTURAL COLLEGE   | 089-00-04-001   | 1237.08          | Anderson  |                           | PENDLETON     | SC    | 29670    | R-A         | AG          | VACANT LAND (NEC)  |
| 52 | CLEMSON AGRICULTURAL COLLEGE   | 023-00-01-002   | 2308.25          | Anderson  | 817 WOODBURN RD           | PENDLETON     | SC    | 29670    |             |             | VACANT LAND (NEC)  |
| 53 | CLEMSON AGRICULTURAL COLLEGE   | 023-00-01-002   | 2048.85          | Anderson  | 817 WOODBURN RD           | ANDERSON      | SC    | 29625    | R-A         | AG          | VACANT LAND (NEC)  |
| 54 | ANDERSON LAKE  | 1700007005; 1950001003;<br>1950001009   | 1259             | Anderson  | HAMPTON ROAD              | WILLIAMSTON   | SC    | 29697    |             |             |                    |

|     |  |                              |           |          |                              |               |    |       |       |      |  |                    |
|-----|--|------------------------------|-----------|----------|------------------------------|---------------|----|-------|-------|------|--|--------------------|
| 55  | SCOTT WOODLAND LLC   | 0103-00-00-013               | 1006.53   | Bamberg  | HUNTERS CHAPEL RD            | BAMBERG       | SC | 29003 |       |      |  | AGRICULTURAL (NEC) |
| 56  | WEYERHAEUSER CO  | 0131-00-00-001               | 1231.77   | Bamberg  | BULL BAY ROAD                | SMOAKS        | SC | 29481 |       |      |  | AGRICULTURAL (NEC) |
| 57  | CATCHMARK SC TIMBERLAND LLC                                  | 0113-00-00-001               | 1148.52   | Bamberg  | 746 CANNON BRIDGE RD         | BAMBERG       | SC | 29003 |       |      |  | AGRICULTURAL (NEC) |
| 58  | CLEMSON AGRICULTURAL COLLEGE OF S C                          | 086-00-00-013                | 1353.65   | Barnwell | 87 HERITAGE RD               | BLACKVILLE    | SC | 29817 |       |      |  | SCHOOL             |
| 59  | PEAR TREE LLC  | 052-00-00-008                | 1317.37   | Barnwell |                              | BARNWELL      | SC | 29812 |       |      |  | FOREST             |
| 60  | VARN, EUGENE M   | 053-00-00-001                | 1016.69   | Barnwell |                              | BARNWELL      | SC | 29812 |       |      |  | FOREST             |
| 61  | WEYERHAEUSER COMPANY   | 134-00-00-001                | 1297.62   | Barnwell |                              | ULMER         | SC | 29849 |       |      |  | FOREST             |
| 62  | BARNWELL LAND COMPANY  | 076-00-00-004                | 1572.76   | Barnwell |                              | BARNWELL      | SC | 29812 |       |      |  | RESIDENTIAL (NEC)  |
| 63  | BARNWELL LAND COMPANY  | 076-00-00-004                | 1687.61   | Barnwell |                              | BARNWELL      | SC | 29812 |       |      |  | RESIDENTIAL (NEC)  |
| 64  | SAVANNAH RIVER PLANT DEPARTMENT OF ENERGY                    | 001-00-00-001                | 120321.81 | Barnwell |                              | JACKSON       | SC | 29831 |       |      |  | TAX EXEMPT         |
| 65  | SC ADVANCED TECHNOLOGY PARK                                  | 022-00-00-002; 022-00-00-004 | 1606      | Barnwell | HIGHWAY 64                   | SNELLING      | SC | 29812 | IND   | Ind  |  |                    |
| 66  | NEMOURS PLANTATION WILDLIFE FOUNDATION                       | R700-010-000-0001-0000       | 1173.86   | Beaufort | 42 RUBIE LN                  | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 67  | CLARENDON FARMS LLC  | R700-034-000-0001-0000       | 1132.51   | Beaufort | 300 HAULOVER CREEK DR        | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 68  | LAUREL SPRING LLC  | R700-040-000-0001-0000       | 1082.36   | Beaufort | 17 LIGHTSEY RD               | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 69  | NEMOURS PLANTATION WILDLIFE FOUNDATION                       | R700-010-000-0001-0000       | 1173.86   | Beaufort | 42 RUBIE LN                  | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 70  | PALMETTO BLUFF UPLANDS & LLC                                 | R614-051-000-0002-0000       | 1125.86   | Beaufort | 300 YELLOW PINE RD           | BLUFFTON      | SC | 29910 |       |      |  | AGRICULTURAL LAND  |
| 71  | ACKERMAN CHISOLM LLC   | R700-047-000-0001-0000       | 1429.04   | Beaufort |                              | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL LAND  |
| 72  | MORRISON, MILLS LANE & MORRISON, M LANE                      | R700-013-000-0030-0000       | 1177.82   | Beaufort | 449 OLD SHELDON CHURCH RD    | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 73  | ACKERMAN CHISOLM LLC   | R700-047-000-0001-0000       | 1429.02   | Beaufort |                              | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL LAND  |
| 74  | CAMPBELL, WILLIAM ARTHUR & CAMPBELL, WILLIAM ARTHUR          | R700-018-000-0001-0000       | 1015.23   | Beaufort | 42 OAK GROVE PLANTATION DR   | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 75  | MORRISON, MILLS L  | R700-013-000-0030-0000       | 1177.84   | Beaufort | 449 OLD SHELDON CHURCH RD    | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 76  | TWICKENHAM PLANTATION PROPCO LLC                             | R700-008-000-0001-0000       | 1142.99   | Beaufort | 305 TWICKENHAM PLANTATION RD | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 77  | WACHOVIA BANK NA (TE)  | R700-023-000-0001-0000       | 1068.61   | Beaufort |                              | SEABROOK      | SC | 29940 | 6107  | Res  |  | RES ACREAGE        |
| 78  | NEMOURS PLANTATION WILDLIFE FOUNDATION                       | R700-009-000-0003-0000       | 1113.84   | Beaufort | 1242 RIVER RD                | YEMASSEE      | SC | 29945 | 4207  | Res  |  | AGRICULTURAL LAND  |
| 79  | CAMPBELL, WILLIAM ARTHUR & CAMPBELL, WILLIAM ARTHUR          | R700-018-000-0001-0000       | 1015.23   | Beaufort | 42 OAK GROVE PLANTATION DR   | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 80  | CLARENDON FARMS LLC  | R700-034-000-0001-0000       | 1132.53   | Beaufort | 300 HAULOVER CREEK DR        | SHELDON       | SC | 29941 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 81  | PALMETTO BLUFF UPLANDS & LLC                                 | R614-051-000-0002-0000       | 1125.87   | Beaufort | 300 YELLOW PINE RD           | BLUFFTON      | SC | 29910 |       |      |  | AGRICULTURAL LAND  |
| 82  | NEMOURS PLANTATION WILDLIFE FOUNDATION                       | R700-009-000-0003-0000       | 1113.85   | Beaufort | 1242 RIVER RD                | YEMASSEE      | SC | 29945 | 4207  | Res  |  | AGRICULTURAL LAND  |
| 83  | WACHOVIA BANK NA (TE)  | R700-023-000-0001-0000       | 1068.61   | Beaufort |                              | SEABROOK      | SC | 29940 | 6107  | Res  |  | RES ACREAGE        |
| 84  | TWICKENHAM PLANTATION PROPCO LLC                             | R700-008-000-0001-0000       | 1142.99   | Beaufort | 305 TWICKENHAM PLANTATION RD | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 85  | LAUREL SPRING LLC  | R700-040-000-0001-0000       | 1082.36   | Beaufort | 17 LIGHTSEY RD               | SEABROOK      | SC | 29940 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 86  | US MARINE CORP   | R112-034-000-0134-0000       | 7081.91   | Beaufort | 749 WAKE BLVD                | BEAUFORT      | SC | 29902 | 6601  | Res  |  | PUBLIC (NEC)       |
| 87  | US MARINE CORP   | R112-034-000-0134-0000       | 7102.45   | Beaufort | 749 WAKE BLVD                | BEAUFORT      | SC | 29902 | 6601  | Res  |  | PUBLIC (NEC)       |
| 88  | LOOMIS VIRGINIA DAVIS LIFE-ESTATE BIRCHWOOD ACQUISITION LLC  | R600-054-000-0001-0000       | 1835.85   | Beaufort |                              | BLUFFTON      | SC | 29910 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 89  | SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES REMBERT C DEN | R700-031-000-0001-0000       | 2392.85   | Beaufort |                              | SEABROOK      | SC | 29940 | 9999  | Res  |  | RES ACREAGE        |
| 90  | CASTLE HILL PLANTATION LLC                                   | R700-006-000-0001-0000       | 1768.52   | Beaufort | 65 TRASK WIRELESS PKY        | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 91  | US MARINE CORPS  | R120-020-000-0169-0000       | 4139.97   | Beaufort | 988 SCOUT POND               | BEAUFORT      | SC | 29906 | 6601  | Res  |  | PUBLIC (NEC)       |
| 92  | PALMETTO BLUFF UPLANDS & LLC                                 | R614-057-000-0001-0000       | 4201.83   | Beaufort |                              | BLUFFTON      | SC | 29910 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 93  | US MARINE CORPS  | R120-020-000-0169-0000       | 4139.98   | Beaufort | 988 SCOUT POND               | BEAUFORT      | SC | 29906 | 6601  | Res  |  | PUBLIC (NEC)       |
| 94  | LOOMIS VIRGINIA DAVIS LIFE-ESTATE BIRCHWOOD ACQUISITION LLC  | R600-054-000-0001-0000       | 1835.85   | Beaufort |                              | BLUFFTON      | SC | 29910 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 95  | BRAYS ISLAND PLANT COLONY INC                                | R700-025-000-0001-0000       | 3065.51   | Beaufort | 24 BRAYS ISLAND DR           | SHELDON       | SC | 29941 | 6817  | Res  |  | GOLF COURSE        |
| 96  | PALMETTO BLUFF UPLANDS & LLC                                 | R614-057-000-0001-0000       | 3736.60   | Beaufort |                              | BLUFFTON      | SC | 29910 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 97  | SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES REMBERT C DEN | R700-031-000-0001-0000       | 2392.85   | Beaufort |                              | SEABROOK      | SC | 29940 | 9999  | Res  |  | RES ACREAGE        |
| 98  | CLARENDON FARMS INC  | R120-014-000-0013-0000       | 2008.47   | Beaufort | 80 CLARENDON PLANTATION DR   | BEAUFORT      | SC | 29906 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 99  | CASTLE HILL PLANTATION LLC                                   | R700-006-000-0001-0000       | 1768.50   | Beaufort | 65 TRASK WIRELESS PKY        | YEMASSEE      | SC | 29945 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 100 | CLARENDON FARMS INC  | R120-014-000-0013-0000       | 2008.47   | Beaufort | 80 CLARENDON PLANTATION DR   | BEAUFORT      | SC | 29906 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 101 | PB MANAGED FOREST LLC  | R614-045-000-0019-0000       | 4586.80   | Beaufort | 86 MYRTLE FORD RD            | BLUFFTON      | SC | 29910 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 102 | WALCAM LAND GROUP LLC  | R614-045-000-0019-0000       | 4586.80   | Beaufort | 86 MYRTLE FORD RD            | BLUFFTON      | SC | 29910 | 9999  | Res  |  | AGRICULTURAL (NEC) |
| 103 | BRAYS ISLAND PLANT COLONY INC                                | R700-025-000-0001-0000       | 3052.06   | Beaufort | 24 BRAYS ISLAND DR           | SHELDON       | SC | 29941 | 6817  | Res  |  | GOLF COURSE        |
| 104 | MEPKIN, ABBEY  | 198-00-01-001                | 1366.07   | Berkeley | 1159 SAWMILL RD              | MONCKS CORNER | SC | 29461 | Flex1 | AG   |  | LIBRARY/MUSEUM     |
| 105 | TIMBERLANDS III LLC  | 081-00-00-034                | 1409.96   | Berkeley | 100 HAGAN HUNT CLUB RD       | PINOPOLIS     | SC | 29469 | Flex1 | AG   |  | SFR                |
| 106 | NATIONAL AUDUBON SOCIETY INC                                 | 115-00-00-010                | 1115.47   | Berkeley |                              | RIDGEVILLE    | SC | 29472 | Flex1 | AG   |  | TAX EXEMPT         |
| 107 | TIMBERLANDS III LLC  | 081-00-00-034                | 1409.96   | Berkeley | 100 HAGAN HUNT CLUB RD       | PINOPOLIS     | SC | 29469 | Flex1 | AG   |  | SFR                |
| 108 | OAKLAND CLUB   | 015-00-01-050                | 1082.44   | Berkeley | 1184 COLONEL MAHAM DR        | PINEVILLE     | SC | 29468 | Flex1 | AG   |  | AGRICULTURAL (NEC) |
| 109 | OAKLAND CLUB GLEN CAMP A                                     | 014-00-00-011                | 1286.33   | Berkeley |                              | PINEVILLE     | SC | 29468 | Flex1 | AG   |  | AGRICULTURAL (NEC) |
| 110 | TRACT 1 TIMBER LLC   | 272-00-00-002                | 1242.54   | Berkeley |                              | CHARLESTON    | SC | 29492 | PUD   | PUD  |  | VACANT LAND (NEC)  |
| 111 | UNITED STATES OF AMERICA                                     | 257-00-00-013                | 1170.06   | Berkeley |                              | CHARLESTON    | SC | 29492 | Flex1 | AG   |  | TAX EXEMPT         |
| 112 | US GOVERNMENT  | 267-00-00-011                | 1163.93   | Berkeley |                              | CHARLESTON    | SC | 29492 | EG    | Misc |  | TAX EXEMPT         |
| 113 | MEPKIN, ABBEY  | 198-00-01-001                | 1366.07   | Berkeley | 1159 SAWMILL RD              | MONCKS CORNER | SC | 29461 | Flex1 | AG   |  | LIBRARY/MUSEUM     |

|     |  |               |         |          |                        |               |    |       |          |      |                    |
|-----|--|---------------|---------|----------|------------------------|---------------|----|-------|----------|------|--------------------|
| 114 | WEYERHAEUSER NR COMPANY                | 100-00-00-048 | 1166.55 | Berkeley |                        | PINOPOLIS     | SC | 29469 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 115 | TIMBERLANDS III LLC                    | 141-00-01-005 | 1255.76 | Berkeley | 1226 COOPER STORE RD   | MONCKS CORNER | SC | 29461 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 116 | OAKLAND CLUB                           | 015-00-01-050 | 1082.44 | Berkeley | 1184 COLONEL MAHAM DR  | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 117 | OAKLAND CLUB ALABAMA                   | 013-00-01-006 | 1029.33 | Berkeley |                        | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 118 | WEYERHAEUSER NR COMPANY                | 100-00-00-048 | 1166.55 | Berkeley |                        | PINOPOLIS     | SC | 29469 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 119 | TIMBERLANDS III LLC                    | 100-00-00-019 | 1268.37 | Berkeley | SC                     |               | SC | 29469 |          |      |                    |
| 120 | OAKLAND CLUB                           | 013-00-03-038 | 1319.69 | Berkeley |                        | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 121 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 122 | MUDVILLE INVESTMENTS LLC               | 098-00-00-017 | 1423.76 | Berkeley |                        | CROSS         | SC | 29436 | Flex1    | AG   | VACANT LAND (NEC)  |
| 123 | NATIONAL AUDUBON SOCIETY INC           | 115-00-00-010 | 1115.47 | Berkeley |                        | RIDGEVILLE    | SC | 29472 | Flex1    | AG   | TAX EXEMPT         |
| 124 | SALT POINT TIMBER LLC                  | 163-00-01-007 | 1012.54 | Berkeley | 825 SALTPOINT RD       | MONCKS CORNER | SC | 29461 | Flex1    | AG   | SFR                |
| 125 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 126 | MEAD INVESTMENTS LLC                   | 164-00-02-104 | 1279.77 | Berkeley |                        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 127 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 128 | WEYERHAEUSER NR COMPANY                | 100-00-00-048 | 1166.55 | Berkeley |                        | PINOPOLIS     | SC | 29469 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 129 | OAKLAND CLUB ALABAMA                   | 013-00-01-006 | 1029.33 | Berkeley |                        | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 130 | US GOVERNMENT                          | 267-00-00-011 | 1163.93 | Berkeley |                        | CHARLESTON    | SC | 29492 | EG       | Misc | TAX EXEMPT         |
| 131 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 132 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 133 | KESSINGER, STACEY & KESSINGER, MICHAEL | 195-00-00-124 | 1227.47 | Berkeley | 1283 STATE RD          | SUMMERVILLE   | SC | 29486 | PD-MU    | PUD  | AGRICULTURAL (NEC) |
| 134 | TIMBERLANDS III LLC                    | 100-00-00-019 | 1055.81 | Berkeley | SC                     |               | SC | 29469 |          |      |                    |
| 135 | TIMBERLANDS III LLC                    | 141-00-01-005 | 1255.76 | Berkeley | 1226 COOPER STORE RD   | MONCKS CORNER | SC | 29461 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 136 | SONOCO PRODUCTS COMPANY                | 009-00-00-002 | 1490.93 | Berkeley |                        | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 137 | OAKLAND CLUB ALABAMA                   | 013-00-01-006 | 1029.33 | Berkeley |                        | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 138 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 139 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 140 | NATIONAL AUDUBON SOCIETY INC           | 115-00-00-010 | 1115.47 | Berkeley |                        | RIDGEVILLE    | SC | 29472 | Flex1    | AG   | TAX EXEMPT         |
| 141 | TIMBERLANDS III LLC                    | 141-00-01-005 | 1255.76 | Berkeley | 1226 COOPER STORE RD   | MONCKS CORNER | SC | 29461 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 142 | WEYERHAEUSER NR COMPANY                | 100-00-00-048 | 1166.55 | Berkeley |                        | PINOPOLIS     | SC | 29469 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 143 | DUPONT SPECIALTY PRODUCTS USA LLC      | 212-00-01-009 | 1016.56 | Berkeley |                        | MONCKS CORNER | SC | 29461 | PD-OP/IP | PUD  | AGRICULTURAL (NEC) |
| 144 | OAKLAND CLUB                           | 015-00-01-050 | 1082.44 | Berkeley | 1184 COLONEL MAHAM DR  | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 145 | OAKLAND CLUB BLUFORD                   | 014-00-00-006 | 1099.70 | Berkeley | 921 OAKLAND CLUB RD    | PINEVILLE     | SC | 29468 | Flex1    | AG   | SFR                |
| 146 | SONOCO PRODUCTS COMPANY                | 009-00-00-001 | 1379.13 | Berkeley |                        | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 147 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 148 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 149 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 150 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 151 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 152 | MEPKIN, ABBEY                          | 198-00-01-001 | 1366.07 | Berkeley | 1159 SAWMILL RD        | MONCKS CORNER | SC | 29461 | Flex1    | AG   | LIBRARY/MUSEUM     |
| 153 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 154 | TIMBERLANDS III LLC                    | 081-00-00-034 | 1409.96 | Berkeley | 100 HAGAN HUNT CLUB RD | PINOPOLIS     | SC | 29469 | Flex1    | AG   | SFR                |
| 155 | TIMBERLANDS III LLC                    | 141-00-01-005 | 1255.76 | Berkeley | 1226 COOPER STORE RD   | MONCKS CORNER | SC | 29461 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 156 | ALUMAX OF SC                           | 223-00-00-021 | 1742.71 | Berkeley | 3579 HWY 52            | MONCKS CORNER | SC | 29461 | HI       | Ind  | COMMERCIAL (NEC)   |
| 157 | UNITED STATES OF AMERICA               | 245-00-00-001 | 4825.94 | Berkeley | 100 FAIRING            | GOOSE CREEK   | SC | 29445 |          |      | TAX EXEMPT         |
| 158 | SONOCO PRODUCTS COMPANY                | 010-00-00-001 | 4320.40 | Berkeley | 630 INTERNATIONAL RD   | PINEVILLE     | SC | 29468 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 159 | ANDREWS, TERRY H                       | 164-00-01-061 | 1596.69 | Berkeley | 498 JELLY ROLLS RD     | MONCKS CORNER | SC | 29461 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 160 | CAMP HALL INDUSTRIAL OWNER LLC         | 157-00-00-003 | 2936.38 | Berkeley | 464 AUTONOMOUS DR      | RIDGEVILLE    | SC | 29472 | PD-OP/IP | PUD  | TAX EXEMPT         |
| 161 | BERKELEY COUNTY                        | 176-00-01-001 | 1591.33 | Berkeley | 1801 VOLVO CAR DR      | RIDGEVILLE    | SC | 29472 | PD-OP/IP | PUD  | COMMERCIAL (NEC)   |
| 162 | CONGAREE RIVER LLC                     | 010-00-00-002 | 6124.21 | Berkeley |                        | SAINT STEPHEN | SC | 29479 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 163 | SANTEE TIMBER COMPANY LLC              | 027-00-00-067 | 2053.71 | Berkeley |                        | SAINT STEPHEN | SC | 29479 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 164 | AMOCO CORP                             | 247-00-00-003 | 1577.59 | Berkeley | 1550 REC RD            | HUGER         | SC | 29450 | HI       | Ind  | AGRICULTURAL (NEC) |
| 165 | SC STATE PORTS AUTHORITY               | 271-00-01-057 | 1878.94 | Berkeley |                        | CHARLESTON    | SC | 29492 | R-2      |      | TAX EXEMPT         |
| 166 | UNITED STATES OF AMERICA               | 253-00-00-001 | 3210.20 | Berkeley | 37 BOONE AV            | GOOSE CREEK   | SC | 29445 |          |      | TAX EXEMPT         |
| 167 | TIMBERLANDS III LLC                    | 100-00-00-019 | 1811.30 | Berkeley | SC                     |               | SC | 29483 |          |      |                    |
| 168 | MICHAEL MCNAIR FAMILY LIMITED P/S      | 090-00-00-075 | 1605.00 | Berkeley | 158 MCNAIR LN          | JAMESTOWN     | SC | 29453 | Flex1    | AG   | AGRICULTURAL (NEC) |
| 169 | CAMP HALL INDUSTRIAL OWNER LLC         | 157-00-00-003 | 2936.38 | Berkeley | 464 AUTONOMOUS DR      | RIDGEVILLE    | SC | 29472 | PD-OP/IP | PUD  | TAX EXEMPT         |
| 170 | CAMP HALL INDUSTRIAL OWNER LLC         | 157-00-00-003 | 2936.38 | Berkeley | 464 AUTONOMOUS DR      | RIDGEVILLE    | SC | 29472 | PD-OP/IP | PUD  | TAX EXEMPT         |
| 171 | UNITED STATES OF AMERICA               | 253-00-00-001 | 3210.20 | Berkeley | 37 BOONE AV            | GOOSE CREEK   | SC | 29445 |          |      | TAX EXEMPT         |
| 172 | UNITED STATES OF AMERICA               | 253-00-00-001 | 3210.20 | Berkeley | 37 BOONE AV            | GOOSE CREEK   | SC | 29445 |          |      | TAX EXEMPT         |
| 173 | UNITED STATES OF AMERICA               | 245-00-00-001 | 4825.94 | Berkeley | 100 FAIRING            | GOOSE CREEK   | SC | 29445 |          |      | TAX EXEMPT         |
| 174 | SC DEPARTMENT OF NATURAL RESOURCES     | 200-00-00-011 | 3630.60 | Berkeley | 2783 HWY 402           | CORDESVILLE   | SC | 29434 | Flex1    | AG   | TAX EXEMPT         |
| 175 | SC PUBLIC SERVICE AUTHORITY            | 052-00-00-039 | 1677.92 | Berkeley |                        | CROSS         | SC | 29436 | Flex1    | AG   | TAX EXEMPT         |
| 176 | UNITED STATES OF AMERICA               | 253-00-00-001 | 3210.20 | Berkeley | 37 BOONE AV            | GOOSE CREEK   | SC | 29445 |          |      | TAX EXEMPT         |
| 177 | MICHAEL MCNAIR FAMILY LIMITED P/S      | 090-00-00-075 | 1605.00 | Berkeley | 158 MCNAIR LN          | JAMESTOWN     | SC | 29453 | Flex1    | AG   | AGRICULTURAL (NEC) |

|     |  |                  |         |            |                         |                  |    |       |          |         |                    |
|-----|--|------------------|---------|------------|-------------------------|------------------|----|-------|----------|---------|--------------------|
| 178 | UNITED STATES OF AMERICA                                     | 253-00-00-001    | 3210.20 | Berkeley   | 37 BOONE AV             | GOOSE CREEK      | SC | 29445 |          |         | TAX EXEMPT         |
| 179 | UNITED STATES OF AMERICA                                     | 253-00-00-001    | 3210.20 | Berkeley   | 37 BOONE AV             | GOOSE CREEK      | SC | 29445 |          |         | TAX EXEMPT         |
| 180 | TRACT 7 LLC  | 262-00-00-009    | 1866.33 | Berkeley   | 1523 CAINHOY RD         | CHARLESTON       | SC | 29492 | PUD      | PUD     | AGRICULTURAL (NEC) |
| 181 | AMOCO CORP   | 247-00-00-003    | 1577.59 | Berkeley   | 1550 REC RD             | HUGER            | SC | 29450 | HI       | Ind     | AGRICULTURAL (NEC) |
| 182 | SONOCO PRODUCTS COMPANY                                      | 007-00-00-001    | 9211.40 | Berkeley   |                         | PINEVILLE        | SC | 29468 | Flex1    | AG      | AGRICULTURAL (NEC) |
| 183 | CAMP HALL INDUSTRIAL OWNER LLC                               | 157-00-00-003    | 2936.38 | Berkeley   | 464 AUTONOMOUS DR       | RIDGEVILLE       | SC | 29472 | PD-OP/IP | PUD     | TAX EXEMPT         |
| 184 | ALUMAX OF SC   | 223-00-00-021    | 1742.71 | Berkeley   | 3579 HWY 52             | MONCKS CORNER    | SC | 29461 | HI       | Ind     | COMMERCIAL (NEC)   |
| 185 | ANDREWS, TERRY H   | 164-00-01-061    | 1596.69 | Berkeley   | 498 JELLY ROLLS RD      | MONCKS CORNER    | SC | 29461 | Flex1    | AG      | AGRICULTURAL (NEC) |
| 186 | SOUTH CAROLINA DEPARTMENT OF NATURAL RES                     | 200-00-00-008    | 3397.25 | Berkeley   | 1482 BONNEAU FERRY DR   | CORDESVILLE      | SC | 29434 | Flex1    | AG      | SFR                |
| 187 | CAMP HALL INDUSTRIAL OWNER LLC                               | 157-00-00-003    | 2936.38 | Berkeley   | 464 AUTONOMOUS DR       | RIDGEVILLE       | SC | 29472 | PD-OP/IP | PUD     | TAX EXEMPT         |
| 188 | CAMP HALL INDUSTRIAL OWNER LLC                               | 157-00-00-003    | 2936.38 | Berkeley   | 464 AUTONOMOUS DR       | RIDGEVILLE       | SC | 29472 | PD-OP/IP | PUD     | TAX EXEMPT         |
| 189 | COASTAL FOREST RESOURCES                                     | 009087-00-00-010 | 1077.27 | Calhoun    | OFF GREAT CIRCLE DR     | SAINT MATTHEWS   | SC | 29135 |          |         | AGRICULTURAL (NEC) |
| 190 | THE GRESSETTE CO LLC   | 009172-00-00-001 | 1221.00 | Calhoun    |                         | SAINT MATTHEWS   | SC | 29135 |          |         | AGRICULTURAL (NEC) |
| 191 | SALLEY FAMILY LLC  | 009113-00-00-001 | 1732.42 | Calhoun    | 296 HEDRICK LN & 303    | SAINT MATTHEWS   | SC | 29135 |          |         | MISCELLANEOUS      |
| 192 | MULLER LAKE LLC  | 009082-00-00-002 | 2918.75 | Calhoun    | 530 MULLER LAKE RD      | SWANSEA          | SC | 29160 |          |         | AGRICULTURAL (NEC) |
| 193 | SC PUBLIC SERVICE AUTHORITY                                  | 009205-00-00-001 | 4508.43 | Calhoun    |                         | ELLOREE          | SC | 29047 |          |         | TAX EXEMPT         |
| 194 | SC PUBLIC SERVICE AUTHORITY                                  | 009205-00-00-001 | 2214.09 | Calhoun    |                         | CAMERON          | SC | 29030 |          |         | TAX EXEMPT         |
| 195 | UNITED STATES OF AMERICA                                     | 040-00-00-025    | 1337.19 | Charleston | 8675 WILLTOWN           | HOLLYWOOD        | SC | 29449 | RM       | Res     | SFR                |
| 196 | EL CID BRAVO FARM LLC  | 175-00-00-062    | 1032.48 | Charleston | 6500 PARKERS FERRY RD   | ADAMS RUN        | SC | 29426 | RM       | Res     | AGRICULTURAL (NEC) |
| 197 | CHARLESTON COUNTY AIRPORT DISTRICT                           | 319-00-00-002    | 1090.12 | Charleston | RIVER RD                | JOHNS ISLAND     | SC | 29455 | LI       | Ind     | WAREHOUSE          |
| 198 | CHARLESTON COUNTY AIRPORT DISTRICT                           | 400-00-00-007    | 1177.93 | Charleston | 5400 INTERNATIONAL BLVD | NORTH CHARLESTON | SC | 29418 | M-1      | Ind     | WASTE LAND         |
| 199 | HANAHAN, ROGER PARKE   | 301-00-00-003    | 1285.80 | Charleston | HIGHWAY 61              | JOHNS ISLAND     | SC | 29455 |          |         | RESIDENTIAL (NEC)  |
| 200 | OAKLAWN PLANTATION LLC                                       | 040-00-00-002    | 1323.57 | Charleston | SAVANNAH HWY            | ADAMS RUN        | SC | 29426 | AG-10    | AG      | SFR                |
| 201 | WHITE OAK FORESTRY CORP                                      | 790-00-00-020    | 1143.95 | Charleston | OLD GEORGETOWN RD       | MC CLELLANVILLE  | SC | 29458 | AG-10    | AG      | AGRICULTURAL (NEC) |
| 202 | MCLEOD LUMBER CO INC   | 040-00-00-005    | 1279.88 | Charleston | PARKERS FERRY RD        | HOLLYWOOD        | SC | 29449 | RM       | Res     | SFR                |
| 203 | EDISTO CHARLESTON 1000 LLC                                   | 139-00-00-001    | 1011.19 | Charleston | EDISTO RIVER            | WADMALAW ISLAND  | SC | 29487 | AG-15    | AG      | VACANT LAND (NEC)  |
| 204 | SOUTH CAROLINA WILDLIFE & MARINE RESOURCES COMMISSION AS     | 610-00-00-010    | 1152.70 | Charleston | CAPERS CREEK            | AWENDAW          | SC | 29429 | NRM      | Misc    | VACANT LAND (NEC)  |
| 205 | BARING PLANTATION LLC  | 040-00-00-001    | 1436.92 | Charleston | 9485 SAVANNAH HWY       | ADAMS RUN        | SC | 29426 | RM       | Res     | RESIDENTIAL (NEC)  |
| 206 | WESTFALL, ELLEN M  | 089-00-00-001    | 1050.36 | Charleston | WHITE POINT RD          | HOLLYWOOD        | SC | 29449 | AG-10    | AG      | RESIDENTIAL (NEC)  |
| 207 | LONG SAVANNAH LAND CO LLC                                    | 301-00-00-006    | 1219.93 | Charleston | BEAR SWAMP RD           | CHARLESTON       | SC | 29414 | PUD      | PUD     | RES ACREAGE        |
| 208 | STATE OF SOUTH CAROLINA LESSEE NATURE CONSERVANCY THE LESSOR | 820-00-00-007    | 1161.94 | Charleston | DUPRE RD                | MC CLELLANVILLE  | SC | 29458 | RM       | Res     | AGRICULTURAL (NEC) |
| 209 | MILLBROOK LLC  | 301-00-00-002    | 1484.87 | Charleston | HIGHWAY 61              | CHARLESTON       | SC | 29414 | AG-8     | AG      | AGRICULTURAL (NEC) |
| 210 | CONGAREE CARTON LIMITED PARTNERSHIP                          | 625-00-00-010    | 1243.11 | Charleston | 5537 HALFWAY CREEK RD   | AWENDAW          | SC | 29429 | RM       | Res     | AGRICULTURAL (NEC) |
| 211 | PLANTATION HERTIMAGE LLC                                     | 040-00-00-003    | 1038.20 | Charleston | 5345 PARKERS FERRY RD   | ADAMS RUN        | SC | 29426 | RM       | Res     | AGRICULTURAL (NEC) |
| 212 | K & A ACQUISITION GROUP LLC                                  | 450-00-00-005    | 2197.66 | Charleston | FOLLY RD                | FOLLY BEACH      | SC | 29439 | MUNI     | Misc    | RES ACREAGE        |
| 213 | EDISTO CHARLESTON 1000 LLC                                   | 080-00-00-003    | 1755.78 | Charleston | S EDISTO RIVER          | EDISTO ISLAND    | SC | 29438 | RM       | Res     | RES ACREAGE        |
| 214 | UNITED STATES OF AMERICA                                     | 625-00-00-011    | 1933.83 | Charleston | WOODVILLE CREEK         | AWENDAW          | SC | 29429 | RM       | Res     | AGRICULTURAL (NEC) |
| 215 | STATE OF SOUTH CAROLINA                                      | 820-00-00-004    | 5841.68 | Charleston | HIGHWAY 857             | MC CLELLANVILLE  | SC | 29458 | RM       | Res     | RECREATIONAL (NEC) |
| 216 | STATE OF SOUTH CAROLINA                                      | 450-00-00-012    | 1756.61 | Charleston | MORRIS ISLAND           | FOLLY BEACH      | SC | 29439 | C        | Conserv | VACANT LAND (NEC)  |
| 217 | MCLEOD LUMBER CO INC   | 301-00-00-015    | 2882.09 | Charleston | SAVANNAH HWY            | RAVENEL          | SC | 29470 | RM       | Res     | AGRICULTURAL (NEC) |
| 218 | ESSEX FARMS LLC  | 175-00-00-018    | 1664.27 | Charleston | 9151 OLD JACKSONBORO RD | ADAMS RUN        | SC | 29426 | RM       | Res     | RESIDENTIAL (NEC)  |
| 219 | CANTUSEE TIMBERLANDS LLC                                     | 175-00-00-032    | 3175.56 | Charleston | PARKERS FERRY RD        | ADAMS RUN        | SC | 29426 | RM       | Res     | RESIDENTIAL (NEC)  |
| 220 | CANTUSEE TIMBERLANDS LLC                                     | 113-00-00-001    | 1792.88 | Charleston | GREENWOOD RD            | ADAMS RUN        | SC | 29426 | RM       | Res     | AGRICULTURAL (NEC) |
| 221 | WILEY FORK SPRING GROVE LLC                                  | 175-00-00-054    | 5161.25 | Charleston | HYDE PARK RD            | RAVENEL          | SC | 29470 | RM       | AG      | AGRICULTURAL (NEC) |
| 222 | WHITFIELD CONSTRUCTION COMPANY                               | 301-00-00-005    | 2214.57 | Charleston | ASHLEY RIVER RD         | CHARLESTON       | SC | 29414 | AG-8     | AG      | AGRICULTURAL (NEC) |
| 223 | STATE OF SOUTH CAROLINA                                      | 820-00-00-004    | 7878.14 | Charleston | HIGHWAY 857             | MC CLELLANVILLE  | SC | 29458 | RM       | Res     | RECREATIONAL (NEC) |
| 224 | CANTUSEE TIMBERLANDS LLC                                     | 113-00-00-001    | 2284.31 | Charleston | GREENWOOD RD            | ADAMS RUN        | SC | 29426 | RM       | Res     | AGRICULTURAL (NEC) |
| 225 | POINT FARM INVESTORS LLC                                     | 135-00-00-001    | 1516.58 | Charleston | POINT FARM RD           | WADMALAW ISLAND  | SC | 29487 | AG-15    | AG      | AGRICULTURAL (NEC) |
| 226 | UNITED STATES OF AMERICA                                     | 400-00-00-006    | 2903.83 | Charleston | 6390 DORCHESTER RD      | NORTH CHARLESTON | SC | 29418 | M-1      | Ind     | WASTE LAND         |
| 227 | WHITE OAK FORESTRY CORP                                      | 790-00-00-005    | 2395.61 | Charleston | N HIGHWAY 17            | MC CLELLANVILLE  | SC | 29458 | RM       | Res     | AGRICULTURAL (NEC) |
| 228 | BRADHAM, JULIA ELIZABETH                                     | 225-00-00-005    | 1734.64 | Charleston | NEW RD                  | HOLLYWOOD        | SC | 29449 | MUNI     | Misc    | AGRICULTURAL (NEC) |
| 229 | OPEN SPACE INSTITUTE LAND TRUST INC THE NATURE CONSERVANCY   | 625-00-00-042    | 1546.13 | Charleston | HALFWAY CREEK RD        | HUGER            | SC | 29450 | RM       | Res     | RES ACREAGE        |
| 230 | AVOCET TIMBER LLC  | 175-00-00-038    | 2366.29 | Charleston | HYDE PARK RD            | RAVENEL          | SC | 29470 | RM       | Res     | AGRICULTURAL (NEC) |
| 231 | STATE OF SOUTH CAROLINA                                      | 080-00-00-007    | 3387.16 | Charleston | BOTANY BAY RD           | EDISTO ISLAND    | SC | 29438 | AG-10    | AG      | SFR                |
| 232 | UNITED STATES OF AMERICA                                     | 040-00-00-018    | 4397.88 | Charleston | JEHOSEE ISLAND RD       | EDISTO ISLAND    | SC | 29438 | RM       | Res     | AGRICULTURAL (NEC) |
| 233 | COSTA, CYNTHIA F   | 080-00-00-026    | 1551.40 | Charleston | BAILEYS CREEK           | EDISTO ISLAND    | SC | 29438 | RM       | Res     | VACANT LAND (NEC)  |
| 234 | CHARLESTON COUNTY PARK RECREATION COMMISSION                 | 301-00-00-007    | 1628.37 | Charleston | BEAR SWAMP RD           | CHARLESTON       | SC | 29414 | AG-8     | AG      | RECREATIONAL (NEC) |
| 235 | WILLTOWN LAND & TIMBER COMPANY LLC                           | 040-00-00-004    | 1961.56 | Charleston | 5000 PARKERS FERRY RD   | HOLLYWOOD        | SC | 29449 | RM       | Res     | SFR                |
| 236 | JANUS TIMBER LLC   | 175-00-00-039    | 1686.55 | Charleston | SPRING GROVE RD         | ADAMS RUN        | SC | 29426 | RM       | AG      | AGRICULTURAL (NEC) |
| 237 | KIAWAH RESORT ASSOCIATES                                     | 207-00-00-002    | 2626.96 | Charleston | KIAWAH ISLAND           | JOHNS ISLAND     | SC | 29455 | MUNI     | Misc    | VACANT LAND (NEC)  |
| 238 | CAROLINA COTTAGE HOMES LLC                                   | 212-00-00-001    | 1926.17 | Charleston | 2600 MULLET HALL RD     | JOHNS ISLAND     | SC | 29455 | PD       | PUD     | RESIDENTIAL (NEC)  |

|     |   |                                      |          |              |                         |           |    |       |      |      |                    |
|-----|---|--------------------------------------|----------|--------------|-------------------------|-----------|----|-------|------|------|--------------------|
| 239 | WILEY FORK SPRING GROVE LLC                             | 175-00-00-053                        | 3932.37  | Charleston   | NEW RD                  | HOLLYWOOD | SC | 29449 | RM   | AG   | RESIDENTIAL (NEC)  |
| 240 | WILEY FORK SPRING GROVE LLC                             | 175-00-00-055                        | 1969.25  | Charleston   | HYDE PARK RD            | RAVENEL   | SC | 29470 | RM   | Res  | AGRICULTURAL (NEC) |
| 241 | TIAA TIMBERLAND II LLC                                  | 165-00-00-001.000                    | 1339.64  | Cherokee     | CORINTH RD              | GAFFNEY   | SC | 29340 |      |      | FARMS              |
| 242 | DUKE ENERGY CAROLINAS LLC                               | 179-00-00-001.000                    | 1908.44  | Cherokee     | MCKOWNS MOUNTAIN RD     | GAFFNEY   | SC | 29340 |      |      | COMMERCIAL (NEC)   |
| 243 | SANDY RIVER TIMBER LLC                                  | 158-00-00-005.000                    | 1798.14  | Cherokee     | ROLLING MILL RD         | GAFFNEY   | SC | 29340 |      |      | SFR                |
| 244 | JOHNSON HUNTER LLC                                      | 187-00-00-001.000                    | 2732.65  | Cherokee     | 673 WALKER FARM RD      | GAFFNEY   | SC | 29340 |      |      | SFR                |
| 245 | WHITLEY, WILLIAM S                                      | 163-00-00-008.000                    | 1573.58  | Cherokee     | 200 ASHLEY LN           | GAFFNEY   | SC | 29340 |      |      | FARMS              |
| 246 | SANDY RIVER LLC   | 023-00-00-034-000                    | 1340.64  | Chester      | 3484 LEEDS ROAD         | CARLISLE  | SC | 29031 | ID-3 | Ind  | AGRICULTURAL (NEC) |
| 247 | BOULWARE, DONALD & BOULWARE, REUBEN M                   | 107-00-00-003-000                    | 1280.09  | Chester      |                         | CHESTER   | SC | 29706 | R-2  | Res  | AGRICULTURAL (NEC) |
| 248 | TIAA TIMBERLAND II LLC                                  | 054-00-00-007-000                    | 1091.88  | Chester      |                         | CHESTER   | SC | 29706 | AG   | AG   | AGRICULTURAL (NEC) |
| 249 | OLD PINES LLC   | 138-00-00-001-000                    | 1007.61  | Chester      |                         | RICHBURG  | SC | 29729 | EDD  | Res  | AGRICULTURAL (NEC) |
| 250 | UNITED STATES FOREST SERV                               | 011-00-00-001-000                    | 1482.03  | Chester      |                         | CARLISLE  | SC | 29031 | AG   | AG   | TAX EXEMPT         |
| 251 | POULOS, GUS S & POULOS, PETE S                          | 008-00-00-012-000                    | 1092.32  | Chester      |                         | CHESTER   | SC | 29706 | AG   | Res  | AGRICULTURAL LAND  |
| 252 | WEYERHAEUSER COMPANY                                    | 109-00-00-025-000                    | 1849.48  | Chester      |                         | CHESTER   | SC | 29706 | R-2  | Res  | AGRICULTURAL (NEC) |
| 253 | UNITED STATES FOREST SERV                               | 011-00-00-001-000                    | 8837.55  | Chester      |                         | CHESTER   | SC | 29706 | AG   | AG   | TAX EXEMPT         |
| 254 | WEST 77 LLC   | 118-00-00-045-000                    | 2133.05  | Chester      |                         | RICHBURG  | SC | 29729 | EDD  | Misc | AGRICULTURAL (NEC) |
| 255 | TBP PROPERTIES LLC                                      | 042-00-00-001-000                    | 1914.84  | Chester      |                         | CARLISLE  | SC | 29031 | ID-3 | Res  | AGRICULTURAL (NEC) |
| 256 | ST MICHAELS LLC   | 127-00-00-108-000                    | 1730.51  | Chester      |                         | RICHBURG  | SC | 29729 | EDD  | Misc | AGRICULTURAL (NEC) |
| 257 | SCP CATAWBA LLC   | 117-00-00-006-000                    | 1900.85  | Chester      |                         | RICHBURG  | SC | 29729 | EDD  | Misc | RESIDENTIAL (NEC)  |
| 258 | JAB I-77 SITE WEST                                      | 113-00-00-017-000; 113-00-00-044-000 | 1023.00  | Chester      | DULAP RODDEY ROAD       | EDGEMOORE | SC | 29712 | ID-1 | Ind  |                    |
| 259 | DUKE ENERGY PROGRESS INC                                | 165-000-000-001                      | 1417.44  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 260 | DUKE ENERGY PROGRESS INC                                | 165-000-000-001                      | 1227.35  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 261 | CHARLES INGRAM LUMBER CO INC                            | 287-000-000-002                      | 1084.56  | Chesterfield |                         | CHERAW    | SC | 29520 |      |      |                    |
| 262 | SOUTH CAROLINA DEPARTMENT OF PARKS RECREATION & TOURISM | 246-000-000-062                      | 1456.00  | Chesterfield |                         | CHERAW    | SC | 29520 |      |      |                    |
| 263 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 1067.55  | Chesterfield | 1861 PATRICK SOCIETY HL | CHERAW    | SC | 29520 |      |      |                    |
| 264 | WATEREE HOLDINGS LLC                                    | 274-000-000-054                      | 1436.19  | Chesterfield |                         | CHERAW    | SC | 29520 |      |      |                    |
| 265 | SANDHILLS STATE FOREST                                  | 075-000-000-017                      | 1465.88  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 266 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 1303.35  | Chesterfield | 1861 PATRICK SOCIETY HL | CHERAW    | SC | 29520 |      |      |                    |
| 267 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 1302.94  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 268 | CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE             | 111-000-000-009                      | 1769.03  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 269 | CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE             | 111-000-000-009                      | 4186.77  | Chesterfield |                         | JEFFERSON | SC | 29718 |      |      |                    |
| 270 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 1846.34  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 271 | SOUTH CAROLINA DEPARTMENT OF PARKS RECREATION & TOURISM | 246-000-000-062                      | 4168.81  | Chesterfield |                         | CHERAW    | SC | 29520 |      |      |                    |
| 272 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 3082.27  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 273 | CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE             | 111-000-000-009                      | 2422.77  | Chesterfield |                         | JEFFERSON | SC | 29718 |      |      |                    |
| 274 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 1750.46  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 275 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 2676.96  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 276 | J L ANDERSON CO   | 288-000-000-001                      | 1513.53  | Chesterfield |                         | CHERAW    | SC | 29520 |      |      |                    |
| 277 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 2154.29  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 278 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 1672.51  | Chesterfield | 1861 PATRICK SOCIETY HL | PATRICK   | SC | 29584 |      |      |                    |
| 279 | SANDHILLS STATE FOREST                                  | 141-000-000-004                      | 2340.06  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 280 | CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE             | 111-000-000-009                      | 17577.72 | Chesterfield |                         | JEFFERSON | SC | 29718 |      |      |                    |
| 281 | SANDHILLS STATE FOREST                                  | 141-000-000-004                      | 1857.10  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 282 | CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE             | 111-000-000-009                      | 15426.28 | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 283 | SOUTH CAROLINA COMMISSION OF FORESTRY                   | 214-000-000-003                      | 7253.29  | Chesterfield | 1861 PATRICK SOCIETY HL | CHERAW    | SC | 29520 |      |      |                    |
| 284 | SANDHILLS STATE FOREST                                  | 075-000-000-017                      | 1756.68  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 285 | J L ANDERSON CO   | 274-000-000-062                      | 6715.83  | Chesterfield |                         | CHERAW    | SC | 29520 |      |      |                    |
| 286 | CAROLINA SANDHILLS NATIONAL WILDLIFE REFUGE             | 111-000-000-009                      | 2002.94  | Chesterfield |                         | MC BEE    | SC | 29101 |      |      |                    |
| 287 | JUSTICE, JAMES C  | 230-00-01-001-00                     | 1496.24  | Clarendon    | 10988 HWY 301           | ALCOLU    | SC | 29001 |      |      | AGRICULTURAL (NEC) |
| 288 | DOCHAS LAND & TIMBER LLC                                | 305-00-00-001-00                     | 1153.79  | Clarendon    | 3953 CORNER RD          | NEW ZION  | SC | 29111 |      |      | RESIDENTIAL (NEC)  |
| 289 | KARIS LLC   | 310-00-00-006-00                     | 1008.11  | Clarendon    |                         | NEW ZION  | SC | 29111 |      |      | AGRICULTURAL (NEC) |
| 290 | KIRK ROY SHERRY PROPERTIES LLC                          | 133-00-01-014-00                     | 1186.79  | Clarendon    | 20 DISTRICT             | MANNING   | SC | 29102 |      |      | AGRICULTURAL (NEC) |
| 291 | PINELAND FARM LLC                                       | 042-00-00-001-00                     | 1268.77  | Clarendon    | 2377 GAYMON RD          | PINEWOOD  | SC | 29125 |      |      | RESIDENTIAL (NEC)  |
| 292 | PANOLA ENTERPRISES                                      | 081-00-01-014-00                     | 1001.16  | Clarendon    | 5206 FURSE RD           | SUMMERTON | SC | 29148 |      |      | AGRICULTURAL (NEC) |
| 293 | DEER & DUCK LLC   | 061-00-00-001-00                     | 1022.69  | Clarendon    | 3467 OAKS RD            | SUMMERTON | SC | 29148 |      |      | AGRICULTURAL (NEC) |
| 294 | OAK MOUNTAIN TIMBERCO SC LLC                            | 296-00-00-001-00                     | 1198.57  | Clarendon    | 8975 S BREWINGTON RD    | MANNING   | SC | 29102 |      |      | AGRICULTURAL (NEC) |
| 295 | TAMARACK TIMBERCO SC LLC                                | 235-00-02-007-00                     | 1099.94  | Clarendon    | 20 DISTRICT             | ALCOLU    | SC | 29001 |      |      | AGRICULTURAL (NEC) |
| 296 | EVERGREEN TIMBERCO SC LLC                               | 311-00-00-003-00                     | 1494.75  | Clarendon    |                         | NEW ZION  | SC | 29111 |      |      | AGRICULTURAL (NEC) |
| 297 | USA FISH & WILDLIFE SER, & DIV OF REALTY                | 071-00-00-002-00                     | 1029.65  | Clarendon    |                         | SUMMERTON | SC | 29148 |      |      | FEDERAL PROPERTY   |
| 298 | WEYERHAEUSER COMPANY                                    | 263-00-02-016-00                     | 1149.65  | Clarendon    | 20 DISTRICT             | MANNING   | SC | 29102 |      |      | AGRICULTURAL (NEC) |
| 299 | MARHAYGUE LLC   | 063-00-00-097-00                     | 1788.32  | Clarendon    |                         | SUMMERTON | SC | 29148 |      |      | AGRICULTURAL (NEC) |

|     |  |                  |         |           |                        |              |    |       |    |       |                    |
|-----|--|------------------|---------|-----------|------------------------|--------------|----|-------|----|-------|--------------------|
| 300 | JUSTICE, JAMES C   | 230-00-01-001-00 | 2438.38 | Clarendon | 10988 HWY 301          | ALCOLU       | SC | 29001 |    |       | AGRICULTURAL (NEC) |
| 301 | WEYERHAEUSER COMPANY   | 309-00-03-004-00 | 1939.12 | Clarendon |                        | NEW ZION     | SC | 29111 |    |       | AGRICULTURAL (NEC) |
| 302 | FBSC LLC   | 249-00-00-001-00 | 7784.81 | Clarendon | 4672 KENWOOD RD        | MANNING      | SC | 29102 |    |       | RESIDENTIAL (NEC)  |
| 303 | SC DEPT TRANSPORTATION   | 229-00-01-001-00 | 1642.62 | Clarendon |                        | GABLE        | SC | 29051 |    |       | STATE PROPERTY     |
| 304 | US FISH & WILDLIFE, & DIV OF REALTY  | 115-00-00-006-00 | 3586.26 | Clarendon |                        | SUMMERTON    | SC | 29148 |    |       | FEDERAL PROPERTY   |
| 305 | FOREST CIRCLE CAPITAL LLC  | 293-00-03-030-00 | 1689.20 | Clarendon | 10969 GREELEYVILLE HWY | MANNING      | SC | 29102 |    |       | AGRICULTURAL (NEC) |
| 306 | SOUTH CAROLINA WILDLIFE & MARINE RESO  | 328-00-00-001    | 1108.39 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 307 | CHEROKEE PLANTATION OWNERS LLC   | 268-00-00-001    | 1331.13 | Colleton  |                        | YEMASSEE     | SC | 29945 | RD | Mixed | AGRICULTURAL LAND  |
| 308 | LAVINGTON ASSOCIATES LLP   | 284-00-00-020    | 1409.93 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 309 | WEYERHAEUSER COMPANY   | 206-00-00-010    | 1151.11 | Colleton  | KATIE BRIDGE DR        | WALTERBORO   | SC | 29488 | RD | Mixed | AGRICULTURAL LAND  |
| 310 | WEYERHAEUSER COMPANY   | 209-00-00-001    | 1148.99 | Colleton  | COOKS HILL RD          | WALTERBORO   | SC | 29488 | RD | Mixed | AGRICULTURAL LAND  |
| 311 | WARE, CLAUDIA L  | 300-00-00-058    | 1066.12 | Colleton  | ACE BASIN PARKWAY      | GREEN POND   | SC | 29446 | RC | Misc  | AGRICULTURAL LAND  |
| 312 | HOOD BLUFF FARM LLCA SC LIMITED LIAB   | 279-00-00-001    | 1001.84 | Colleton  |                        | YEMASSEE     | SC | 29945 | RC | Misc  | RESIDENTIAL (NEC)  |
| 313 | WNL PROPERTIES LLC   | 166-00-00-002    | 1229.21 | Colleton  | FEATHERBED RD          | ROUND O      | SC | 29474 | UD | Mixed | AGRICULTURAL LAND  |
| 314 | LRT II LLC A DELAWARE LIMITED LIABIL   | 183-00-00-014    | 1388.77 | Colleton  | 9836 CHARLESTON HWY    | ROUND O      | SC | 29474 | RD | Mixed | RESIDENTIAL (NEC)  |
| 315 | WEYERHAEUSER COMPANY   | 008-00-00-012    | 1360.88 | Colleton  | ##67,250,724           | SMOAKS       | SC | 29481 | RD | Mixed | AGRICULTURAL LAND  |
| 316 | SOUTH CAROLINA WILDLIFE & MARINE RESO  | 313-00-00-006    | 1017.68 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 317 | FEATHERBED ASSOCIATES LLC  | 181-00-00-061    | 1499.38 | Colleton  | FEATHERBED RD          | ROUND O      | SC | 29474 |    |       | AGRICULTURAL LAND  |
| 318 | WEYERHAEUSER COMPANY   | 059-00-00-005    | 1225.17 | Colleton  | 506 524 LIGHTSEY WAY   | WALTERBORO   | SC | 29488 | RD | Mixed | RESIDENTIAL (NEC)  |
| 319 | SOUTH CAROLINA DEPARTMENT OF NATURAL   | 349-00-00-001    | 1123.95 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | AGRICULTURAL LAND  |
| 320 | SCOTT WOODLANDS LLC  | 083-00-00-006    | 1118.79 | Colleton  | HUGHES DR              | COTTAGEVILLE | SC | 29435 | RD | Mixed | AGRICULTURAL (NEC) |
| 321 | WARE, CLAUDIA L & OSWALD, LIGHTSEY E   | 308-00-00-001    | 1458.97 | Colleton  | 4632 PERRY CT          | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 322 | WEYERHAEUSER NR COMPANY  | 149-00-00-026    | 1048.38 | Colleton  |                        | WALTERBORO   | SC | 29488 | UD | Mixed | AGRICULTURAL LAND  |
| 323 | PAUL & DALTON LLC, & WILD ROSE FARMS INC                                     | 316-00-00-008    | 1061.27 | Colleton  | 3220 WIGGINS RD        | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 324 | EDISTO RIVER ENVIRONMENTAL RESOURCES   | 048-00-00-006    | 1048.81 | Colleton  | 1277 DEE DEE RD #7     | COTTAGEVILLE | SC | 29435 | RD | Mixed | AGRICULTURAL (NEC) |
| 325 | COLLUMS TIMBER INVESTMENTS LLC A SOU   | 266-00-00-002    | 1135.90 | Colleton  |                        | YEMASSEE     | SC | 29945 | RD | Mixed | RESIDENTIAL (NEC)  |
| 326 | ARLEE LLC A SOUTH CAROLINA LIMITED L, & RHODES CO LLC A SOUTH CAROLINA LIMIT | 111-00-00-018    | 1040.41 | Colleton  |                        | RUFFIN       | SC | 29475 | RD | Mixed | AGRICULTURAL LAND  |
| 327 | WALTERBORO COLLETON COUNTYAIRPORT CO   | 132-00-00-028    | 1038.69 | Colleton  | 566 AVIATION WAY       | WALTERBORO   | SC | 29488 | ID | Ind   | FEDERAL PROPERTY   |
| 328 | G D VARN & SONS LLC  | 069-00-00-011    | 1455.61 | Colleton  | BROXTON BRIDGE HWY     | EHRHARDT     | SC | 29081 | RD | Mixed | AGRICULTURAL (NEC) |
| 329 | WEYERHAEUSER COMPANY   | 059-00-00-005    | 1196.23 | Colleton  | 506 524 LIGHTSEY WAY   | WALTERBORO   | SC | 29488 | RD | Mixed | RESIDENTIAL (NEC)  |
| 330 | WNL PROPERTIES LLC   | 262-00-00-011    | 1146.94 | Colleton  | 12473 ACE BASIN PKY    | JACKSONBORO  | SC | 29452 | RD | Mixed | AGRICULTURAL (NEC) |
| 331 | WARE, CLAUDIA L  | 300-00-00-055    | 2477.76 | Colleton  | STOCKS CREEK RD        | GREEN POND   | SC | 29446 | RC | Misc  | AGRICULTURAL LAND  |
| 332 | LAUREL SPRING LLC A SOUTH CAROLINA L   | 308-00-00-004    | 2878.77 | Colleton  | ACE BASIN PKY          | GREEN POND   | SC | 29446 |    |       | AGRICULTURAL (NEC) |
| 333 | ASHEPOO LLC  | 319-00-00-001    | 4865.92 | Colleton  | 9314 BENNETTS POINT RD | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 334 | LRT II LLC A DELAWARE LIMITED LIABIL   | 183-00-00-014    | 8588.26 | Colleton  | 9836 CHARLESTON HWY    | ROUND O      | SC | 29474 | RD | Mixed | RESIDENTIAL (NEC)  |
| 335 | SOUTH CAROLINA DEPARTMENTOF NATURAL  | 283-00-00-025    | 3305.16 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 336 | WEYERHAEUSER COMPANY A WASHINGTON CO   | 214-00-00-001    | 2794.95 | Colleton  |                        | ROUND O      | SC | 29474 | RD | Mixed | AGRICULTURAL (NEC) |
| 337 | WEYERHAEUSER COMPANY   | 022-00-00-045    | 1714.78 | Colleton  |                        | SMOAKS       | SC | 29481 | RD | Mixed | AGRICULTURAL LAND  |
| 338 | OSWALD LIGHT   | 285-00-00-004    | 2931.03 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | AGRICULTURAL LAND  |
| 339 | CHEROKEE PLANTATION OWNERS LLC   | 268-00-00-001    | 2032.07 | Colleton  |                        | YEMASSEE     | SC | 29945 | RD | Mixed | AGRICULTURAL LAND  |
| 340 | WILEY FORK HOPE LLC A SOUTH CAROLINA   | 287-00-00-001    | 2113.70 | Colleton  | HOPE PLANTATION RD     | GREEN POND   | SC | 29446 | RC | Misc  | EASEMENT           |
| 341 | SC WILDLIFE RESOURCES DEPTGAME DIVI  | 327-00-00-001    | 1689.40 | Colleton  | TI TI RD               | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 342 | PON PON PLANTATION LLC A SOUTH CAROLI  | 305-00-00-001    | 3284.75 | Colleton  | 7122 TI TI RD          | GREEN POND   | SC | 29446 | RC | Misc  | EASEMENT           |
| 343 | OSWALD LIGHT   | 156-00-00-021    | 3320.22 | Colleton  | 15641 SNIDERS HWY      | ISLANDTON    | SC | 29929 | RD | Mixed | RESIDENTIAL (NEC)  |
| 344 | SOUTH CAROLINA WILDLIFE & MARINE RESO  | 347-00-00-001    | 1862.54 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 345 | LIGHTSEY, E OSWALD LILLIAN L   | 262-00-00-001    | 1906.58 | Colleton  | WEISS LN               | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 346 | NICODEMUS LLC A SOUTH CAROLINA LIMIT   | 224-00-00-059    | 1874.75 | Colleton  |                        | WALTERBORO   | SC | 29488 |    |       | AGRICULTURAL LAND  |
| 347 | WEYERHAEUSER COMPANY A WASHINGTON CO   | 214-00-00-001    | 4058.30 | Colleton  |                        | ROUND O      | SC | 29474 | RD | Mixed | AGRICULTURAL (NEC) |
| 348 | ELGERBAR CORP  | 231-00-00-010    | 4172.50 | Colleton  | 4043 BLACK CREEK ROAD  | RUFFIN       | SC | 29475 | RD | Mixed | RESIDENTIAL (NEC)  |
| 349 | OSWALD LIGHT   | 263-00-00-001    | 1604.90 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 350 | SC WILDLIFE RESOURCES DEPTGAME DIVI  | 327-00-00-001    | 2435.71 | Colleton  | TI TI RD               | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 351 | SC, WILDLIFE MARINE RESOURCES DEP  | 353-00-00-001    | 2041.73 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 352 | CHEROKEE PLANTATION OWNERS LLC   | 289-00-00-001    | 2957.46 | Colleton  |                        | YEMASSEE     | SC | 29945 | RC | Misc  | RESIDENTIAL (NEC)  |
| 353 | CHEEHA COMBAHEE PLANTATION INC   | 325-00-00-001    | 8936.92 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 354 | WILEY FORK HOPE LLC A SOUTH CAROLINA   | 287-00-00-001    | 2937.38 | Colleton  | HOPE PLANTATION RD     | GREEN POND   | SC | 29446 | RC | Misc  | EASEMENT           |
| 355 | UNITED STATES OF AMERICAU S FISH & W   | 280-00-00-008    | 1831.68 | Colleton  | COMBAHEE FIELD TER     | YEMASSEE     | SC | 29945 | RC | Misc  | WILDLIFE REFUGE    |
| 356 | RUTH B CUMMINGS CHILDREN   | 313-00-00-008    | 1735.15 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |
| 357 | BOWLES ISLAND LLC A SOUTH CAROLINA L   | 333-00-00-001    | 1889.03 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 358 | SOUTH CAROLINA WILDLIFE & MARINE RESO  | 328-00-00-001    | 1536.92 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 359 | ESSEX FARMS LLC A SOUTH CAROLINA LIM   | 095-00-00-008    | 2007.67 | Colleton  | LOGAN FARM RD #2       | WALTERBORO   | SC | 29488 | RD | Mixed | AGRICULTURAL LAND  |
| 360 | SC WILDLIFE RESOURCES DEPTGAME DIVI  | 327-00-00-001    | 3395.96 | Colleton  | TI TI RD               | GREEN POND   | SC | 29446 | RC | Misc  | WILDLIFE REFUGE    |
| 361 | WEYERHAEUSER COMPANY   | 228-00-00-001    | 1948.92 | Colleton  |                        | ROUND O      | SC | 29474 | RD | Mixed | RESIDENTIAL (NEC)  |
| 362 | ASHEPOO LLC  | 340-00-00-001    | 4011.69 | Colleton  |                        | GREEN POND   | SC | 29446 | RC | Misc  | RESIDENTIAL (NEC)  |

|     |   |  |         |            |                            |              |    |       |       |       |                     |
|-----|---|--|---------|------------|----------------------------|--------------|----|-------|-------|-------|---------------------|
| 363 | ELGERBAR CORP                                   | 231-00-00-010  | 2273.59 | Colleton   | 4043 BLACK CREEK ROAD      | YEMASSEE     | SC | 29945 | RD    | Mixed | RESIDENTIAL (NEC)   |
| 364 | SOUTH CAROLINA DEPARTMENT OFNATURAL             | 301-00-00-001  | 3539.20 | Colleton   | STOCKS CREEK RD            | GREEN POND   | SC | 29446 | RC    | Misc  | WILDLIFE REFUGE     |
| 365 | WEYERHAEUSER COMPANY                            | 222-00-00-003  | 2389.63 | Colleton   | HENDERSONVILLE HWY         | WALTERBORO   | SC | 29488 | RD    | Mixed | AGRICULTURAL LAND   |
| 366 | CUMMINGS, C T & CUMMINGS, TIMOTHY C             | 304-00-00-002  | 1854.03 | Colleton   |                            | GREEN POND   | SC | 29446 | RC    | Misc  | AGRICULTURAL LAND   |
| 367 | SOUTH CAROLINA WILDLIFE & MARINE RESO           | 342-00-00-002  | 1830.80 | Colleton   |                            | GREEN POND   | SC | 29446 | RC    | Misc  | WILDLIFE REFUGE     |
| 368 | SALTKETCHER WOODLANDS LLC A SOUTH CA            | 202-00-00-001  | 1728.82 | Colleton   | SHILOH LOOP                | ISLANDTON    | SC | 29929 | RD    | Mixed | AGRICULTURAL LAND   |
| 369 | ESSEX FARMS LLC A SOUTH CAROLINA LIM            | 095-00-00-009  | 1681.87 | Colleton   | BIG HILL RD                | WALTERBORO   | SC | 29488 |       |       | AGRICULTURAL LAND   |
| 370 | WEYERHAEUSER COMPANY                            | 170-00-00-005  | 2411.39 | Colleton   | PARKERS FERRY RD           | ROUND O      | SC | 29474 | UD    | Mixed | AGRICULTURAL LAND   |
| 371 | WNL PROPERTIES LLC                              | 262-00-00-011  | 3151.67 | Colleton   | 12473 ACE BASIN PKY        | WALTERBORO   | SC | 29488 | RD    | Mixed | AGRICULTURAL (NEC)  |
| 372 | BIRCHWOOD LAND COMPANY LIMITED LLC              | 258-00-00-026  | 4312.50 | Colleton   | 7964 COMBAHEE RD           | YEMASSEE     | SC | 29945 | RD    | Mixed | AGRICULTURAL (NEC)  |
| 373 | CATCHMARK HBU LLC A DELAWARE LIMITED            | 030-00-00-014  | 4440.07 | Colleton   |                            | WALTERBORO   | SC | 29488 | RD    | Mixed | AGRICULTURAL (NEC)  |
| 374 | LIGHTSEY, E OSWALD WACHOVIA                     | 275-00-00-013  | 2982.77 | Colleton   |                            | GREEN POND   | SC | 29446 | RC    | Misc  | AGRICULTURAL LAND   |
| 375 | RIVER BEND LLC                                  | 312-00-00-001  | 1638.19 | Colleton   | 8961 BENNETTTS POINT RD    | GREEN POND   | SC | 29446 | RC    | Misc  | RESIDENTIAL (NEC)   |
| 376 | WEYERHAEUSER COMPANY A WASHINGTON CO            | 214-00-00-001  | 3215.26 | Colleton   |                            | ROUND O      | SC | 29474 | RD    | Mixed | AGRICULTURAL (NEC)  |
| 377 | NEW LAVINGTON LLC                               | 295-00-00-002  | 2805.84 | Colleton   | 961 LAVINGTON EAST LN      | GREEN POND   | SC | 29446 | RC    | Misc  | RESIDENTIAL (NEC)   |
| 378 | NICODEMUS LLC A SOUTH CAROLINA LIMIT            | 249-00-00-006  | 2224.65 | Colleton   | 6798 RITTER RD             | WALTERBORO   | SC | 29488 |       |       | RESIDENTIAL (NEC)   |
| 379 | HUTCHINSON ISLAND ASSOCIATES                    | 339-00-00-004  | 2450.16 | Colleton   |                            | GREEN POND   | SC | 29446 | RC    | Misc  | RESIDENTIAL (NEC)   |
| 380 | CHEEHA COMBAHEE PLANTATION INC                  | 325-00-00-001  | 1982.07 | Colleton   |                            | GREEN POND   | SC | 29446 | RC    | Misc  | RESIDENTIAL (NEC)   |
| 381 | WEYERHAEUSER COMPANY A WASHINGTON CO            | 067-00-00-001  | 2857.36 | Colleton   | AUGUSTA HWY                | COTTAGEVILLE | SC | 29435 | RD    | Mixed | AGRICULTURAL LAND   |
| 382 | WEYERHAEUSER COMPANY                            | 209-00-00-001  | 1522.68 | Colleton   | COOKS HILL RD              | WALTERBORO   | SC | 29488 | RD    | Mixed | AGRICULTURAL LAND   |
| 383 | AIRY HALL PROPERTIES LLC A SOUTH CAR            | 311-00-00-001  | 4692.72 | Colleton   | 8756 BENNETTS POINT RD     | GREEN POND   | SC | 29446 | RC    | Misc  | RESIDENTIAL (NEC)   |
| 384 | WEYERHAEUSER COMPANY A WASHINGTON CO            | 214-00-00-001  | 2165.10 | Colleton   |                            | ROUND O      | SC | 29474 | RD    | Mixed | AGRICULTURAL (NEC)  |
| 385 | WEYERHAEUSER COMPANY                            | 170-00-00-005  | 1532.15 | Colleton   | PARKERS FERRY RD           | RIDGEVILLE   | SC | 29472 | UD    | Mixed | AGRICULTURAL LAND   |
| 386 | ELGERBAR CORP                                   | 231-00-00-010  | 2327.69 | Colleton   | 4043 BLACK CREEK ROAD      | YEMASSEE     | SC | 29945 | RD    | Mixed | RESIDENTIAL (NEC)   |
| 387 | SC WILDLIFE & MARINE RESOURCES                  | 326-00-00-001  | 2278.87 | Colleton   |                            | GREEN POND   | SC | 29446 | RC    | Misc  | WILDLIFE REFUGE     |
| 388 | THE SLIVKA FAMILY CHILDRENS D                   | 291-00-00-001  | 1585.38 | Colleton   | 6938 WHITE HALL ROAD       | YEMASSEE     | SC | 29945 | RC    | Misc  | RESIDENTIAL (NEC)   |
| 389 | WEYERHAEUSER COMPANY                            | 170-00-00-005  | 4704.58 | Colleton   | PARKERS FERRY RD           | COTTAGEVILLE | SC | 29435 | UD    | Mixed | AGRICULTURAL LAND   |
| 390 | CLEMSON UNIVERSITY                              | 216-00-01-004  | 1016.95 | Darlington | 2200 W POCKET RD           | DARLINGTON   | SC | 29532 |       |       | TAX EXEMPT          |
| 391 | MURRAY TRACT LLC                                | 226-00-01-004  | 1017.26 | Darlington | CASHUA FERRY ROAD NEAR RIV | DARLINGTON   | SC | 29532 |       |       | AGRICULTURAL (NEC)  |
| 392 | SONOCO PRODUCTS COMPANY                         | 206-00-01-002  | 1209.40 | Darlington | SOCIETY HL                 | SOCIETY HILL | SC | 29593 |       |       | AGRICULTURAL (NEC)  |
| 393 | MURRAY TRACT LLC                                | 225-00-01-001  | 1452.01 | Darlington | MECHANICSVILLE             | DARLINGTON   | SC | 29532 |       |       | RESIDENTIAL (NEC)   |
| 394 | COXE LAND & TIMBER LLC                          | 174-00-01-013  | 1056.35 | Darlington | SOCIETY HL                 | SOCIETY HILL | SC | 29593 |       |       | AGRICULTURAL (NEC)  |
| 395 | SONOCO PRODUCTS COMPANY                         | 228-00-01-002  | 3279.80 | Darlington | MECHANICSVILLE             | DARLINGTON   | SC | 29532 |       |       | AGRICULTURAL (NEC)  |
| 396 | COXE LAND & TIMBER LLC                          | 191-00-01-003  | 4270.82 | Darlington | 1801 ROBLYNS NECK RD       | SOCIETY HILL | SC | 29593 |       |       | COMMERCIAL (NEC)    |
| 397 | SC WILDLIFE & MARINE RESOURCES                  | 224-00-01-001  | 2818.53 | Darlington | MONT CLARE                 | DARLINGTON   | SC | 29532 |       |       | TAX EXEMPT          |
| 398 | EAST OAKLYN LLC                                 | 201-00-01-005  | 1605.09 | Darlington | PALMETTO                   | DARLINGTON   | SC | 29532 |       |       | AGRICULTURAL (NEC)  |
| 399 | COXE LAND & TIMBER LLC                          | 210-00-01-001  | 9020.98 | Darlington | MONT CLARE                 | DARLINGTON   | SC | 29540 |       |       | AGRICULTURAL (NEC)  |
| 400 | DUNLAP FORESTRY LLC                             | 174-00-01-020  | 2218.92 | Darlington | SOCIETY HL                 | SOCIETY HILL | SC | 29593 |       |       | RESIDENTIAL (NEC)   |
| 401 | SCHOOLFIELD MANAGEMENT COMP                     | 126-00-00-050  | 1003.51 | Dillon     |                            | NICHOLS      | SC | 29581 |       |       | AGRICULTURAL (NEC)  |
| 402 | EVERGREEN TIMBERCO SC LLC                       | 130-00-00-002  | 1621.01 | Dillon     |                            | LATTA        | SC | 29565 |       |       | AGRICULTURAL (NEC)  |
| 403 | FPI PROPERTIES LLC                              | 064-00-00-007  | 2802.60 | Dillon     |                            | LATTA        | SC | 29565 |       |       | AGRICULTURAL (NEC)  |
| 404 | IVY LODGE TIMBER LLC                            | 141-00-00-001  | 5315.52 | Dillon     |                            | NICHOLS      | SC | 29581 |       |       | AGRICULTURAL (NEC)  |
| 405 | EVERGREEN TIMBERCO SC LLC                       | 143-00-00-003  | 2005.19 | Dillon     |                            | LATTA        | SC | 29565 |       |       | AGRICULTURAL (NEC)  |
|     |   | 080-00-00-092; 068-00-00-042;<br>058-00-00-024; 058-00-00-021;<br>068-00-00-030; 058-00-00-019;<br>058-00-00-018; 068-00-00-015;<br>058-00-00-006; 058-00-00-004;<br>067-00-00-012; 058-00-00-001;<br>067-00-00-009; 068-00-00-007;<br>068-00-00-006; 080-00-00-017;<br>080-00-00-016; 068-00-00-002;<br>068-00-00-001 | 1130.00 | Dillon     |                            | DILLON       | SC | 29536 | RURAL |       |                     |
| 406 | CAROLINAS I-95 SUPER PARK                       |  |         |            |                            |              |    |       |       |       |                     |
| 407 | RHODES CONE LLC                                 | 165-00-00-008.000  | 1065.78 | Dorchester | HIGHWAY 17A S              | RIDGEVILLE   | SC | 29472 |       |       | VACANT LAND (NEC)   |
| 408 | CKM GRANT LLC                                   | 201-00-00-001.000  | 1135.34 | Dorchester | 4942 COUNTY LINE RD        | RAVENEL      | SC | 29470 | PD    | PUD   | COMMERCIAL BUILDING |
| 409 | CANTUSEE TIMBERLANDS LLC                        | 173-00-00-001.000  | 1040.85 | Dorchester | GEDDISVILLE RD             | RIDGEVILLE   | SC | 29472 |       |       | VACANT LAND (NEC)   |
| 410 | ROCK SIX TIMBERLANDS LLC                        | 149-00-00-041.000  | 1079.91 | Dorchester | OLD BEECH HILL RD          | RIDGEVILLE   | SC | 29472 |       |       | VACANT LAND (NEC)   |
| 411 | RHODES, W MCLEOD                                | 196-00-00-001.000  | 1198.49 | Dorchester | RIFLE RD                   | RAVENEL      | SC | 29470 | ARHD  | Misc  | VACANT LAND (NEC)   |
| 412 | SASSAFRAS TIMBER LLC                            | 195-00-00-017.000  | 1123.85 | Dorchester | DELEMAR HWY                | RAVENEL      | SC | 29470 |       |       | VACANT LAND (NEC)   |
| 413 | DAVIS LAND & TIMBER, & EDEN HALL MANAGEMENT LLC | 140-00-00-038.000  | 1241.59 | Dorchester | OLD BEECH HILL RD          | RIDGEVILLE   | SC | 29472 |       |       | VACANT LAND (NEC)   |
| 414 | GOLDING-GIVHANS                                 | 169-00-00-002.000  | 1407.65 | Dorchester | DELEMAR HWY                | SUMMERVILLE  | SC | 29485 | MUC   | Mixed | VACANT LAND (NEC)   |
| 415 | DV TIMBER LLC                                   | 127-00-00-074.000  | 1376.98 | Dorchester | ORANGEBURG RD              | SUMMERVILLE  | SC | 29483 | MUC   | Mixed | VACANT LAND (NEC)   |
| 416 | CANTUSEE TIMBERLANDS LLC                        | 183-00-00-104.000  | 1152.82 | Dorchester | GEDDISVILLE RD             | ADAMS RUN    | SC | 29426 |       |       | VACANT LAND (NEC)   |

|     |   |  |          |            |                                  |              |    |       |      |          |                     |
|-----|---|--|----------|------------|----------------------------------|--------------|----|-------|------|----------|---------------------|
| 417 | COUNTY LINE INVESTORS LLC                         | 200-00-00-038.000  | 2121.85  | Dorchester | COUNTY LINE RD                   | RAVENEL      | SC | 29470 | PD   | PUD      | VACANT LAND (NEC)   |
| 418 | MIDDLETON PLACE LLC & HOUSE                       | 180-00-00-019.000  | 5497.80  | Dorchester | 4297 ASHLEY RIVER RD             | CHARLESTON   | SC | 29414 | MUC  | Mixed    | VACANT LAND (NEC)   |
| 419 | CANTUSEE TIMBERLANDS LLC                          | 193-00-00-001.000  | 4441.07  | Dorchester | COUNTY LINE RD                   | ADAMS HILL   | SC | 29426 |      |          | VACANT LAND (NEC)   |
| 420 | NATIONAL AUDUBON SOCIETY INC                      | 009-00-00-008.000  | 1540.70  | Dorchester | INTERSTATE 26 W                  | HOLLY RUN    | SC | 29059 |      |          | VACANT LAND (NEC)   |
| 421 | ROCK SIX TIMBERLANDS LLC                          | 176-00-00-001.000  | 4204.22  | Dorchester | DELEMAR HWY                      | RAVENEL      | SC | 29470 | MUC  | Mixed    | VACANT LAND (NEC)   |
| 422 | SHERIDAN LAND CO OF SUMMERVILLE LLC               | 167-00-00-001.000  | 2834.03  | Dorchester | 435 CLUBHOUSE RD                 | RIDGEVILLE   | SC | 29472 |      |          | VACANT LAND (NEC)   |
| 423 | LENNAR CAROLINAS LLC                              | 158-00-00-014.000  | 2911.53  | Dorchester | SUMMERS DR                       | RIDGEVILLE   | SC | 29472 |      |          | VACANT LAND (NEC)   |
| 424 | WILEY FORK WATSON HILL LLC                        | 179-00-00-002.000  | 3503.44  | Dorchester | 4527 ASHLEY RIVER RD             | SUMMERVILLE  | SC | 29485 | B-2  | Bus/Comm | SFR                 |
| 425 | CANTUSEE TIMBERLANDS LLC                          | 193-00-00-003.000  | 2478.59  | Dorchester | COUNTY LINE RD                   | RAVENEL      | SC | 29470 |      |          | VACANT LAND (NEC)   |
| 426 | SASSAFRAS TIMBER LLC                              | 195-00-00-001.000  | 2272.53  | Dorchester | DELEMAR HWY                      | RAVENEL      | SC | 29470 |      |          | VACANT LAND (NEC)   |
| 427 | SOUTHERN RAILWAY CO                               | 074-00-00-001.000  | 14411.56 | Dorchester | BROSAN FOREST RD                 | DORCHESTER   | SC | 29437 |      |          |                     |
| 428 | ROCK SIX TIMBERLANDS LLC                          | 148-00-00-006.000  | 3451.81  | Dorchester | 4060 HIGHWAY 17A S               | RIDGEVILLE   | SC | 29472 |      |          | VACANT LAND (NEC)   |
| 429 | LENNAR CAROLINAS LLC                              | 168-00-00-008.000  | 2900.55  | Dorchester | SUMMERS DR                       | SUMMERVILLE  | SC | 29485 | MUC  | Mixed    | VACANT LAND (NEC)   |
| 430 | ROCK SIX TIMBERLANDS LLC                          | 166-00-00-006.000  | 2238.61  | Dorchester | 435 CLUBHOUSE RD                 | RIDGEVILLE   | SC | 29472 |      |          |                     |
| 431 | AMH DEV LLC                                       | 178-00-00-001.000  | 2660.52  | Dorchester | DELEMAR HWY                      | SUMMERVILLE  | SC | 29485 | R-2  | Res      | VACANT LAND (NEC)   |
| 432 | NATIONAL AUDUBON SOCIETY INC                      | 018-00-00-003.000  | 2974.39  | Dorchester | FIRST BEND RD                    | HARLEYVILLE  | SC | 29448 |      |          | VACANT LAND (NEC)   |
| 433 | JANUS TIMBER LLC                                  | 148-00-00-014.000  | 2348.03  | Dorchester | OLD BEECH HILL RD                | RIDGEVILLE   | SC | 29472 |      |          | AGRICULTURAL (NEC)  |
| 434 | WINDING WOODS COMMERCE PARK                       | 059-00-00-006; 059-00-00-029;<br>046-00-00-023; 046-00-00-022;<br>046-00-00-128; 059-00-00-101;<br>059-00-00-106 | 1092.92  | Dorchester | US HIGHWAY 78                    | ST. GEORGE   | SC | 29477 | ID   | Ind      |                     |
| 435 | U S FOREST SER                                    | 042-00-00-004-000  | 1270.73  | Edgefield  |                                  | EDGEFIELD    | SC | 29824 |      |          | FEDERAL PROPERTY    |
| 436 | WFC TIMBER LLC                                    | 046-00-00-001-000  | 1221.85  | Edgefield  |                                  | EDGEFIELD    | SC | 29824 |      |          | AGRICULTURAL (NEC)  |
| 437 | U S FOREST SERVICE                                | 037-00-00-001-000  | 1345.98  | Edgefield  |                                  | CLARKS HILL  | SC | 29821 |      |          | FEDERAL PROPERTY    |
| 438 | U S FOREST SER                                    | 025-00-00-004-000  | 1273.61  | Edgefield  |                                  | MC CORMICK   | SC | 29835 |      |          | FEDERAL PROPERTY    |
| 439 | SLADE TIMBER CO LLC                               | 141-00-00-008-000  | 1395.09  | Edgefield  | 151 TWEETIE                      | TRENTON      | SC | 29847 |      |          | AGRICULTURAL (NEC)  |
| 440 | U S FOREST SER                                    | 014-00-00-001-000  | 1104.08  | Edgefield  |                                  | EDGEFIELD    | SC | 29824 |      |          | FEDERAL PROPERTY    |
| 441 | U S FOREST SER                                    | 050-00-00-008-000  | 1552.93  | Edgefield  |                                  | EDGEFIELD    | SC | 29824 |      |          | FEDERAL PROPERTY    |
| 442 | WILKIE DEV LLC                                    | 058-00-00-039-000  | 1712.50  | Edgefield  |                                  | CLARKS HILL  | SC | 29821 |      |          | AGRICULTURAL (NEC)  |
| 443 | U S FOREST SER                                    | 077-00-00-001-000  | 1576.89  | Edgefield  | 256 LICK FORK                    | EDGEFIELD    | SC | 29824 |      |          |                     |
| 444 | U S FOREST SER                                    | 002-00-00-001-000  | 1609.61  | Edgefield  |                                  | MODOC        | SC | 29838 |      |          | FEDERAL PROPERTY    |
| 445 | SLADE, ARLYN M & PAREDES, VIVIANA Y               | 133-00-00-004-000  | 2670.13  | Edgefield  |                                  | JOHNSTON     | SC | 29832 |      |          | AGRICULTURAL (NEC)  |
| 446 | U S FOREST SER                                    | 077-00-00-001-000  | 3972.70  | Edgefield  | 256 LICK FORK                    | EDGEFIELD    | SC | 29824 |      |          |                     |
| 447 | U S FOREST SER                                    | 039-00-00-001-000  | 2340.87  | Edgefield  |                                  | CLARKS HILL  | SC | 29821 |      |          | FEDERAL PROPERTY    |
| 448 | U S FOREST SER                                    | 077-00-00-001-000  | 1647.93  | Edgefield  | 256 LICK FORK                    | EDGEFIELD    | SC | 29824 |      |          |                     |
| 449 | A & D LAND HOLDINGS LLC                           | 069-00-00-008-000  | 3412.74  | Edgefield  |                                  | EDGEFIELD    | SC | 29824 |      |          | AGRICULTURAL (NEC)  |
| 450 | SLADE, ARLYN M & PAREDES, VIVIANA Y               | 133-00-00-004-000  | 2062.37  | Edgefield  |                                  | EDGEFIELD    | SC | 29824 |      |          | AGRICULTURAL (NEC)  |
| 451 | U S FOREST SER                                    | 025-00-00-004-000  | 2399.69  | Edgefield  |                                  | PLUM BRANCH  | SC | 29845 |      |          | FEDERAL PROPERTY    |
| 452 | U S FORREST SERVICE                               | 028-00-00-013-000  | 1867.31  | Edgefield  | 1013 PLUM BRANCH                 | EDGEFIELD    | SC | 29824 |      |          | FEDERAL PROPERTY    |
| 453 | LITTLE RIVER FARM LLC                             | 068-00-00-001-000  | 1073.93  | Fairfield  | SWEET PROSPECT ROAD              | BLACKSTOCK   | SC | 29014 | RD   | Misc     | AGRICULTURAL (NEC)  |
| 454 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC          | 074-00-00-017-000  | 1360.60  | Fairfield  | HWY 200 AT BEAVER DAM FORK BR    | WINNSBORO    | SC | 29180 | RD   | Misc     | AGRICULTURAL (NEC)  |
| 455 | WEYERHAEUSER COMPANY                              | 121-00-00-003-000  | 1203.57  | Fairfield  | M 356 CRUMPTON HARDEN            | BLAIR        | SC | 29015 | RD-1 | Res      | AGRICULTURAL (NEC)  |
| 456 | UNITED STATES FOREST SERV                         | 082-00-00-002-000  | 1284.21  | Fairfield  | 8600FT W INT SC215 & S-20-31 S   | BLAIR        | SC | 29015 | RD   | Misc     | FEDERAL PROPERTY    |
| 457 | WATEREE HOLDINGS LLC                              | 042-00-00-032-000  | 1000.03  | Fairfield  | MITFORD ASSN NO X91-77-049       | WINNSBORO    | SC | 29180 | RD-1 | Res      | AGRICULTURAL (NEC)  |
| 458 | FHP LLC   | 039-00-00-002-000  | 1021.29  | Fairfield  | 1957 & 1959 FAIRFIELD HILL ROAD  | WINNSBORO    | SC | 29180 | I-1  | Ind      | FOREST              |
| 459 | SAMSON WOODS LLC &, & MCMASTER FAMILY PARTNERSHIP | 041-00-00-032-000  | 1145.35  | Fairfield  | HOGFORK TRACT                    | WINNSBORO    | SC | 29180 | I-1  | Ind      | FOREST              |
| 460 | SWEET PROSPECT PLANTATION LLC                     | 051-00-00-001-000  | 1157.70  | Fairfield  | SWEET PROSPECT RD RD             | BLACKSTOCK   | SC | 29014 | RD   | Misc     | FOREST              |
| 461 | AL VIRGINIA LEE LLC                               | 040-00-00-002-000  | 1210.69  | Fairfield  | BETWEEN I-77 & HWY 901           | BLACKSTOCK   | SC | 29014 | RD   | Misc     | FOREST              |
| 462 | KENNECOTT RIDGEWAY MINING                         | 205-00-00-082-000  | 1074.20  | Fairfield  | SC HWY 34 GOLD MINE              | BLYTHEWOOD   | SC | 29016 | B2   | Bus/Comm | LIGHT INDUSTRIAL    |
| 463 | WEYERHAEUSER COMPANY                              | 110-00-00-004-000  | 1425.42  | Fairfield  | 14 TRACTS                        | WINNSBORO    | SC | 29180 | I1   | Ind      | AGRICULTURAL (NEC)  |
| 464 | MARIWILL TIMBER PLANTATION LLC                    | 101-00-00-015-000  | 1157.39  | Fairfield  | WESTERN SIDE OF LICK BRANCH--FI  | BLAIR        | SC | 29015 | RD-1 | Res      | FOREST              |
| 465 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC          | 054-00-00-001-000  | 1223.15  | Fairfield  | 4400FT NE INT S-20-26 & HWY 321  | WINNSBORO    | SC | 29180 | RD   | Misc     | AGRICULTURAL (NEC)  |
| 466 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC          | 053-00-00-008-000  | 1465.48  | Fairfield  | W US 321 N                       | WINNSBORO    | SC | 29180 | RD   | Misc     | AGRICULTURAL (NEC)  |
| 467 | 1515 ARROWHEAD TIMBER HLDGS LL                    | 076-00-00-001-000  | 2156.98  | Fairfield  | 1515,1518,1526,1565,1749,1750 AI | WINNSBORO    | SC | 29180 | B2   | Bus/Comm | MISCELLANEOUS       |
| 468 | FAIR LSG LLC                                      | 100-00-00-053-000  | 1569.71  | Fairfield  | W OF INT SC 34 & SC 215          | BLAIR        | SC | 29015 | RD-1 | Res      | AGRICULTURAL (NEC)  |
| 469 | MULLIS, J W                                       | 075-00-00-005-000  | 1632.26  | Fairfield  | FRAZIER-BARBER PITTMAN GLADDI    | WINNSBORO    | SC | 29180 | I-1  | Ind      | AGRICULTURAL (NEC)  |
| 470 | UNITED STATES FOREST SER                          | 001-00-00-003-000  | 1957.28  | Fairfield  | ALONG BROAD RIVER S CHEST TER    | BLAIR        | SC | 29015 | RD   | Misc     | FEDERAL PROPERTY    |
| 471 | BROAD RIVER PARTNERS LLC                          | 210-00-01-034-000  | 1535.00  | Fairfield  | 1769 WALLACEVILLE ROAD           | WINNSBORO    | SC | 29180 | RD-1 | Res      | FOREST              |
| 472 | WEYERHAEUSER COMPANY                              | 110-00-00-004-000  | 2164.07  | Fairfield  | 14 TRACTS                        | WINNSBORO    | SC | 29180 | I1   | Ind      | AGRICULTURAL (NEC)  |
| 473 | I-77 INTERNATIONAL MEGASITE                       | 148-00-00-013-000  | 1544.00  | Fairfield  | VALENCIA ROAD                    | RIDGEWAY     | SC | 29130 | ID   | Ind      |                     |
| 474 | STONE CONTAINER CORP                              | 00367-01-001   | 1429.35  | Florence   |                                  | FLORENCE     | SC | 29506 |      |          | FARMS               |
| 475 | PEE DEE REGIONAL AIRPORT DISTRICT                 | 00177-01-001   | 1102.97  | Florence   | 1917 CAP RD                      | FLORENCE     | SC | 29506 |      |          | COMMERCIAL BUILDING |
| 476 | ALDERMAN-SHAW CO LLC                              | 00421-05-003   | 1163.67  | Florence   | ST HWY 341                       | JOHNSONVILLE | SC | 29555 |      |          | FARMS               |
| 477 | PEE DEE GUN CLUB LLC                              | 00290-02-007   | 1499.55  | Florence   | 1006 S FRIENDFIELD RD            | SCRANTON     | SC | 29591 |      |          | FARMS               |



|     |  |                   |          |            |                            |                |    |       |      |         |                    |
|-----|--|-------------------|----------|------------|----------------------------|----------------|----|-------|------|---------|--------------------|
| 478 | CHARLES INGRAM LUMBER CO INC                             | 00403-02-001      | 1033.74  | Florence   | OFF ST HWY 66              | PAMPLICO       | SC | 29583 |      |         | FARMS              |
| 479 | EYG PROPERTIES LLC                                       | 00421-05-004      | 1108.60  | Florence   | OFF ST HWY 41              | JOHNSONVILLE   | SC | 29555 |      |         | FARMS              |
| 480 | SC PUBLIC SERVICE AUTHORITY 223 N LIVE OAK DR            | 00415-02-004      | 1075.36  | Florence   | 2651 S OLD RIVER RD        | JOHNSONVILLE   | SC | 29555 |      |         | TAX EXEMPT         |
| 481 | MOORE, BEADY FRANCES C & NABERS, EVELYN C                | 00437-05-002      | 1181.15  | Florence   | 430 E TRINITY RD           | JOHNSONVILLE   | SC | 29555 |      |         | FARMS              |
| 482 | CONGAREE-CARTON LTD PTSHP C/O AFM LOC                    | 00273-01-003      | 1390.93  | Florence   | OFF ST HWY 24              | FLORENCE       | SC | 29506 |      |         | FARMS              |
| 483 | STONE CONTAINER CORP                                     | 00367-01-013      | 1437.33  | Florence   |                            | FLORENCE       | SC | 29506 |      |         | FARMS              |
| 484 | INGRAM CHARLES LUMBER CO INC                             | 00162-03-007      | 1317.31  | Florence   | OFF ST HWY 541             | COWARD         | SC | 29530 |      |         | FARMS              |
| 485 | SONOCO PRODUCTS CO                                       | 00451-05-002      | 2255.27  | Florence   | ST HWY 121                 | JOHNSONVILLE   | SC | 29555 |      |         | FARMS              |
| 486 | INGRAM CHARLES LUMBER CO INC                             | 00287-02-002      | 1596.17  | Florence   | HWY 1007                   | EFFINGHAM      | SC | 29541 |      |         | FARMS              |
| 487 | SONOCO PROCUCTS CO                                       | 00301-01-001      | 6654.98  | Florence   | OFF ST HWY 24              | FLORENCE       | SC | 29506 |      |         | FARMS              |
| 488 | SOUTHERN DIVERSIFIED LLC                                 | 00303-01-001      | 3922.31  | Florence   | ST HWY 24                  | FLORENCE       | SC | 29506 |      |         | AGRICULTURAL (NEC) |
| 489 | WEYERHAEUSER COMPANY                                     | 00447-05-001      | 2274.23  | Florence   | OFF ST HWY 99              | JOHNSONVILLE   | SC | 29555 |      |         | FARMS              |
| 490 | INGRAM CHARLES LUMBER CO INC                             | 00270-01-001      | 1658.79  | Florence   | 3000 RESTVIEW RD           | FLORENCE       | SC | 29506 |      |         | FARMS              |
| 491 | WHITE OAK FORESTRY CORP                                  | 01-1010-013-02-00 | 1158.64  | Georgetown | ESTHERVILLE DR             | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 492 | JAMESTOWN TIMBER 1                                       | 01-0442-026-11-00 | 1331.58  | Georgetown |                            | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 493 | EVERGREEN TIMBERCO SC LLC                                | 01-1001-004-00-00 | 1080.50  | Georgetown | SAINTS DELIGHT RD          | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 494 | NEW GROWTH LLC   | 01-0442-026-13-00 | 1323.98  | Georgetown |                            | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 495 | TAMARACK TIMBERCO SC LLC                                 | 02-1006-001-00-00 | 1066.68  | Georgetown | BROWNS FERRY RD            | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 496 | NEW GROWTH LLC   | 01-0442-026-13-00 | 1274.28  | Georgetown |                            | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 497 | EVERGREEN TIMBERCO SC LLC                                | 03-0477-001-00-00 | 1275.11  | Georgetown | EXODUS DR                  | GEORGETOWN     | SC | 29440 | VR10 | Res     | FARMS              |
| 498 | NATURE CONSERVANCY THE                                   | 02-1004-001-01-00 | 1311.91  | Georgetown | PUNCHEON CREEK DR          | ANDREWS        | SC | 29510 | CP   | Conserv | MISC BUILDING      |
| 499 | SC WILDLIFE RESOURCES DEPT OF GAME                       | 01-1011-009-00-00 | 1013.24  | Georgetown | SOUTH FRASER ST            | GEORGETOWN     | SC | 29440 | CP   | Conserv | STATE PROPERTY     |
| 500 | VWDA-USA TIMBER LLC                                      | 02-1009-004-00-00 | 1052.38  | Georgetown | BROWNS FERRY RD            | GEORGETOWN     | SC | 29440 | PD   | PUD     | FARMS              |
| 501 | FIA TIMBER PARTNERS II                                   | 03-1004-024-00-00 | 1184.84  | Georgetown | 1530 EADDY RD              | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 502 | TAMARACK TIMBERCO SC LLC                                 | 01-0412-001-00-00 | 1494.41  | Georgetown | COUNTY LINE RD             | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 503 | PG PRESERVATION LLC                                      | 04-1001-001-02-04 | 1036.91  | Georgetown | VANDEBILT BLVD             | PAWLEYS ISLAND | SC | 29585 | PD   | PUD     | FARMS              |
| 504 | UNCLE MONTYS LLC   | 02-1003-005-00-00 | 1182.59  | Georgetown | 10117 BROWNS FERRY RD      | GEORGETOWN     | SC | 29440 | FA   | AG      | SFR                |
| 505 | EVERGREEN TIMBERCO SC LLC                                | 01-0414-004-00-00 | 1052.53  | Georgetown | BIGELOW DR                 | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 506 | SAWYER, PHILIP M & SAWYER, EMILY R                       | 02-1005-002-00-00 | 1135.16  | Georgetown | GAPWAY RD                  | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 507 | POST FOOT PROPERTIES LLC                                 | 03-0444-001-00-00 | 1290.31  | Georgetown | 5119 CHOPPEE RD            | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 508 | WEDGE LLC THE  | 01-1012-002-00-00 | 1285.70  | Georgetown | SANTEE DELTA RIV           | GEORGETOWN     | SC | 29440 | CP   | Conserv | WILDLIFE REFUGE    |
| 509 | VWDA-USA TIMBER LLC                                      | 02-1009-004-16-00 | 1311.64  | Georgetown | BROWNS FERRY RD            | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 510 | OAK MOUNTAIN TIMBERCO SC LLC                             | 03-1006-001-00-00 | 1249.55  | Georgetown | CHOPPEE RD                 | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 511 | RICHARD, SILAS & RICHARD, RENEE                          | 02-1001-002-00-00 | 1204.96  | Georgetown | COUNTYLINE RD              | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 512 | BLACK RIVER CYPRESS PRESERVE LLC                         | 02-0409-021-00-00 | 1012.94  | Georgetown | 16368 COUNTY LINE RD       | ANDREWS        | SC | 29510 | FA   | AG      | MISC BUILDING      |
| 513 | RICHARD, SILAS & RICHARD, RENEE                          | 02-1001-002-00-00 | 1187.73  | Georgetown | COUNTYLINE RD              | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 514 | MOUNT PLEASANT PLANTATION LLC                            | 02-1001-002-09-00 | 1111.40  | Georgetown | HESTERVILLE RD             | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 515 | STATE/ S CA/ & T THE DEPT OF ADM, & SOUTH CA DEPT OF PKS | 02-1006-012-00-00 | 1047.99  | Georgetown | 1012 RAMSEY GROVE RD       | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 516 | KEYSTONE FOREST INVESTMENTS LLC                          | 03-0429-004-03-00 | 1322.14  | Georgetown | ROSE HILL RD               | HEMINGWAY      | SC | 29554 | FA   | AG      | FARMS              |
| 517 | HOMESEEKERS LTD PRTRNR                                   | 02-1006-007-00-00 | 1032.95  | Georgetown | 3124 BROWNS FERRY RD       | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 518 | KINLOCH PLANTATION LLC                                   | 01-1011-006-00-00 | 1017.21  | Georgetown | 3135 NORTH SANTEE RIVER RD | GEORGETOWN     | SC | 29440 | CP   | Conserv | RESIDENTIAL (NEC)  |
| 519 | UNITED STATES OF AMERICA                                 | 03-1001-014-03-00 | 1192.29  | Georgetown | OLD PEE RD                 | GEORGETOWN     | SC | 29440 | CP   | Conserv | FEDERAL BUILDING   |
| 520 | RICHARD, SILAS & RICHARD, RENEE                          | 02-1001-002-00-00 | 2752.46  | Georgetown | COUNTYLINE RD              | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 521 | WHITE OAK FORESTRY CORP                                  | 01-1010-005-00-00 | 7832.26  | Georgetown | SOUTH FRASER ST            | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 522 | MAM FOREST LLC   | 01-1006-002-01-00 | 3646.07  | Georgetown | BLUFF RD                   | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 523 | TAMARACK TIMBERCO SC LLC                                 | 01-0412-001-00-00 | 3980.59  | Georgetown | COUNTY LINE RD             | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 524 | WHITE OAK FORESTRY CORP                                  | 01-1010-001-00-00 | 1544.30  | Georgetown | 8722 SOUTH FRASER ST       | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 525 | SANTEE TIMBERLANDS                                       | 01-0442-026-07-00 | 1916.93  | Georgetown | ST DELIGHT RD              | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 526 | CHARLES INGRAM LUMBER CO INC                             | 03-1005-007-00-00 | 2097.86  | Georgetown | NORTH FRASER ST            | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 527 | EVERGREEN TIMBERCO SC LLC                                | 01-1003-008-00-00 | 1713.50  | Georgetown | BLUFF RD                   | GEORGETOWN     | SC | 29440 | CP   | Conserv | FARMS              |
| 528 | BELLE W BARUCH FOUNDATION                                | 04-1004-001-00-00 | 12181.55 | Georgetown | HWY 17                     | GEORGETOWN     | SC | 29440 | FA   | AG      | STATE PROPERTY     |
| 529 | MILLBROOK PLANTATION LLC                                 | 01-1011-008-00-00 | 2654.29  | Georgetown | NORTH SANTEE RIVER RD      | GEORGETOWN     | SC | 29440 | CP   | Conserv | RESIDENTIAL (NEC)  |
| 530 | VIKING ASSOCIATES LLC                                    | 04-1001-001-05-00 | 2161.54  | Georgetown | HWY 17                     | PAWLEYS ISLAND | SC | 29585 | PD   | PUD     | FARMS              |
| 531 | WEYERHAEUSER NR COMPANY                                  | 01-1006-002-03-00 | 2087.75  | Georgetown | POWELL RD                  | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 532 | NATURE CONSERVANCY                                       | 01-1007-003-00-00 | 1963.50  | Georgetown | 1 COMMANDERS ISLAND RD     | GEORGETOWN     | SC | 29440 | CP   | Conserv | FARMS              |
| 533 | SAWYER, PHILIP M & SAWYER, EMILY R                       | 02-1005-002-00-00 | 9383.79  | Georgetown | GAPWAY RD                  | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 534 | STATE OF SOUTH CAROLINA                                  | 01-1015-002-00-00 | 3636.97  | Georgetown |                            | GEORGETOWN     | SC | 29440 | CP   | Conserv | STATE PROPERTY     |
| 535 | JAMESTOWN TIMBER 1                                       | 01-0442-026-11-00 | 2022.67  | Georgetown |                            | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 536 | BROOKGREEN GARDENS SOCIETY                               | 04-0406-001-00-00 | 4316.55  | Georgetown | 16147 OCEAN HWY            | MURRELLS INLET | SC | 29576 | PD   | PUD     | STATE PROPERTY     |
| 537 | KEYSTONE FOREST INVESTMENTS LLC                          | 03-0429-004-03-00 | 2861.00  | Georgetown | ROSE HILL RD               | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 538 | INGRAM CHARLES LUMBER CO                                 | 03-1002-004-02-00 | 2918.66  | Georgetown | PLEASANT HILL DR           | HEMINGWAY      | SC | 29554 | FA   | AG      | FARMS              |
| 539 | EVERGREEN TIMBERCO SC LLC                                | 01-1006-006-00-00 | 15164.93 | Georgetown |                            | GEORGETOWN     | SC | 29440 | FA   | AG      | FARMS              |
| 540 | MOUNT PLEASANT PLANTATION LLC                            | 02-1002-002-00-00 | 3589.13  | Georgetown | COUNTY LINE RD             | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |
| 541 | EVERGREEN TIMBERCO SC LLC                                | 01-1001-003-00-00 | 2607.24  | Georgetown | SAINTS DELIGHT RD          | ANDREWS        | SC | 29510 | FA   | AG      | FARMS              |

|     |  |                   |          |            |                            |                |    |       |         |         |                     |
|-----|--|-------------------|----------|------------|----------------------------|----------------|----|-------|---------|---------|---------------------|
| 542 | SAWYER, PHILIP M & SAWYER, EMILY R                   | 02-1005-002-00-00 | 3128.68  | Georgetown | GAPWAY RD                  | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 543 | SANTEE TIMBERLANDS                                   | 01-0442-026-07-00 | 2200.07  | Georgetown | ST DELIGHT RD              | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 544 | THE NATURE CONSERVANCY                               | 03-1002-004-01-01 | 2071.48  | Georgetown | PLEASANT HILL DR           | HEMINGWAY      | SC | 29554 | FA      | AG      | MISC BUILDING       |
| 545 | NEW GROWTH LLC                                       | 01-0405-004-00-00 | 2553.49  | Georgetown | GEORGETOWN HWY             | ANDREWS        | SC | 29510 | HI      | Ind     | FARMS               |
| 546 | EVERGREEN TIMBERCO SC LLC                            | 03-1006-016-00-00 | 2031.37  | Georgetown | NORTH FRASER ST            | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 547 | SANTEE TIMBERLANDS                                   | 01-0442-026-07-00 | 2039.84  | Georgetown | ST DELIGHT RD              | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 548 | KINLOCH PLANTATION LLC                               | 01-1011-006-00-00 | 2962.32  | Georgetown | 3135 NORTH SANTEE RIVER RD | GEORGETOWN     | SC | 29440 | CP      | Conserv | RESIDENTIAL (NEC)   |
| 549 | THE NATURE CONSERVANCY                               | 03-0470-001-00-00 | 8330.14  | Georgetown |                            | MURRELLS INLET | SC | 29576 | CP      | Conserv | STATE PROPERTY      |
| 550 | BELLE W BARUCH FOUNDATION                            | 04-1004-001-00-00 | 1701.30  | Georgetown | HWY 17                     | GEORGETOWN     | SC | 29440 | CP      | Conserv | STATE PROPERTY      |
| 551 | SC WILDLIFE MARINE RESOURCES                         | 01-1014-002-00-00 | 13820.46 | Georgetown |                            | GEORGETOWN     | SC | 29440 | CP      | Conserv | STATE PROPERTY      |
| 552 | FIA TIMBER PARTNERS II                               | 03-1004-024-00-00 | 3151.83  | Georgetown | 1530 EADDY RD              | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 553 | IRI FOREST INVESTMENTS LLC                           | 03-0429-004-04-00 | 3101.75  | Georgetown | CHOPPEE RD                 | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 554 | INGRAM CHARLES LUMBER CO                             | 03-1002-004-00-00 | 2593.54  | Georgetown |                            | HEMINGWAY      | SC | 29554 | FA      | AG      | FARMS               |
| 555 | SONNE, SARA B  | 03-1003-012-00-00 | 2175.63  | Georgetown | 1432 BATES HILL RD         | GEORGETOWN     | SC | 29440 | FA      | AG      | RESIDENTIAL (NEC)   |
| 556 | FIA TIMBER PARTNERS II                               | 03-1004-024-00-00 | 2039.76  | Georgetown | 1530 EADDY RD              | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 557 | SC PUBLIC SERVICE AUTHORITY                          | 01-1009-004-00-00 | 2183.67  | Georgetown | 661 STEAM PLANT DR         | GEORGETOWN     | SC | 29440 | HI      | Ind     | PUBLIC SERVICE      |
| 558 | SC, WILDLIFE MARINE RESOURCES                        | 04-1005-001-00-00 | 3679.32  | Georgetown |                            | GEORGETOWN     | SC | 29440 | CP      | Conserv | STATE PROPERTY      |
| 559 | NEW GROWTH LLC                                       | 01-0442-026-13-00 | 2607.61  | Georgetown |                            | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 560 | WEYERHAEUSER COMPANY                                 | 02-1004-001-00-00 | 1799.01  | Georgetown | GAPWAY RD                  | ANDREWS        | SC | 29510 | FA      | AG      | FARMS               |
| 561 | BROOKGREEN GARDENS SOCIETY                           | 04-0406-001-00-00 | 1625.95  | Georgetown | 16147 OCEAN HWY            | MURRELLS INLET | SC | 29576 | CP      | Conserv | STATE PROPERTY      |
| 562 | SAWYER, PHILIP M & SAWYER, EMILY R                   | 02-1005-002-00-00 | 2563.45  | Georgetown | GAPWAY RD                  | GEORGETOWN     | SC | 29440 | LI      | Ind     | FARMS               |
| 563 | DMR TIMBERLANDS LLC, & HMB INVESTMENT PROPERTIES LLC | 01-1004-003-00-00 | 4126.96  | Georgetown | BLUFF RD                   | GEORGETOWN     | SC | 29440 | CP      | Conserv | FARMS               |
| 564 | SILVER HILL ACQUISITION LLC                          | 01-0418-006-00-00 | 2575.35  | Georgetown | HIGHMARKET ST              | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 565 | SANTEE TIMBERLANDS                                   | 01-0442-026-07-00 | 3565.13  | Georgetown | ST DELIGHT RD              | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 566 | UNITED STATES OF AMERICA                             | 03-0451-001-00-00 | 4500.32  | Georgetown |                            | GEORGETOWN     | SC | 29440 | CP      | Conserv | STATE PROPERTY      |
| 567 | DAWSON, JOHN BAKER & DAWSON, RAMSAY FERRIS           | 01-1014-004-00-00 | 1529.53  | Georgetown |                            | GEORGETOWN     | SC | 29440 | FA      | AG      | RESIDENTIAL (NEC)   |
| 568 | CHARLES INGRAM LUMBER CO INC                         | 03-0419-003-00-00 | 2551.44  | Georgetown | FRANK CRIBB RD             | HEMINGWAY      | SC | 29554 | FA      | AG      | FARMS               |
| 569 | SONNE, SARA B  | 03-1003-012-00-00 | 2005.85  | Georgetown | 1432 BATES HILL RD         | HEMINGWAY      | SC | 29554 | FA      | AG      | RESIDENTIAL (NEC)   |
| 570 | SAWYER, PHILIP M & SAWYER, EMILY R                   | 02-1005-002-00-00 | 3589.09  | Georgetown | GAPWAY RD                  | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 571 | THE NATURE CONSERVANCY                               | 01-1002-001-00-00 | 4310.89  | Georgetown | COUNTY LINE RD             | ANDREWS        | SC | 29510 | CP      | Conserv | FARMS               |
| 572 | MANIGAULT, PIERRE & ANDERSON, IVAN V                 | 01-1011-001-00-00 | 1603.98  | Georgetown | NORTH SANTEE RIVER RD      | GEORGETOWN     | SC | 29440 | FA      | AG      | FARMS               |
| 573 | SONNE, SARA B  | 03-1003-012-00-00 | 3121.71  | Georgetown | 1432 BATES HILL RD         | HEMINGWAY      | SC | 29554 | FA      | AG      | RESIDENTIAL (NEC)   |
| 574 | SC DEPT OF PARKS REC & TOURISM                       | 0680.04-01-001.00 | 1158.07  | Greenville | PERSIMMON RIDGE RD         | CLEVELAND      | SC | 29635 | UNZONED |         | RESIDENTIAL ACREAGE |
| 575 | SC UNITED METHODIST CAMP & R                         | 0688.02-01-001.00 | 1644.18  | Greenville | 391 HAGOOD LN              | CLEVELAND      | SC | 29635 | UNZONED |         | RELIGIOUS           |
| 576 | CITY OF GREENVILLE                                   | 0658.02-01-001.00 | 18636.58 | Greenville | 109A CALLAHAN MOUNTAIN RD  | LANDRUM        | SC | 29356 | UNZONED |         | US POSTAL SERVICE   |
| 577 | SC WILDLIFE & MARINE RES DEPT                        | 0689.00-01-005.02 | 1647.35  | Greenville | NEAR CEASARS HEAD LN       | CLEVELAND      | SC | 29635 | UNZONED |         | RESIDENTIAL ACREAGE |
| 578 | CITY OF GREENVILLE                                   | 0689.01-01-001.00 | 6962.52  | Greenville | 1020 TABLE ROCK LN         | CLEVELAND      | SC | 29635 | UNZONED |         | US POSTAL SERVICE   |
| 579 | SC DEPT OF NATURAL RESOURCES                         | 0637.01-01-001.01 | 1896.75  | Greenville | OAK GROVE                  | LANDRUM        | SC | 29356 | UNZONED |         | RESIDENTIAL ACREAGE |
| 580 | TWIN CREEKS TIMBER LLC                               | 6870-374-235-000  | 1244.62  | Greenwood  | CALLISON RD                | NINETY SIX     | SC | 29666 |         |         | AGRICULTURAL (NEC)  |
| 581 | UNITED STATES OF AMERICA                             | 6810-776-845-000  | 1318.82  | Greenwood  | 120 BRADLEY ST             | BRADLEY        | SC | 29819 |         |         | FOREST              |
| 582 | TWIN CREEKS TIMBER LLC                               | 6820-473-250-000  | 1055.16  | Greenwood  | MILLWAY RD                 | BRADLEY        | SC | 29819 |         |         | FOREST              |
| 583 | TWIN CREEKS TIMBER LLC                               | 6950-399-408-000  | 1179.12  | Greenwood  | NEW ZION RD                | HODGES         | SC | 29653 |         |         | FOREST              |
| 584 | UNITED STATES OF AMERICA                             | 6812-513-176-000  | 1350.98  | Greenwood  | MCCORMICK HWY              | BRADLEY        | SC | 29819 |         |         | FOREST              |
| 585 | GREENWOOD COUNTY LAKE GREENWOOD                      | 7816-097-624-000  | 2475.63  | Greenwood  | FERC P1267 LAKE BED        | NINETY SIX     | SC | 29666 |         |         | RECREATIONAL (NEC)  |
| 586 | FLOWING WELL LLC                                     | 114-00-00-044     | 1420.65  | Hampton    | 24361 OLD SALKEHATCHIE     | BRUNSON        | SC | 29911 |         |         | AGRICULTURAL (NEC)  |
| 587 | Laura Livingstons Woodland LLC                       | 082-00-00-010     | 1028.51  | Hampton    |                            | BRUNSON        | SC | 29911 |         |         | AGRICULTURAL (NEC)  |
| 588 | HARPER FAMILY PROPERTIES LLC                         | 019-00-00-008     | 1116.68  | Hampton    |                            | ESTILL         | SC | 29918 |         |         | AGRICULTURAL (NEC)  |
| 589 | OLD PINES LLC  | 055-00-00-008     | 1040.13  | Hampton    |                            | GARNETT        | SC | 29922 |         |         | AGRICULTURAL (NEC)  |
| 590 | ARCTIC SOUTHERN FARMS LLC                            | 132-00-00-001     | 1367.86  | Hampton    | 330 CORBIN                 | BRUNSON        | SC | 29911 |         |         | AGRICULTURAL (NEC)  |
| 591 | PAULINE PLACE LLC                                    | 018-00-00-014     | 1024.36  | Hampton    | 2740 BRANCH                | ESTILL         | SC | 29918 |         |         | AGRICULTURAL (NEC)  |
| 592 | WEYERHAEUSER COMPANY                                 | 185-00-00-001     | 1008.87  | Hampton    |                            | VARNVILLE      | SC | 29944 |         |         | AGRICULTURAL (NEC)  |
| 593 | BLUE MAPLE GROUP LLC                                 | 182-00-00-003     | 1122.67  | Hampton    |                            | VARNVILLE      | SC | 29944 |         |         | AGRICULTURAL (NEC)  |
| 594 | SALKEHATCHIE WOODS LLC                               | 196-00-00-019     | 1073.84  | Hampton    |                            | EARLY BRANCH   | SC | 29916 |         |         | AGRICULTURAL (NEC)  |
| 595 | WEYERHAEUSER COMPANY                                 | 122-00-00-003     | 1386.47  | Hampton    |                            | VARNVILLE      | SC | 29944 |         |         | AGRICULTURAL (NEC)  |
| 596 | CUSABO PRESERVE LLC                                  | 186-00-00-056     | 1301.84  | Hampton    | 5286 OLD SALKEHATCHIE RD   | EARLY BRANCH   | SC | 29916 |         |         | AGRICULTURAL (NEC)  |
| 597 | SCOTIA FARMS   | 053-00-00-002     | 1035.99  | Hampton    | OLD ORANGEBURG             | GARNETT        | SC | 29922 |         |         | AGRICULTURAL (NEC)  |
| 598 | COLLUMS TIMBER INVESTMENT LLC                        | 185-00-00-010     | 1219.07  | Hampton    |                            | EARLY BRANCH   | SC | 29916 |         |         | AGRICULTURAL (NEC)  |
| 599 | OAK GROVE PLANTATION LLC                             | 043-00-00-005     | 1195.90  | Hampton    |                            | BRUNSON        | SC | 29911 |         |         | AGRICULTURAL (NEC)  |
| 600 | MANER, C LAWTON                                      | 037-00-00-013     | 1015.66  | Hampton    |                            | GARNETT        | SC | 29922 |         |         | AGRICULTURAL (NEC)  |
| 601 | ZF US TIMBER PROPERTIES LLC                          | 160-00-00-002     | 4565.56  | Hampton    |                            | VARNVILLE      | SC | 29944 |         |         | AGRICULTURAL (NEC)  |
| 602 | RAYONIER FOREST RESOURCES                            | 124-00-00-015     | 1809.07  | Hampton    |                            | VARNVILLE      | SC | 29944 |         |         | AGRICULTURAL (NEC)  |
| 603 | SC DEPT OF NATURAL RESOURCES, & WEBB WILDLIFE CENTER | 039-00-00-003     | 4433.97  | Hampton    |                            | GARNETT        | SC | 29922 |         |         | STATE PROPERTY      |
| 604 | TROIS BOIS LTD                                       | 073-00-00-013     | 2335.91  | Hampton    |                            | GARNETT        | SC | 29922 |         |         | AGRICULTURAL (NEC)  |
| 605 | ANGEL TRACT LLC                                      | 188-00-00-030     | 1571.48  | Hampton    |                            | YEMASSEE       | SC | 29945 |         |         | AGRICULTURAL (NEC)  |

|     |  |                               |          |         |                            |                 |    |       |     |          |  |                    |
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| 606 | GROTON LAND COMPANY INC                              | 009-00-00-001                 | 3800.47  | Hampton | AUGUSTA STAGECOACH         | ESTILL          | SC | 29918 |     |          |  | AGRICULTURAL (NEC) |
| 607 | SC DEPT OF NATURAL RESOURCES                         | 056-00-00-028                 | 1595.92  | Hampton |                            | GARNETT         | SC | 29922 |     |          |  | STATE PROPERTY     |
| 608 | RAYONIER FOREST RESOURCES                            | 124-00-00-015                 | 1921.88  | Hampton |                            | VARNVILLE       | SC | 29944 |     |          |  | AGRICULTURAL (NEC) |
| 609 | YEMASSEE TIMBER LLC                                  | 191-00-00-002                 | 1971.23  | Hampton | POCOTALIGO                 | YEMASSEE        | SC | 29945 |     |          |  | AGRICULTURAL (NEC) |
| 610 | SCOTT WOODLANDS LLC                                  | 012-00-00-001                 | 2103.73  | Hampton | CRAB ORCHARD               | ESTILL          | SC | 29918 |     |          |  | AGRICULTURAL (NEC) |
| 611 | ELLIOTT PROPERTIES HOLDINGS LL                       | 011-00-00-001                 | 1531.67  | Hampton | 1444 CRAB ORCHARD          | ESTILL          | SC | 29918 |     |          |  | AGRICULTURAL (NEC) |
| 612 | BOSTICK, J A   | 009-00-00-002                 | 1972.26  | Hampton | AUGUSTA STAGECOACH         | ESTILL          | SC | 29918 |     |          |  | AGRICULTURAL (NEC) |
| 613 | GRAVEL HILL FARMS LLC                                | 037-00-00-014                 | 2021.12  | Hampton | AUGUSTA STAGECOACH         | GARNETT         | SC | 29922 |     |          |  | AGRICULTURAL (NEC) |
| 614 | CHILTON TIMBER & LAND CO LLC                         | 191-00-00-001                 | 7551.84  | Hampton |                            | YEMASSEE        | SC | 29945 |     |          |  | AGRICULTURAL (NEC) |
| 615 | SC DEPT OF NATURAL RESOURCES                         | 024-00-00-005                 | 13029.36 | Hampton | HAMILTON RIDGE             | GARNETT         | SC | 29922 |     |          |  | STATE PROPERTY     |
| 616 | RAYONIER FOREST RESOURCES                            | 138-00-00-004                 | 3267.67  | Hampton |                            | VARNVILLE       | SC | 29944 |     |          |  | AGRICULTURAL (NEC) |
| 617 | WEYERHAEUSER COMPANY                                 | 185-00-00-001                 | 3559.24  | Hampton |                            | VARNVILLE       | SC | 29944 |     |          |  | AGRICULTURAL (NEC) |
| 618 | SC DEPT OF NATURAL RESOURCES                         | 056-00-00-028                 | 2019.39  | Hampton |                            | GARNETT         | SC | 29922 |     |          |  | STATE PROPERTY     |
| 619 | RIVERSTONE PROPERTIES LLC                            | 35900000001                   | 1200.50  | Horry   |                            | LONGS           | SC | 29568 | CFA | Bus/Comm |  | FARMS              |
| 620 | RED MOUNTAIN TIMBER CO III LLC                       | 23800000001                   | 1444.02  | Horry   |                            | GALIVANTS FERRY | SC | 29544 | FA  | AG       |  | FARMS              |
| 621 | SC DEPT NATURAL RESOURCES                            | 43800000001                   | 1313.51  | Horry   |                            | MYRTLE BEACH    | SC | 29588 | CFA | Bus/Comm |  | FARMS              |
| 622 | HORRY COUNTY   | 44200000013                   | 1017.13  | Horry   | 3300 PHILLIS BLVD          | MYRTLE BEACH    | SC | 29577 | LI  | Ind      |  | TAX EXEMPT         |
| 623 | BASS WACCAMAW RIVER RANCH LLC                        | 32000000008                   | 1293.96  | Horry   | 5800 OLD REAVES FERRY RD   | CONWAY          | SC | 29526 | FA  | AG       |  | FARMS              |
| 624 | WAKE STONE CORP                                      | 21500000036                   | 1136.98  | Horry   |                            | LORIS           | SC | 29569 | CFA | Bus/Comm |  | FARMS              |
| 625 | HOLLIDAY, JUDSON J                                   | 16600000001                   | 1160.85  | Horry   | 1065 JUDSON LN             | GALIVANTS FERRY | SC | 29544 | FA  | AG       |  | FARMS              |
| 626 | GRAND STRAND WATER & SEWER AUTH                      | 43600000025                   | 1393.58  | Horry   | SC 24                      | CONWAY          | SC | 29527 | FA  | AG       |  | FARMS              |
| 627 | HORRY COUNTY SOLID WASTE AUTH INC                    | 38500000006                   | 1128.14  | Horry   | 511 THREE R DR             | MYRTLE BEACH    | SC | 29579 | CFA | Bus/Comm |  | TAX EXEMPT         |
| 628 | THE MAY COMPANY                                      | 46400000001                   | 1309.91  | Horry   |                            | MYRTLE BEACH    | SC | 29588 | CFA | Bus/Comm |  | FARMS              |
| 629 | SC DEPT OF NATURAL RESOURCES                         | 30200000019                   | 1300.02  | Horry   |                            | LONGS           | SC | 29568 | FA  | AG       |  | FARMS              |
| 630 | MINCEY, KENNETH H                                    | 14000000007                   | 1017.83  | Horry   |                            | NICHOLS         | SC | 29581 | FA  | AG       |  | MOBILE HOME LOT    |
| 631 | RIVERSTONE PROPERTIES LLC                            | 41600000258                   | 1492.91  | Horry   |                            | MYRTLE BEACH    | SC | 29588 | CFA | Bus/Comm |  | FARMS              |
| 632 | SPRINGWOOD TIMBERLANDS LLC                           | 23700000005                   | 1334.61  | Horry   |                            | GALIVANTS FERRY | SC | 29544 | FA  | AG       |  | FARMS              |
| 633 | SOUTH CAROLINA WILDLIFE & MARINE                     | 38700000001                   | 1092.89  | Horry   | 2575 INTERNATIONAL DR      | MYRTLE BEACH    | SC | 29579 | CP  | Conserv  |  | FARMS              |
| 634 | COWPENS LAND & TIMBER LLC                            | 30100000001                   | 1281.98  | Horry   |                            | LONGS           | SC | 29568 | FA  | AG       |  | FARMS              |
| 635 |  | 28700000001                   | 3938.56  | Horry   | 3647 GUNTERS ISLAND RD     | GALIVANTS FERRY | SC | 29544 | FA  | AG       |  | VACANT LAND (NEC)  |
| 636 | TIMBERVEST PARTNERS III SC LLC                       | 22300000005                   | 1925.78  | Horry   |                            | LORIS           | SC | 29569 | AG2 | AG       |  | FARMS              |
| 637 | LANDBANK FUND XIV LLC                                | 40300000002                   | 1637.59  | Horry   | 4030 S HWY 701             | CONWAY          | SC | 29527 | CFA | Bus/Comm |  | FARMS              |
| 638 | SOUTH CAROLINA WILDLIFE & MARINE                     | 13700000001                   | 2432.95  | Horry   | 10662 HWY 917              | NICHOLS         | SC | 29581 | CP  | Conserv  |  | FARMS              |
| 639 | GRAND STRAND WATER & SEWER AUTH                      | 43500000001                   | 1749.74  | Horry   | SC 24                      | CONWAY          | SC | 29527 | FA  | AG       |  | FARMS              |
| 640 |  | 28700000001                   | 2151.29  | Horry   | 3647 GUNTERS ISLAND RD     | CONWAY          | SC | 29527 | FA  | AG       |  | VACANT LAND (NEC)  |
| 641 | FD TIMBER LLC  | 34100000005                   | 2287.12  | Horry   |                            | CONWAY          | SC | 29526 | FA  | AG       |  | FARMS              |
| 642 | HORRY COUNTY   | 38600000001                   | 3696.97  | Horry   |                            | MYRTLE BEACH    | SC | 29579 | CFA | Bus/Comm |  | FARMS              |
| 643 | MAIB CONWAY LUMBER PROPERTY LLC                      | 37600000008                   | 5645.33  | Horry   |                            | CONWAY          | SC | 29527 | FA  | AG       |  | FARMS              |
| 644 | SC DEPT NATURAL RESOURCES                            | 43800000001                   | 4032.16  | Horry   |                            | CONWAY          | SC | 29527 | CP  | Conserv  |  | FARMS              |
| 645 | SC DEPT NATURAL RESOURCES                            | 23900000001                   | 2016.07  | Horry   |                            | GALIVANTS FERRY | SC | 29544 | CP  | Conserv  |  | FARMS              |
| 646 | GRAND STRAND WATER & SEWER AUTH                      | 45500000001                   | 3234.76  | Horry   | 355 BUCKSPORT RD           | CONWAY          | SC | 29527 | FA  | AG       |  | VACANT LAND (NEC)  |
| 647 | SC WILDLIFE & MARINE RESOUCES DEPT                   | 38800000001                   | 6499.17  | Horry   |                            | MYRTLE BEACH    | SC | 29579 | CP  | Conserv  |  | VACANT LAND (NEC)  |
| 648 | FD TIMBER LLC  | 26500000001                   | 2810.87  | Horry   |                            | LONGS           | SC | 29568 | FA  | AG       |  | FARMS              |
| 649 | FD TIMBER LLC  | 31800000001                   | 1661.02  | Horry   |                            | CONWAY          | SC | 29526 | CFA | Bus/Comm |  | FARMS              |
| 650 | SC DEPARTMENT OF NATURAL RESOURCES                   | 41500000001                   | 2231.36  | Horry   |                            | CONWAY          | SC | 29526 | CFA | Bus/Comm |  | FARMS              |
| 651 | CITY OF HARDEEVILLE                                  | 066-00-00-005                 | 1334.24  | Jasper  |                            | HARDEEVILLE     | SC | 29927 | PDD | PUD      |  | PUBLIC (NEC)       |
| 652 | BLACK SWAMP PROPERTIES LLC                           | 014-00-01-084                 | 1048.08  | Jasper  |                            | TILLMAN         | SC | 29943 |     |          |  | AGRICULTURAL (NEC) |
| 653 | OKEETEE CLUB   | 023-00-02-020; 027-00-02-034; | 39059.00 | Jasper  |                            | HARDEEVILLE     | SC | 29927 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 654 | BLACK, MARTHA C                                      | 045-00-01-035                 |          |         |                            |                 |    |       |     |          |  |                    |
| 655 | EXLEY, THOMAS L                                      | 088-00-01-001                 | 1417.69  | Jasper  |                            | YEMASSEE        | SC | 29945 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 656 | KEELING LAND & CATTLE-COMM LLC                       | 027-00-01-029                 | 1157.69  | Jasper  |                            | HARDEEVILLE     | SC | 29927 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 657 | GLOVER REAL ESTATE LLC                               | 082-00-01-001                 | 1392.29  | Jasper  | GLOVER RD                  | RIDGELAND       | SC | 29936 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 658 | CHELSEA PLANTATION LLC 720 W BUSINESS HWY 60         | 059-00-04-002                 | 1247.12  | Jasper  | GRAYS HWY                  | RIDGELAND       | SC | 29936 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 659 | CHLSEA PLANTATION LLC 720 W BUSINESS HWY 60          | 081-00-02-001                 | 1005.06  | Jasper  | 1000 CHELSEA PLANTATION DR | RIDGELAND       | SC | 29936 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 660 | PINELAND INVESTMENTS I LLC                           | 016-00-06-001                 | 1032.51  | Jasper  | 736 STAFFORD RD            | PINELAND        | SC | 29934 | RA  | Res      |  | SFR                |
| 661 | CRIMSON INDEPENDENCE LLC                             | 066-00-00-004                 | 1495.69  | Jasper  |                            | HARDEEVILLE     | SC | 29927 | PDD | PUD      |  | AGRICULTURAL (NEC) |
| 662 | SLF III HARDEEVILLE LLC & SLF III SC EAST ARGENT LLC | 029-00-03-003; 029-00-03-004  | 1584.97  | Jasper  |                            | HARDEEVILLE     | SC | 29927 | PDD | PUD      |  | AGRICULTURAL (NEC) |
| 663 | CHILTON TIMBER & LAND CO LLC                         | 057-00-07-014                 | 1450.90  | Jasper  |                            | EARLY BRANCH    | SC | 29916 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 664 | GA DEPT-TRANSPORTATION                               | 076-00-00-001                 | 1267.46  | Jasper  | 332 SPEEDWAY BLVD          | HARDEEVILLE     | SC | 29927 | LI  | Ind      |  | AGRICULTURAL (NEC) |
| 665 | LAWTON, WINSTON A & LAWTON, ANNE M                   | 002-00-02-004                 | 1091.16  | Jasper  | 1480 ROBERTVILLE DR        | GARNETT         | SC | 29922 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 666 | C & S NATIONAL BANK                                  | 087-00-03-002                 | 1092.04  | Jasper  |                            | RIDGELAND       | SC | 29936 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 667 | CDEF PARCELS LLC                                     | 061-00-01-005                 | 1001.39  | Jasper  | 2201 LOG HALL RD           | RIDGELAND       | SC | 29936 | RA  | Res      |  | AGRICULTURAL (NEC) |
| 668 | MINTO LATITUDE HH LLC                                | 041-21-00-885                 | 1156.66  | Jasper  | 2074 ST SOMEWHERE DR       | HARDEEVILLE     | SC | 29927 | PDD | PUD      |  | VACANT LAND (NEC)  |
| 668 | CAY, JOHN E JOHN E CAY RE III                        | 037-00-02-012                 | 1486.92  | Jasper  |                            | HARDEEVILLE     | SC | 29927 | RA  | Res      |  | AGRICULTURAL (NEC) |

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| 669 | KARRH LAND & TIMBER LLC                       | 040-00-04-006  | 1300.49 | Jasper  | COLEMAN LOOP                  | HARDEEVILLE   | SC | 29927 | RA      | Res       | AGRICULTURAL (NEC) |
| 670 | TROIS BOIS LTD                                | 050-00-03-028  | 1057.47 | Jasper  |                               | PINELAND      | SC | 29934 | RA      | Res       | AGRICULTURAL (NEC) |
| 671 | BAILEY MILL LLC                               | 048-00-01-044  | 1093.14 | Jasper  | CALF PEN BAY RD               | RIDGELAND     | SC | 29936 | RA      | Res       | AGRICULTURAL (NEC) |
| 672 | MFM RESIDENTIAL PROPERTIES LLC                | 041-00-04-060  | 1333.87 | Jasper  |                               | HARDEEVILLE   | SC | 29927 | PDD     | PUD       | AGRICULTURAL (NEC) |
| 673 | PINELAND 440 LLC                              | 024-00-01-012  | 1086.56 | Jasper  | SAND HILLS RD                 | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 674 | CLARK, JOCELYN & CLARK, ANDREA W TRUST        | 086-00-01-002  | 1226.35 | Jasper  | 506 SPRING HILL RD            | RIDGELAND     | SC | 29936 | RA      | Res       | AGRICULTURAL (NEC) |
| 675 | GOOD HOPE CORP                                | 084-00-01-001  | 1259.88 | Jasper  | 315 GOOD HOPE PLANTATION RD   | RIDGELAND     | SC | 29936 | RA      |           | SFR                |
| 676 | HUGUENIN FAMILY PROPERTIES LLC                | 086-00-04-010  | 1364.29 | Jasper  | 860 ROSELAND LN               | RIDGELAND     | SC | 29936 | RA      | Res       | SFR                |
| 677 | JEPSON, ROBERT S & JEPSON, ALICE A            | 087-00-09-022  | 2200.49 | Jasper  | 1415 GREGORIE NECK RD         | YEMASSEE      | SC | 29945 | RA      | Res       | SFR                |
| 678 | CYPRESS WOODS CORP                            | 048-00-01-001; 048-00-03-019   | 2193.38 | Jasper  | 4190 LOG HAUL RD              | PINELAND      | SC | 29934 | RA      | Res       | SFR                |
| 679 | GOOD HOPE CORP                                | 084-00-01-001  | 1744.13 | Jasper  | 315 GOOD HOPE PLANTATION RD   | RIDGELAND     | SC | 29936 | RA      |           | SFR                |
| 680 | UNITED STATES OF AMERICA                      | 033-00-00-001  | 4531.92 | Jasper  | 765 ALLIGATOR ALLEY           | HARDEEVILLE   | SC | 29927 | RA      | Res       | PUBLIC (NEC)       |
| 681 | CHELSEA PLANTATION LLC 720 W BUSINESS HWY 60  | 081-00-02-001  | 1700.88 | Jasper  | 1000 CHELSEA PLANTATION DR    | RIDGELAND     | SC | 29936 | RA      | Res       | AGRICULTURAL (NEC) |
| 682 | GOOD HOPE CORP                                | 084-00-01-001  | 3727.63 | Jasper  | 315 GOOD HOPE PLANTATION RD   | RIDGELAND     | SC | 29936 | RA      |           | SFR                |
| 683 | GREEN SWAMP CLUB INC                          | 011-00-00-002  | 1733.53 | Jasper  | 3525 MEADWESTVACO RD          | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 684 | OPEN SPACE INSTITUTE LAND TRUST INC           | 059-00-04-017  | 3446.33 | Jasper  |                               | RIDGELAND     | SC | 29936 | RA      | Res       | AGRICULTURAL (NEC) |
| 685 | GOOD HOPE CORP                                | 084-00-01-049  | 2026.54 | Jasper  |                               | RIDGELAND     | SC | 29936 | RA      | Res       | AGRICULTURAL (NEC) |
| 686 | SOUTH CAROLINA FORESTRY COMMISSION            | 023-00-01-006  | 1577.65 | Jasper  | 1191 COTTON HILL RD           | TILLMAN       | SC | 29943 | RA      | Res       | PUBLIC (NEC)       |
| 687 | EXLEY, BEBE H                                 | 025-00-01-002  | 2312.55 | Jasper  | EXLEY PLANTATION RD           | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 688 | WELLS, TED D & WELLS, PAMELA K                | 023-00-02-023  | 2313.10 | Jasper  | 857 HOOVER PLANTATION DR      | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 689 | STATE OF S C WILDLIFE & MARINE RESOURCES DEPT | 076-00-00-002  | 1625.42 | Jasper  |                               | HARDEEVILLE   | SC | 29927 | RA      | Res       | PUBLIC (NEC)       |
| 690 | TULIFINNY PLANTATION LLC                      | 088-00-01-002  | 2140.56 | Jasper  |                               | YEMASSEE      | SC | 29945 | RA      |           | AGRICULTURAL (NEC) |
| 691 | BOLAN HALL LLC                                | 097-00-00-001  | 3199.81 | Jasper  | 2632 BOLAN HALL RD            | RIDGELAND     | SC | 29936 | RA      | Res       | SFR                |
| 692 | MILL CREEK HUNTING PRESERVE IN                | 010-00-00-001  | 5270.20 | Jasper  | 5867 EXLEY PLANTATION RD      | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 693 | UNITED STATES OF AMERICA                      | 033-00-00-001  | 5369.71 | Jasper  | 765 ALLIGATOR ALLEY           | HARDEEVILLE   | SC | 29927 | RA      | Res       | PUBLIC (NEC)       |
| 694 | EXLEY, THOMAS L                               | 026-00-01-029  | 1553.70 | Jasper  | EXLEY PLANTATION RD           | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 695 | PITTMAN, HAROLD S & HELEN, DILLS-PITTMAN      | 063-00-07-005  | 2595.87 | Jasper  | 67 LIVE OAK FARM RD           | RIDGELAND     | SC | 29936 | RA      |           | SFR                |
| 696 | CYPRESS WOODS CORP                            | 048-00-01-001  | 2702.07 | Jasper  | 4190 LOG HAUL RD              | RIDGELAND     | SC | 29936 | RA      | Res       | SFR                |
| 697 | GOOD HOPE CORP                                | 084-00-01-001  | 2662.93 | Jasper  | 315 GOOD HOPE PLANTATION RD   | RIDGELAND     | SC | 29936 | RA      |           | SFR                |
| 698 | DERRY LAND CO LLC                             | 019-00-03-005  | 3002.70 | Jasper  | GILLISON BRANCH RD            | PINELAND      | SC | 29934 | RA      | Res       | AGRICULTURAL (NEC) |
| 699 | PINELAND HOLDING                              | 015-00-04-038  | 1674.38 | Jasper  |                               | PINELAND      | SC | 29934 | RA      | Res       | AGRICULTURAL (NEC) |
| 700 | CYPRESS CREEK I LLC                           | 014-00-01-001  | 2010.84 | Jasper  |                               | GARNETT       | SC | 29922 | RA      | Res       | AGRICULTURAL (NEC) |
| 701 | DERRY LAND CO LLC                             | 019-00-03-005  | 4746.86 | Jasper  | GILLISON BRANCH RD            | PINELAND      | SC | 29934 | RA      | Res       | AGRICULTURAL (NEC) |
| 702 | COLLUMS SAWMILL LLC, & GREEN SWAMP CLUB INC   | 012-00-00-001  | 6673.10 | Jasper  | 7262 SAND HILLS RD            | TILLMAN       | SC | 29943 | RA      |           | AGRICULTURAL (NEC) |
| 703 | ALMOST HEAVEN PLANTATION LLC                  | 048-00-01-041  | 1540.45 | Jasper  | 1981 BAILEY MILL RD           | PINELAND      | SC | 29934 | RA      |           | AGRICULTURAL (NEC) |
| 704 | PELICAN CAPITAL LLC                           | 072-00-02-051  | 3968.73 | Jasper  | 545 GLASGOW LANDING RD        | HARDEEVILLE   | SC | 29927 | RA      |           | MULTIPLE USES      |
| 705 | CYPRESS WOODS CORP                            | 048-00-01-001  | 4630.51 | Jasper  | 4190 LOG HAUL RD              | RIDGELAND     | SC | 29936 | RA      | Res       | SFR                |
| 706 | MAURENE PLANTATION LLC                        | 040-00-02-050  | 2668.57 | Jasper  | 2258 PLANTATION DR            | HARDEEVILLE   | SC | 29927 | RA      | Res       | SFR                |
| 707 | SCOTT WOODLANDS LLC                           | 013-00-02-004  | 2743.43 | Jasper  |                               | TILLMAN       | SC | 29943 | RA      | Res       | AGRICULTURAL (NEC) |
| 708 | GLOVER REAL ESTATE LLC                        | 064-00-09-014  | 2023.16 | Jasper  | GLOVER ROAD                   | RIDGELAND     | SC | 29936 | RA      |           | AGRICULTURAL (NEC) |
| 709 | BAILEY MILL LLC                               | 048-00-01-025  | 1594.86 | Jasper  | BAILEY MILL RD                | PINELAND      | SC | 29934 | RA      | Res       | AGRICULTURAL (NEC) |
| 710 | MACKAY POINT ASSOCIATES                       | 092-00-00-001  | 6357.01 | Jasper  | 1818 MACKEY POINT RD          | YEMASSEE      | SC | 29945 | RA      | Res       | SFR                |
| 711 | WA HOLDINGS SOUTH, LLC                        | 042-00-06-045  | 2629.85 | Jasper  |                               | HARDEEVILLE   | SC | 29927 | PDD     | PUD       | AGRICULTURAL (NEC) |
| 712 | CYPRESS WOODS CORP                            | 049-00-03-019  | 3475.97 | Jasper  | TRAILS END                    | PINELAND      | SC | 29934 | RA      | Res       | AGRICULTURAL (NEC) |
| 713 | DERRY LAND CO LLC                             | 019-00-03-005  | 1753.56 | Jasper  | GILLISON BRANCH RD            | RIDGELAND     | SC | 29936 | RA      | Res       | AGRICULTURAL (NEC) |
| 714 | GA DEPT-TRANSPORTATION                        | 076-00-00-001  | 5529.82 | Jasper  | 332 SPEEDWAY BLVD             | HARDEEVILLE   | SC | 29927 | LI      | Ind       | AGRICULTURAL (NEC) |
| 715 | SHERWOOD TRACT                                | 030-00-01-007; 031-00-00-017;<br>030-00-01-019; 030-00-01-020;<br>030-00-01-021; 030-00-01-022 | 1437.00 | Jasper  | US HIGHWAY 17                 | HARDEEVILLE   | SC | 29927 | PDD     | Ind       | AGRICULTURAL (NEC) |
| 716 | LIBERTY HILL LAND & TIMBER LLC                | 076-00-00-001  | 1094.76 | Kershaw | 1824 HILTON RD                | HEATH SPRINGS | SC | 29058 | RD-2    | Misc      | FARMS              |
| 717 | CATCHMARK SC TIMBERLANDS LLC                  | 166-00-00-016  | 1170.16 | Kershaw | 235 TRUESDALE RD              | CAMDEN        | SC | 29020 | RD-2    | Misc      | AGRICULTURAL (NEC) |
| 718 | GUY, JAMES LINDSAY                            | 373-00-00-001  | 1356.19 | Kershaw | 338A RED BANK RD              | REMBERT       | SC | 29128 | RD-1    | Misc      | FARMS              |
| 719 | KHP LAND COMPANY LLC                          | 240-00-00-015  | 1462.34 | Kershaw | 682 KNIGHTS HILL RD           | CAMDEN        | SC | 29020 | RD-2    | Misc      | FARMS              |
| 720 | JRAW LLC                                      | 128-00-00-006  | 1252.69 | Kershaw | 2348 HARBOR VIEW RD           | CAMDEN        | SC | 29020 | RD-2    | Misc      | FARMS              |
| 721 | WATEREE HOLDINGS LLC                          | 095-00-00-001  | 1248.22 | Kershaw | 2842 RIVER RD                 | CAMDEN        | SC | 29020 | RD-2    | Misc      | AGRICULTURAL (NEC) |
| 722 | MBR CORP INC                                  | 341-00-00-001  | 1497.14 | Kershaw | 1081 BOYKIN RD                | REMBERT       | SC | 29128 | RD-1    | Misc      | FARMS              |
| 723 | TUTTLE, LEON E                                | 208-00-00-001  | 1210.95 | Kershaw | 1792B LONGTOWN RD             | RIDGEWAY      | SC | 29130 | RD-2    | Misc      | FARMS              |
| 724 | LANHAM, JAMES C                               | 381-00-00-002  | 1371.82 | Kershaw | 925 ANCRUM FERRY RD           | LUGOFF        | SC | 29078 | RD-2    | Misc      | FARMS              |
| 725 | UPPER ENGLISH SWAMP INC                       | 388-00-00-003  | 1457.61 | Kershaw | 1153A OLD ENGLISH RD          | LUGOFF        | SC | 29078 | RD-2    | Misc      | FARMS              |
| 726 | ROBINSON, CHARLES A                           | 058-00-00-001  | 1010.23 | Kershaw | 3665 BEAVER CREEK CEMETARY RD | HEATH SPRINGS | SC | 29058 | RD-2    | Misc      | FARMS              |
| 727 | MULBERRY PLANTATION INC                       | 327-00-00-001  | 1036.67 | Kershaw | 559 SUMTER HIGH WAY           | CAMDEN        | SC | 29020 | RD-1    | Misc      | AGRICULTURAL (NEC) |
| 728 | LLOYD, RICHARD W RESIDUARY                    | 256-00-00-062  | 1464.91 | Kershaw | 420 FAIRVIEW PLANTATION RD    | CAMDEN        | SC | 29020 | RD-2    | Misc      | FARMS              |
| 729 | DUKE POWER CO, & SSD-N, MCGUIRE               | 161-00-00-001  | 1419.76 | Kershaw | 2640 LAKE RD                  | RIDGEWAY      | SC | 29130 | NOVALUE | Not Zoned | PUBLIC (NEC)       |

|     |  |                   |          |           |                          |               |    |       |          |           |                    |
|-----|--|-------------------|----------|-----------|--------------------------|---------------|----|-------|----------|-----------|--------------------|
| 730 | KERSHAW COUNTY PARK                            | 245-00-00-001     | 1001.70  | Kershaw   | 860 PARK RD              | CASSATT       | SC | 29032 | RD-2     | Misc      | TAX EXEMPT         |
| 731 | DUKE POWER CO                                  | 127-00-00-001     | 1363.80  | Kershaw   | 2710 SINGLETON CREEK RD  | CAMDEN        | SC | 29020 | NOVALUE  | Not Zoned | PUBLIC (NEC)       |
| 732 | PHILLIPS, MARJORIE KAY PRICE                   | 121-00-00-005     | 1172.35  | Kershaw   | 3112 PROVIDENCE RD       | CASSATT       | SC | 29032 | RD-2     | Misc      | FARMS              |
| 733 | MCLEOD FAMILY THE LMT PART                     | 182-00-00-005     | 1314.01  | Kershaw   | 26 MCLEOD RD             | CAMDEN        | SC | 29020 | RD-2     | Misc      | FARMS              |
| 734 | HRM LLOYD BEACHWOOD LLC                        | 243-00-00-016     | 1893.32  | Kershaw   | 100 FIREBREAK RD         | CAMDEN        | SC | 29020 | RD-1     | Misc      | FARMS              |
| 735 | CONGAREE RIVER LLC                             | 352-00-00-001-802 | 2842.41  | Kershaw   | 1084 HIGHWAY 601 SOUTH   | LUGOFF        | SC | 29078 | RD-2     | Misc      | AGRICULTURAL (NEC) |
| 736 |  | 073-00-00-001     | 1669.80  | Kershaw   | 2626 WILDLIFE RD         | HEATH SPRINGS | SC | 29058 | RD-2     | Misc      | FARMS              |
| 737 | BTG PACTUAL OEF PROPERTY 2                     | 078-00-00-001     | 1809.04  | Kershaw   | 3441 RIVER RD            | HEATH SPRINGS | SC | 29058 | RD-2     | Misc      | AGRICULTURAL (NEC) |
| 738 | DUKE POWER CO                                  | 128-00-00-001     | 2745.23  | Kershaw   | 2236 SAILING CLUB LN     | CAMDEN        | SC | 29020 | R-15     | Res       | PUBLIC (NEC)       |
| 739 | KLHT LLC                                       | 110-00-00-001     | 1928.63  | Kershaw   | 3101 SINGLETON CREEK RD  | CAMDEN        | SC | 29020 | RD-2     | Misc      | AGRICULTURAL (NEC) |
| 740 | SC DEPT OF NATURAL RESOURCES                   | 073-00-00-002     | 1517.37  | Kershaw   | 2794 WILDLIFE RD         | CAMDEN        | SC | 29020 | PDD      | PUD       | TAX EXEMPT         |
| 741 | BLUE HERON TIMBER LLC                          | 180-00-00-001     | 2751.55  | Kershaw   | 1496 SUNNY HILL RD       | CAMDEN        | SC | 29020 | RD-2     | Misc      | FARMS              |
| 742 | MULBERRY PLANTATION INC                        | 327-00-00-001     | 2828.25  | Kershaw   | 559 SUMTER HIGH WAY      | REMBERT       | SC | 29128 | RD-1     | Misc      | AGRICULTURAL (NEC) |
| 743 | RAGLINS CREEK FARMS LLC                        | 387-00-00-020     | 1512.36  | Kershaw   | 2136 HIGHWAY 601 SOUTH   | LUGOFF        | SC | 29078 | RD-2     | Misc      | FARMS              |
| 744 | WIZZYS TREE & WILDLIFE FARM                    | 0063-00-020-01    | 1138.74  | Lancaster | 1576 WIZZY RD            | LANCASTER     | SC | 29720 | R30      | Res       | SFR                |
| 745 | ACOTES LLC                                     | 0153-00-005-01    | 1029.10  | Lancaster | 5845 HEATHERSTONE RD     | HEATH SPRINGS | SC | 29058 | R45      | Res       | SFR                |
| 746 | LANDSFORD RIVER PARK LLC                       | 0045-00-001-00    | 1030.41  | Lancaster | INDUSTRIAL PARK RD       | LANCASTER     | SC | 29720 | R30      | Res       | AGRICULTURAL (NEC) |
| 747 | HAILE GOLD MINE INC                            | 0092-00-031-00    | 1055.11  | Lancaster | 2205 RAINBOW RANCH RD    | KERSHAW       | SC | 29067 | R45A     | Res       | SFR                |
| 748 | SPRINGLAND INC                                 | 0165-00-001-00    | 1450.96  | Lancaster | EMBER LN                 | HEATH SPRINGS | SC | 29058 | R45      | Res       | AGRICULTURAL (NEC) |
| 749 | HAILE GOLD MINE INC                            | 0136-00-036-00    | 1215.13  | Lancaster | 4380 ERNEST SCOTT RD     | KERSHAW       | SC | 29067 | M        |           | SFR                |
| 750 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC       | 0150-00-003-00    | 1253.16  | Lancaster | MOUNT CARMEL RD          | HEATH SPRINGS | SC | 29058 | R45      | Res       | AGRICULTURAL (NEC) |
| 751 | HALL JOHNSTON LLC                              | 0163-00-060-00    | 1354.91  | Lancaster | 4189 STONEBORO RD        | HEATH SPRINGS | SC | 29058 | R45      | Res       | SFR                |
| 752 | SOUTH CAROLINA DEPT OF NATURAL RESOURCES       | 0165-00-008-00    | 1939.52  | Lancaster | EMBER LN                 | HEATH SPRINGS | SC | 29058 | OSP      |           | PUBLIC (NEC)       |
| 753 | SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES | 0183-00-001-00    | 1577.97  | Lancaster | EMBER LN                 | HEATH SPRINGS | SC | 29058 | R45A     | Res       | TAX EXEMPT         |
| 754 | HAILE GOLD MINE INC                            | 0136-00-036-00    | 2252.55  | Lancaster | 4380 ERNEST SCOTT RD     | KERSHAW       | SC | 29067 | M        |           | SFR                |
| 755 | WATEREE HOLDINGS LLC                           | 0164-00-001-00    | 2955.95  | Lancaster | CEDAR CREEK RD           | HEATH SPRINGS | SC | 29058 | R45A     | Res       | AGRICULTURAL (NEC) |
| 756 | FOSTERS CROSSROADS INDUSTRIAL SITE             | 0045-00-001       | 1395.00  | Lancaster |                          | LANCASTER     | SC | 29720 | HEAVY ID | Heavy Ind |                    |
| 757 | SOUTH CAROLINA DEPT OF NATURAL RS              | 575-00-00-019     | 1181.28  | Laurens   | 2070 WHITE PLAINS ROAD   | MOUNTVILLE    | SC | 29370 |          |           | TAX EXEMPT         |
| 758 | WILEY FORK-LAURENS LLC                         | 578-00-00-002     | 1257.78  | Laurens   |                          | CROSS HILL    | SC | 29332 |          |           | AGRICULTURAL (NEC) |
| 759 | DAVIDSON, JAMES B & DAVIDSON, DONNA            | 512-00-00-001     | 1095.87  | Laurens   |                          | MOUNTVILLE    | SC | 29370 |          |           | AGRICULTURAL (NEC) |
| 760 | BAILEY, EMILY F & SWITZER, JAMES L             | 672-00-00-001     | 1299.05  | Laurens   |                          | CLINTON       | SC | 29325 |          |           | AGRICULTURAL (NEC) |
| 761 | COPELAND, CARROLL DUCKETT                      | 680-00-00-001     | 1037.64  | Laurens   |                          | CLINTON       | SC | 29325 |          |           | RESIDENTIAL (NEC)  |
| 762 | MICHELIN AMERICAS RESEARCH, & & DEV CORP       | 362-00-00-001     | 1103.52  | Laurens   |                          | MOUNTVILLE    | SC | 29370 |          |           | TAX EXEMPT         |
| 763 | TYGER OAK INC                                  | 745-00-00-009     | 1907.53  | Laurens   |                          | KINARDS       | SC | 29355 |          |           | AGRICULTURAL PLANT |
| 764 | PALERMO TIMBER LLC                             | 021-00-00-030-000 | 1461.27  | Lee       |                          | BISHOPVILLE   | SC | 29010 |          |           | AGRICULTURAL (NEC) |
| 765 | WATEREE HOLDINGS LLC                           | 047-00-00-043-000 | 1218.80  | Lee       |                          | DALZELL       | SC | 29040 |          |           | AGRICULTURAL (NEC) |
| 766 | ROGERS, RANDOLPH G                             | 044-00-00-024-000 | 1290.44  | Lee       | 1860 MANVILLE-WISACKY RD | BISHOPVILLE   | SC | 29010 |          |           | AGRICULTURAL (NEC) |
| 767 | LEE STATE PARK                                 | 038-00-00-011-000 | 2360.17  | Lee       |                          | BISHOPVILLE   | SC | 29010 |          |           | TAX EXEMPT         |
| 768 | RICHLAND-LEXINGTON AIRPORT DIS                 | 006797-01-006     | 1042.47  | Lexington | AVIATION WAY             | WEST COLUMBIA | SC | 29170 | ID       | Mixed     | AIRPORT            |
| 769 | CREEK RANCH HOLDINGS LLC                       | 012600-01-005     | 1302.47  | Lexington | 1318 CHARLES TOWN RD     | LEESVILLE     | SC | 29070 | RD       | Res       | RESIDENTIAL (NEC)  |
| 770 | SCOTT WOODLANDS LLC                            | 012400-01-005     | 1515.66  | Lexington | SUGAR BOTTOM RD          | LEESVILLE     | SC | 29070 | LR       | Res       | RESIDENTIAL (NEC)  |
| 771 | SC DEPT OF NATURAL RESOURCES                   | 172-00-00-005-000 | 1269.06  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | TAX EXEMPT         |
| 772 | BETHEA, CHARLIE                                | 017-00-00-001-000 | 1181.63  | Marion    | 1000 SELLERS RD W        | MARION        | SC | 29571 |          |           | FARMS              |
| 773 | RED MOUNTAIN TIMBERCO III LLC                  | 109-00-00-005-000 | 1058.40  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | MISCELLANEOUS      |
| 774 | SGZR A Q LLC                                   | 133-00-00-002-000 | 1291.75  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | FARMS              |
| 775 | RED MOUNTAIN TIMBERCO III LLC                  | 072-00-00-001-000 | 1276.66  | Marion    |                          | MARION        | SC | 29571 |          |           | MISCELLANEOUS      |
| 776 | SC DEPT OF NATURAL RESOURCES                   | 144-00-00-002-000 | 4869.55  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | TAX EXEMPT         |
| 777 | RED MOUNTAIN TIMBERCO III LLC                  | 102-00-00-038-000 | 2746.70  | Marion    |                          | MARION        | SC | 29571 |          |           | MISCELLANEOUS      |
| 778 | SC DEPT OF NATURAL RESOURCES                   | 178-00-00-003-000 | 19499.42 | Marion    |                          | GRESHAM       | SC | 29546 |          |           | TAX EXEMPT         |
| 779 | RED MOUNTAIN TIMBERCO III LLC                  | 072-00-00-001-000 | 3743.43  | Marion    |                          | MARION        | SC | 29571 |          |           | MISCELLANEOUS      |
| 780 | SC DEPT OF NATURAL RESOURCES                   | 173-00-00-008-000 | 2885.87  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | TAX EXEMPT         |
| 781 | RED MOUNTAIN TIMBERCO III LLC                  | 041-00-00-001-000 | 2591.97  | Marion    |                          | MARION        | SC | 29571 |          |           | MISCELLANEOUS      |
| 782 | WHITEHORSE PLANTATION LLC                      | 117-00-00-005-000 | 2081.35  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | FARMS              |
| 783 | SC DEPT OF NATURAL RESOURCES                   | 132-00-00-017-000 | 1880.44  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | TAX EXEMPT         |
| 784 | JAKES HILL TIMBER CO                           | 050-00-00-023-000 | 3200.33  | Marion    |                          | MARION        | SC | 29571 |          |           | FARMS              |
| 785 | RED MOUNTAIN TIMBERCO III LLC                  | 165-00-00-022-000 | 2106.61  | Marion    |                          | GRESHAM       | SC | 29546 |          |           | MISCELLANEOUS      |
| 786 | JAMES WASH                                     | 039-00-00-061-000 | 1526.91  | Marion    | 76 HWY                   | MARION        | SC | 29571 |          |           | FARMS              |
| 787 | RED MOUNTAIN TIMBERCO III LLC                  | 099-00-00-007-000 | 11265.23 | Marion    |                          | CENTENARY     | SC | 29519 |          |           | MISCELLANEOUS      |
| 788 | RED MOUNTAIN TIMBER CO III LLC                 | 028-00-00-001-000 | 2389.46  | Marion    |                          | MARION        | SC | 29571 |          |           | MISCELLANEOUS      |
| 789 | SOUTHBOUND TIMBERLANDS LLC                     | 070-01-01-046     | 1040.42  | Marlboro  |                          | BLNHEIM       | SC | 29516 |          |           | AGRICULTURAL (NEC) |
| 790 | TIMBERVEST PARTNERS III SC LLC                 | 007-01-02-001     | 1479.19  | Marlboro  | HATCHER HILL ROAD        | WALLACE       | SC | 29596 |          |           | AGRICULTURAL (NEC) |
| 791 | HANSON AGGREGATES BECKER INC                   | 025-01-01-001     | 1316.35  | Marlboro  | OLD RIVER RD             | WALLACE       | SC | 29596 |          |           | AGRICULTURAL (NEC) |
| 792 | KLECKLEY, FRANCES W                            | 051-01-01-001     | 1395.75  | Marlboro  |                          | BENNETTSVILLE | SC | 29512 |          |           | AGRICULTURAL (NEC) |
| 793 | CHARLES INGRAM LUMBER CO INC                   | 072-01-01-043     | 1084.10  | Marlboro  | HWY 34 W                 | LATTA         | SC | 29565 |          |           | AGRICULTURAL (NEC) |

|     |   |                    |          |            |                           |               |    |       |      |       |  |                     |
|-----|---|--------------------|----------|------------|---------------------------|---------------|----|-------|------|-------|--|---------------------|
| 794 | HANSON AGGREGATES BECKER INC              | 019-01-01-059      | 1478.73  | Marlboro   | BOAN RD                   | WALLACE       | SC | 29596 |      |       |  | AGRICULTURAL (NEC)  |
| 795 | SONOCO PRODUCTS CO                        | 050-01-01-008      | 1552.01  | Marlboro   | HWY 15-401 W              | BENNETTSVILLE | SC | 29512 |      |       |  | AGRICULTURAL (NEC)  |
| 796 | WATEREE HOLDING LLC                       | 075-01-01-010      | 1605.27  | Marlboro   | ROGERS LAKE LN            | BLLENHEIM     | SC | 29516 |      |       |  | AGRICULTURAL (NEC)  |
| 797 | T C & I TIMBER CO LLC                     | 065-01-01-009      | 1576.94  | Marlboro   | FOX HAVEN LN              | BLLENHEIM     | SC | 29516 |      |       |  | AGRICULTURAL (NEC)  |
| 798 | WATEREE HOLDINGS LLC                      | 075-01-01-001      | 7575.60  | Marlboro   | RIVER RD                  | BLLENHEIM     | SC | 29516 |      |       |  | AGRICULTURAL (NEC)  |
| 799 | SONOCO PRODUCTS CO                        | 056-01-01-002      | 2206.50  | Marlboro   |                           | BENNETTSVILLE | SC | 29512 |      |       |  | AGRICULTURAL (NEC)  |
| 800 | SFT FORESTLAND LLC                        | 060-01-01-010      | 3706.39  | Marlboro   | FIRETOWER RD              | CLIO          | SC | 29525 |      |       |  | AGRICULTURAL (NEC)  |
| 801 | WATEREE HOLDINGS LLC                      | 075-01-01-002      | 5393.44  | Marlboro   | ROGERS LAKE LN            | BLLENHEIM     | SC | 29516 |      |       |  | AGRICULTURAL (NEC)  |
| 802 | SONOCO PRODUCTS CO                        | 063-01-01-001      | 3845.65  | Marlboro   | SOUTHARD LN               | BENNETTSVILLE | SC | 29512 |      |       |  | AGRICULTURAL (NEC)  |
| 803 | TWAIN TIMBER LLC                          | 094-00-00-006      | 1027.86  | McCormick  | HWY 10 SOUTH OF TRL       | MC CORMICK    | SC | 29835 | SMF  | Mixed |  | COMMERCIAL (NEC)    |
| 804 | CORPS OF ENGINEERS                        | 027-00-00-008      | 1095.42  | McCormick  | HWY 167                   | MOUNT CARMEL  | SC | 29840 | S-R1 | Res   |  | COMMERCIAL (NEC)    |
| 805 | SC DEPT OF WILDLIFE & MARINE RESOURCES    | 239-00-00-002      | 1286.35  | McCormick  | 14776 SC HIGHWAY 28       | CLARKS HILL   | SC | 29821 | SMF  | Mixed |  | COMMERCIAL (NEC)    |
| 806 | DAVIS LAND & TIMBER LTD PARTNE            | 150-00-00-012      | 2267.52  | McCormick  | E OF US HWY 221 &         | MC CORMICK    | SC | 29835 | SMF  | Mixed |  | COMMERCIAL (NEC)    |
| 807 | HOLMES, H S                               | 169-00-00-009      | 1629.96  | McCormick  | 758 SERPENTINE DR         | PLUM BRANCH   | SC | 29845 | I    |       |  | MOBILE HOME         |
| 808 | TWIN CREEKS TIMBER LLC                    | 030-00-00-001      | 1634.59  | McCormick  | S OF HWY 46 G5            | MOUNT CARMEL  | SC | 29840 | A    | AG    |  | COMMERCIAL (NEC)    |
| 809 | CORPS OF ENGINEERS                        | 036-00-00-029      | 3197.56  | McCormick  | W OF HWY 135              | MC CORMICK    | SC | 29835 | S-R1 | Res   |  | COMMERCIAL (NEC)    |
| 810 | DAVIS LAND & TIMBER LTD PARTNE            | 150-00-00-012      | 1786.28  | McCormick  | E OF US HWY 221 &         | TROY          | SC | 29848 | SMF  | Mixed |  | COMMERCIAL (NEC)    |
| 811 | SOUTH CAROLINA DEPARTMENT OF TRANSPORTION | 70-2               | 1031.43  | Newberry   | BREHMER RD                | KINARDS       | SC | 29355 | R2   | Res   |  | TAX EXEMPT          |
| 812 | WILEY FORK-LAURENS LLC                    | 17-1               | 1261.10  | Newberry   | HWY 347                   | CHAPPELLS     | SC | 29037 |      |       |  | AGRICULTURAL LAND   |
| 813 | SC DEPT OF NATURAL RESOURCES              | 40-5               | 1283.73  | Newberry   | ON HWY 77                 | CHAPPELLS     | SC | 29037 | R2   | Res   |  | TAX EXEMPT          |
| 814 | P H TIMBER LLC                            | 38-3-1             | 2260.01  | Newberry   | SC 56                     | CHAPPELLS     | SC | 29037 | R2   | Res   |  | AGRICULTURAL LAND   |
| 815 | P H TIMBER LLC                            | 38-3-1             | 2979.79  | Newberry   | SC 56                     | KINARDS       | SC | 29355 | R2   | Res   |  | AGRICULTURAL LAND   |
| 816 | P H TIMBER LLC                            | 38-3-1             | 2141.58  | Newberry   | SC 56                     | SILVERSTREET  | SC | 29145 | R2   | Res   |  | AGRICULTURAL LAND   |
| 817 | S C DEPT OF NATURAL RESOURCES             | 14-3               | 2392.86  | Newberry   | ON HWY 77                 | CHAPPELLS     | SC | 29037 |      |       |  | TAX EXEMPT          |
| 818 | U S A                                     | 343-00-01-002      | 1085.73  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 819 | U S A                                     | 343-00-01-002      | 1160.30  | Oconee     | 112 ANDREW PICKENS CIR    | WESTMINSTER   | SC | 29693 |      |       |  | TAX EXEMPT          |
| 820 | NEVILLE BROS                              | 118-00-01-003      | 1133.66  | Oconee     | PLAYGROUND RD             | WALHALLA      | SC | 29691 | PRL  | Misc  |  | FARMS               |
| 821 | U S A                                     | 343-00-01-002      | 9014.26  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 822 | DUKE POWER CO                             | 016-00-01-001      | 1817.14  | Oconee     | 100 BAD CREEK RD          | SALEM         | SC | 29676 |      |       |  | ELECTRICAL FACILITY |
| 823 | U S A                                     | 343-00-01-002      | 7812.84  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 824 | U S A                                     | 343-00-01-002      | 4955.07  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 825 | DUKE VENTURES REAL ESTATE LLC             | 016-00-01-013      | 2708.40  | Oconee     |                           | SALEM         | SC | 29676 |      |       |  | COMMERCIAL ACREAGE  |
| 826 | SC DEPT OF NATURAL RESOURCES              | 011-00-01-001      | 2643.44  | Oconee     |                           | SALEM         | SC | 29676 | PRL  | Misc  |  | TAX EXEMPT          |
| 827 | U S A                                     | 343-00-01-002      | 8155.16  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 828 | U S A                                     | 343-00-01-002      | 5542.78  | Oconee     | 112 ANDREW PICKENS CIR    | WESTMINSTER   | SC | 29693 | PRL  | Misc  |  | TAX EXEMPT          |
| 829 | USA FOREST SERVICE                        | 029-00-01-001      | 1846.67  | Oconee     |                           | SALEM         | SC | 29676 | PRL  | Misc  |  | TAX EXEMPT          |
| 830 | U S A                                     | 343-00-01-002      | 4605.51  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 831 | U S A                                     | 343-00-01-002      | 5784.54  | Oconee     | 112 ANDREW PICKENS CIR    | WESTMINSTER   | SC | 29693 | PRL  | Misc  |  | TAX EXEMPT          |
| 832 | U S A                                     | 343-00-01-002      | 14749.66 | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 833 | U S A                                     | 343-00-01-002      | 4079.42  | Oconee     | 112 ANDREW PICKENS CIR    | LONG CREEK    | SC | 29658 | PRL  | Misc  |  | TAX EXEMPT          |
| 834 | DUKE VENTURES REAL ESTATE LLC             | 016-00-01-013      | 4050.12  | Oconee     |                           | SALEM         | SC | 29676 |      |       |  | COMMERCIAL ACREAGE  |
| 835 | U S A                                     | 343-00-01-002      | 6830.45  | Oconee     | 112 ANDREW PICKENS CIR    | MOUNTAIN REST | SC | 29664 | PRL  | Misc  |  | TAX EXEMPT          |
| 836 | HOLCIM US INC                             | 0334-00-03-002.000 | 1330.06  | Orangeburg | FOUR HOLE SWAMP           | HOLLY HILL    | SC | 29059 |      |       |  | AGRICULTURAL LAND   |
| 837 | DOMINION ENERGY SOUTH CAROLINA INC        | 0077-00-00-003.000 | 1259.59  | Orangeburg | S EDISTO RIVER            | COPE          | SC | 29038 |      |       |  | COUNTY PROPERTY     |
| 838 | TIMBERLANDS III LLC                       | 0187-00-01-002.000 | 1167.51  | Orangeburg | BAY RD                    | ROWESVILLE    | SC | 29133 |      |       |  | FOREST              |
| 839 | NATIONAL AUDUBON SOCIETY                  | 0316-00-00-005.000 | 1292.33  | Orangeburg | NEAR DORCHESTER CNTY LINE | HOLLY HILL    | SC | 29059 |      |       |  | COUNTY PROPERTY     |
| 840 | NATIONAL AUDUBON SOCIETY INC              | 0337-00-00-008.000 | 1127.22  | Orangeburg | FOUR HOLES SWAMP          | HOLLY HILL    | SC | 29059 |      |       |  | COUNTY PROPERTY     |
| 841 | GUTHRIE JAMES M III & SUPERIOR HOLDI      | 0159-00-01-001.000 | 1006.55  | Orangeburg | OFF HUDSON RD             | COPE          | SC | 29038 |      |       |  | FARMS               |
| 842 | CONNOR STATION LLC                        | 0348-00-02-053.000 | 1110.90  | Orangeburg | HWY 453                   | HOLLY HILL    | SC | 29059 |      |       |  | AGRICULTURAL (NEC)  |
| 843 | WILLCREEK LLC                             | 0205-00-02-001.000 | 1122.85  | Orangeburg | 123 CANAAN RD             | ORANGEBURG    | SC | 29115 |      |       |  | AGRICULTURAL (NEC)  |
| 844 | SHULER, H E                               | 0297-00-03-008.000 | 1290.24  | Orangeburg |                           | HOLLY HILL    | SC | 29059 |      |       |  | FOREST              |
| 845 | TROIS BOIS LTD                            | 0203-00-02-002.000 | 1297.24  | Orangeburg | BETHEL FOREST RD          | ROWESVILLE    | SC | 29133 |      |       |  | FOREST              |
| 846 | BUCKRIDGE PLANTATION LLC                  | 0085-00-03-001.000 | 1205.41  | Orangeburg | DRAGSTRIP RD              | NORTH         | SC | 29112 |      |       |  | FARMS               |
| 847 | ENVIRONMENTAL BANC & EXCHANGE LLC         | 0364-00-01-003.000 | 1452.53  | Orangeburg | TONEY BAY ROAD            | HOLLY HILL    | SC | 29059 |      |       |  | FOREST              |
| 848 | SC DEPARTMENT OF PARKS /RECREATION/T      | 0306-00-01-001.000 | 2640.36  | Orangeburg | OFF HWY 6/S-38-105        | SANTEE        | SC | 29142 |      |       |  | COUNTY PROPERTY     |
| 849 | NORTH AIR FORCE AUX FIELD                 | 0067-00-02-009.000 | 2249.30  | Orangeburg | HWY 178                   | NORTH         | SC | 29112 |      |       |  | COUNTY PROPERTY     |
| 850 | C P S A                                   | 0373-00-00-003.000 | 1583.11  | Orangeburg | 324 IRICK ST              | EUTAWVILLE    | SC | 29048 |      |       |  | COUNTY PROPERTY     |
| 851 | MARTIN MARIETTA MATERIAL REAL ESTATE      | 0370-00-00-001.000 | 2233.37  | Orangeburg | 273 GARDENSGATE RD        | EUTAWVILLE    | SC | 29048 |      |       |  | FARMS               |
| 852 | WILL-GYN FARM LLC                         | 0078-00-06-005.000 | 1755.10  | Orangeburg | 3023 BINNICKER BRDG RD    | COPE          | SC | 29038 |      |       |  | FOREST              |
| 853 | TIMBERLANDS III LLC                       | 0369-00-03-014.000 | 1520.14  | Orangeburg | COUNTY LINE ROAD          | EUTAWVILLE    | SC | 29048 |      |       |  | FOREST              |
| 854 | CLEMSON UNIVERSITY                        | R0009126           | 1359.61  | Pickens    |                           | CENTRAL       | SC | 29630 |      |       |  | TAX EXEMPT          |
| 855 | SC DEPT OF NATURAL RESOURCES              | R0064422           | 2306.90  | Pickens    |                           | SUNSET        | SC | 29685 |      |       |  | TAX EXEMPT          |
| 856 | SOUTH CAROLINA FORESTRY COMMISS           | R0010979           | 1777.29  | Pickens    | 8087 HIGHWAY 11           | SUNSET        | SC | 29685 |      |       |  | TAX EXEMPT          |
| 857 | GREENVILLE CITY OF                        | R0055068           | 2869.88  | Pickens    |                           | PICKENS       | SC | 29671 |      |       |  | TAX EXEMPT          |

|     |  |  |          |             |                               |             |    |       |     |          |                     |
|-----|--|--|----------|-------------|-------------------------------|-------------|----|-------|-----|----------|---------------------|
| 858 | DEPT OF PARKS RECREATION TOURISM SC                            | R0003715   | 2293.72  | Pickens     | 27 T R CAMPGROUND RD          | PICKENS     | SC | 29671 |     |          | TAX EXEMPT          |
| 859 | SC DEPT OF NATURAL RESOURCES                                   | R0018157   | 4170.49  | Pickens     |                               | SUNSET      | SC | 29685 |     |          | TAX EXEMPT          |
| 860 | SC DEPT OF NATURAL RESOURCES                                   | R0029746   | 4290.45  | Pickens     | 254 CLEO CHAPMAN HWY          | SUNSET      | SC | 29685 |     |          | TAX EXEMPT          |
| 861 | SC DEPT OF NATURAL RESOURCES                                   | R0029746   | 1732.01  | Pickens     | 254 CLEO CHAPMAN HWY          | SUNSET      | SC | 29685 |     |          | TAX EXEMPT          |
| 862 | CLEMSON UNIVERSITY   | R0044029   | 1866.27  | Pickens     |                               | CENTRAL     | SC | 29630 |     |          | TAX EXEMPT          |
| 863 | SC DEPT OF NATURAL RESOURCES                                   | R0029746   | 1903.02  | Pickens     | 254 CLEO CHAPMAN HWY          | SUNSET      | SC | 29685 |     |          | TAX EXEMPT          |
| 864 | SC DEPT OF NATURAL RESOURCES                                   | R0087415   | 9125.80  | Pickens     |                               | SUNSET      | SC | 29685 |     |          | TAX EXEMPT          |
| 865 | SOUTH CAROLINA DEPARTMENT OF, & NATURAL RESOURCES              | 39700-01-01  | 1028.43  | Richland    | WATEREE RIVER                 | EASTOVER    | SC | 29044 | RU  | AG       | SFR                 |
| 866 | GRIFFIN, JACQUELINE A  | 40800-01-11  | 1191.46  | Richland    | 285 CALDWELL JAMES RD         | EASTOVER    | SC | 29044 | RU  | AG       | SFR                 |
| 867 | SC STATE COMM OF FORESTRY                                      | 05000-02-15  | 1230.20  | Richland    | BROAD RIVER RD                | COLUMBIA    | SC | 29212 | C-1 | Bus/Comm | COMMERCIAL ACREAGE  |
| 868 | INDIGO ASSOCIATES, & LIMITED PARTNERSHIP                       | 06500-01-04-A  | 1272.91  | Richland    | 300 MONTICELLO TRL            | COLUMBIA    | SC | 29203 | HI  | Ind      | OFFICE BUILDING     |
| 869 | SC DEPT OF PARKS RECREATION & TOURISM                          | 19900-01-03  | 1390.90  | Richland    | 800 POLO RD                   | COLUMBIA    | SC | 29223 | GC  | Bus/Comm | COMMERCIAL (NEC)    |
| 870 | WEYERHAEUSER, COMAPNY  | 36300-01-02  | 1168.06  | Richland    | GRIFFINS CREEK RD             | GADSDEN     | SC | 29052 | RU  | AG       | SFR                 |
| 871 | SC ELECTRIC & GAS CO   | 40900-01-01  | 1047.25  | Richland    | 142 WATEREE STATION           | EASTOVER    | SC | 29044 | HI  | Ind      | COMMERCIAL ACREAGE  |
| 872 | SOUTHERN OAKS LAND & WATER LLC                                 | 13200-01-01  | 1203.13  | Richland    | BECKAM SWAMP RD               | COLUMBIA    | SC | 29209 | RU  | AG       | AGRICULTURAL LAND   |
| 873 | BECKHAM SWAMP LLC  | 10700-01-01  | 1252.26  | Richland    | BLUFF RD                      | COLUMBIA    | SC | 29209 | RU  | AG       | SFR                 |
| 874 | STATE OF SOUTH CAROLINA, & GENERAL SERVICES 300 GERVAIS        | 06200-03-02  | 1152.06  | Richland    | 4430 BROAD RIVER RD           | COLUMBIA    | SC | 29210 | C-1 | Bus/Comm | OFFICE BUILDING     |
| 875 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC                       | 37600-01-08  | 1226.22  | Richland    | MCCORDS FERRY RD              | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 876 | CONGAREE RIVER LLC   | 40100-01-01  | 1184.32  | Richland    | WATEREE RIVER                 | EASTOVER    | SC | 29044 | RU  | AG       | FOREST              |
| 877 | PLUNKETT HILL LLC  | 39800-01-01  | 1127.01  | Richland    | MCCORDS FERRY RD              | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 878 | MURRAY TRACT LLC   | 37500-01-02  | 1423.84  | Richland    | MCCORDS FERRY RD              | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 879 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC                       | 34800-01-05  | 1052.22  | Richland    | 1028 POULTRY LN               | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 880 | PRESERVE ON THE WATEREE RIV LL                                 | 32900-01-02  | 1042.50  | Richland    | 1510 LORENZO DAVIS RD         | EASTOVER    | SC | 29044 | RU  | AG       | SFR                 |
| 881 | CONGAREE CARTON LTD PTNRSHIP                                   | 40000-01-01  | 2025.78  | Richland    | SCREAMING EAGLE               | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 882 | SOUTH CAROLINA DEPARTMENT OF, & NATURAL RESOURCES              | 39500-01-32  | 2546.26  | Richland    | 2118 BASIN LANDING RD         | EASTOVER    | SC | 29044 | RU  | AG       | RESIDENTIAL ACREAGE |
| 883 | UNITED STATES OF AMERICA                                       | 36200-01-01  | 1648.60  | Richland    | W HWY 601                     | GADSDEN     | SC | 29052 | RU  | AG       | VACANT LAND (NEC)   |
| 884 | UNITED STATES OF AMERICA                                       | 29700-01-01  | 11657.47 | Richland    | CONGAREE RIVER                | HOPKINS     | SC | 29061 | RU  | AG       | RESIDENTIAL ACREAGE |
| 885 | SCREAMING EAGLE PARTNERSHIP &, & CLEVELAND SWAMP TIMBER CO INC | 40200-01-01  | 2548.15  | Richland    | WATEREE RIVER                 | EASTOVER    | SC | 29044 | RU  | AG       | SFR                 |
| 886 | FBSC LLC   | 13000-01-01  | 1904.95  | Richland    | BLUFF RD                      | COLUMBIA    | SC | 29209 | RU  | AG       | AGRICULTURAL LAND   |
| 887 | CONGAREE RIVER LLC   | 15700-01-01  | 3515.21  | Richland    | CONGAREE RIVER                | COLUMBIA    | SC | 29209 | RU  | AG       | SFR                 |
| 888 | FORT, JACKSON & MILITARY RESERVATION                           | 28400-01-01  | 51975.27 | Richland    | FORT JACKSON BLVD             | HOPKINS     | SC | 29061 | RU  | AG       | COMMERCIAL ACREAGE  |
| 889 | JAMES, LINDSAY GUY & JAMES, TRUST                              | 40300-01-01  | 2342.89  | Richland    | MCCORDS FERRY RD              | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 890 | RICHLAND COUNTY  | 21100-01-01  | 2401.19  | Richland    | CONGAREE RIVER                | HOPKINS     | SC | 29061 | RU  | AG       | SFR                 |
| 891 | MCENTIRE AIR, & NATIONAL GUARD BASE                            | 30500-01-01  | 2336.05  | Richland    | 890 SOUTH CAROLINA RD         | EASTOVER    | SC | 29044 | HI  | Ind      | COMMERCIAL ACREAGE  |
| 892 | PATTERSON, ELEANOR & DAVID, PAUL                               | 11297-01-01  | 2729.75  | Richland    | 1051 KEY RD #1                | GADSDEN     | SC | 29052 | GC  | Bus/Comm | CONDOMINIUM         |
| 893 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC                       | 37600-01-08  | 1919.47  | Richland    | MCCORDS FERRY RD              | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 894 | UNITED STATES OF AMERICA, & LAND RESOURCES DIVISION            | 40500-01-01  | 2190.61  | Richland    | TWO RIVERS RD                 | EASTOVER    | SC | 29044 | RU  | AG       | AGRICULTURAL LAND   |
| 895 | WEYERHAEUSER, COMAPNY  | 36300-01-02  | 2747.81  | Richland    | GRIFFINS CREEK RD             | EASTOVER    | SC | 29044 | RU  | AG       | SFR                 |
|     |  | R12500-02-06; R12500-03-01;<br>R12600-03-20; R12600-03-23;<br>R15000-01-01; R15000-02-27;<br>R15004-01-01; R15004-01-02;<br>R15005-01-01; R15006-01-01;<br>R15007-01-01; R15008-01-01;<br>R15100-01-04; R15100-01-06;<br>R15100-01-07; R15100-02-01;<br>R15100-03-01; R15100-03-02;<br>R15100-03-03; R15100-03-04;<br>R15100-03-05; R15100-03-06;<br>R15100-03-07; R15100-03-08;<br>R15101-01-01; R15101-01-02;<br>R15106-01-01. |          |             |                               |             |    |       |     |          |                     |
| 896 | BLYTHEWOOD INDUSTRIAL PARK                                     |  | 2097.06  | Richland    |                               | RICHLAND    | SC | 29016 | ID  | Ind      |                     |
| 897 | HOLMES LAND COMPANY INC  | 130-00-00-001  | 1372.72  | Saluda      |                               | SALUDA      | SC | 29138 |     |          | AGRICULTURAL (NEC)  |
| 898 | BREEDEN, DAN & WILEY FORK LEGACY LLC                           | 4-45-00-001.00   | 1445.55  | Spartanburg | GRACE CHAPEL RD               | ENOREE      | SC | 29335 |     |          | VACANT LAND (NEC)   |
| 899 | CROFT STATE PARK, & GAINES, PHIL                               | 7-24-00-069.00   | 1162.00  | Spartanburg | 501 GIBSON RD                 | SPARTANBURG | SC | 29302 |     |          | PUBLIC (NEC)        |
| 900 | GREENVILLE-SPARTANBURG AIRPORT DISTRICT                        | 5-23-00-008.00   | 1081.80  | Spartanburg | 1850 GSP DR                   | GREER       | SC | 29651 |     |          | PUBLIC (NEC)        |
| 901 | CAMP CROFT STATE PARK, & BROWN BLDG STATE PARK                 | 3-31-00-001.00   | 2688.94  | Spartanburg | 1630 WHITESTONE RD            | SPARTANBURG | SC | 29302 |     |          | PUBLIC (NEC)        |
| 902 | CATCHMARK SC TIMBERLANDS LLC                                   | 036-90-01-003  | 1420.02  | Sumter      | HWY 378                       | REMBERT     | SC | 29128 |     |          | FOREST              |
| 903 | CONGAREE CARTON LIMITED PART                                   | 041-90-01-001  | 1154.34  | Sumter      | WATEREE SWAMP                 | WEDGEFIELD  | SC | 29168 |     |          | FOREST              |
| 904 | SC FORESTRY COMMISSION   | 106-90-02-001  | 1042.96  | Sumter      | 7995 MILFORD PLANTATION RD(79 | WEDGEFIELD  | SC | 29168 |     |          | FOREST              |
| 905 | CAROLINA WEDGEWOOD LLC   | 098-90-01-005  | 1187.12  | Sumter      | 1900 HWY 261 SOUTH            | WEDGEFIELD  | SC | 29168 |     |          | RESIDENTIAL (NEC)   |
| 906 | GARNAY INC   | 200-00-02-002  | 1360.60  | Sumter      | 3205 EBENEZER RD              | SUMTER      | SC | 29153 |     |          | AGRICULTURAL (NEC)  |
| 907 | SC FORESTRY COMMISSION   | 103-90-01-001  | 1010.91  | Sumter      | POINSETT STATE PARK           | PINEWOOD    | SC | 29125 |     |          | COMMERCIAL (NEC)    |

|     |  |                   |          |              |                                 |              |    |       |                    |
|-----|--|-------------------|----------|--------------|---------------------------------|--------------|----|-------|--------------------|
| 908 | CONGAREE CARTON  | 041-90-02-001     | 1382.06  | Sumter       | WATEREE SWAMP                   | PINEWOOD     | SC | 29125 | FOREST             |
| 909 | UNITED STATES OF AMERICA THE                             | 164-00-01-038     | 1399.97  | Sumter       | MANCHESTER STATE FOREST         | SUMTER       | SC | 29154 | STATE PROPERTY     |
| 910 | HARVIN FAMILY LIMITED PARTNERS                           | 179-00-01-002     | 1013.30  | Sumter       | PINEWOOD RD                     | SUMTER       | SC | 29154 | AGRICULTURAL (NEC) |
| 911 | BLACK RIVER C-T FARMS A LIMITE PARTNERSHIP               | 340-00-01-001     | 1265.70  | Sumter       | 4620 MT SINAI CHURCH RD-770 TRI | LYNCHBURG    | SC | 29080 | AGRICULTURAL (NEC) |
| 912 | SC FORESTRY COMMISSION                                   | 106-90-02-001     | 1374.73  | Sumter       | 7995 MILFORD PLANTATION RD(79   | PINEWOOD     | SC | 29125 | FOREST             |
| 913 | SC DEPT OF PARKS RECREATION                              | 370-00-01-005     | 1049.08  | Sumter       | WOODS MILL BAY                  | LYNCHBURG    | SC | 29080 | FOREST             |
| 914 | STREET ENTERPRISES LLC                                   | 031-90-01-001     | 1081.93  | Sumter       | STATEBURG TWNS                  | REMBERT      | SC | 29128 | RESIDENTIAL (NEC)  |
| 915 | BEECH CREEK TIMBER COMPANY LLC                           | 038-90-01-001     | 3343.84  | Sumter       | WATEREE RIVER                   | WEDGEFIELD   | SC | 29168 | RESIDENTIAL (NEC)  |
| 916 | UNITED STATES OF AMERICA THE                             | 102-00-03-014     | 10265.17 | Sumter       | HWY 261 S & BELLES MILL CIR     | SUMTER       | SC | 29154 | FEDERAL PROPERTY   |
| 917 | SOUTH CAROLINA FORESTRY COMM                             | 098-90-02-002     | 2060.51  | Sumter       | HWY 261                         | WEDGEFIELD   | SC | 29168 | AGRICULTURAL (NEC) |
| 918 | SC FORESTRY COMMISSION                                   | 106-90-02-001     | 1796.15  | Sumter       | 7995 MILFORD PLANTATION RD(79   | PINEWOOD     | SC | 29125 | FOREST             |
| 919 | UNITED STATES OF AMERICA THE                             | 132-00-03-009     | 1604.79  | Sumter       | SHAW AFB                        | SHAW AFB     | SC | 29152 | COMMERCIAL (NEC)   |
| 920 | FBSC LLC   | 043-90-01-003     | 3295.13  | Sumter       | MANCHESTER TWNS                 | PINEWOOD     | SC | 29125 | FOREST             |
| 921 | SC PUBLIC SERVICE AUTHORITY                              | 048-90-01-001     | 16790.05 | Sumter       | MANCHESTER TWNS                 | PINEWOOD     | SC | 29125 | COMMERCIAL (NEC)   |
| 922 | SUMTER WATEREE CLUB INC                                  | 046-90-01-001     | 3934.34  | Sumter       | 8050 BIGLAKE LANDING            | PINEWOOD     | SC | 29125 | MARSHLAND          |
| 923 | MILFORD LLC  | 106-90-01-003     | 3351.38  | Sumter       | MILFORD PLANTATION RD           | PINEWOOD     | SC | 29125 | AGRICULTURAL (NEC) |
| 924 | SANTEE RIVER LLC   | 041-90-02-002     | 3304.91  | Sumter       | MANCHESTER TWNS                 | PINEWOOD     | SC | 29125 | FOREST             |
| 925 | STATE OF SOUTH CAROLINA THE, & WATEREE CORRECETIONAL CTR | 028-90-01-001     | 5643.35  | Sumter       | 8200 STATE FARM ROAD            | REMBERT      | SC | 29128 | AGRICULTURAL (NEC) |
| 926 | SOUTH CAROLINA STATE COMM OF F                           | 043-90-01-002     | 3663.87  | Sumter       | MANCHESTER TWNS                 | PINEWOOD     | SC | 29125 | FOREST             |
| 927 | FORT FORESTRY LLC  | 033-90-01-003     | 2724.37  | Sumter       | WATEREE RD                      | REMBERT      | SC | 29128 | FOREST             |
| 928 | CONGAREE CARTON LTD                                      | 038-90-01-005     | 2680.98  | Sumter       | MANCHESTER TWNS                 | WEDGEFIELD   | SC | 29168 | FOREST             |
| 929 | ANDERSON FAMILY LIMITED PARTNE                           | 096-90-01-003     | 2688.27  | Sumter       | 745 DIMU LN                     | WEDGEFIELD   | SC | 29168 | COMMERCIAL (NEC)   |
| 930 | SOUTH CAROLINA FORESTRY COMM ISSION                      | 160-00-01-001     | 1530.56  | Sumter       | 1705 S ST PAULS CHURCH RD       | SUMTER       | SC | 29154 | AGRICULTURAL (NEC) |
| 931 | WEYERHAEUSER COMPANY                                     | 062-00-00-001-000 | 1460.81  | Union        |                                 | BUFFALO      | SC | 29321 | INDUSTRIAL ACREAGE |
| 932 | ARROWHEAD FARMS LLC                                      | 133-00-00-001-000 | 1095.80  | Union        |                                 | UNION        | SC | 29379 | AGRICULTURAL LAND  |
| 933 | US FOREST SERVICE  | 163-00-00-001-000 | 1001.78  | Union        |                                 | CARLISLE     | SC | 29031 | TAX EXEMPT         |
| 934 | WILEY FORK LEGACY LLC                                    | 079-00-00-001-000 | 1251.22  | Union        |                                 | BUFFALO      | SC | 29321 | AGRICULTURAL LAND  |
| 935 | US FOREST SERVICE  | 126-00-00-001-000 | 1005.35  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 936 | FAIRFOREST TIMBER LLC                                    | 025-00-00-001-000 | 1655.90  | Union        |                                 | JONESVILLE   | SC | 29353 | AGRICULTURAL LAND  |
| 937 | US FOREST SERVICE  | 162-00-00-001-000 | 2248.25  | Union        |                                 | WHITMIRE     | SC | 29178 | TAX EXEMPT         |
| 938 | US FOREST SERVICE  | 151-00-00-016-000 | 1680.61  | Union        | 860 HERBERT ROAD                | CARLISLE     | SC | 29031 | TAX EXEMPT         |
| 939 | US FOREST SERVICE  | 145-00-00-003-000 | 5099.65  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 940 | US FOREST SERVICE  | 126-00-00-001-000 | 6076.18  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 941 | US FOREST SERVICE  | 108-00-00-007-000 | 1513.54  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 942 | WILEY FORK LEGACY LLC                                    | 079-00-00-002-000 | 2338.45  | Union        | 368 TYGER RANCH ROAD            | BUFFALO      | SC | 29321 | SUPERMARKET        |
| 943 | US FOREST SERVICE  | 163-00-00-001-000 | 2829.29  | Union        |                                 | WHITMIRE     | SC | 29178 | TAX EXEMPT         |
| 944 | US FOREST SERVICE  | 123-00-00-001-000 | 2971.59  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 945 | US FOREST SERVICE  | 108-00-00-007-000 | 1782.95  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 946 | US FOREST SERVICE  | 126-00-00-001-000 | 1699.45  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 947 | US FOREST SERVICE  | 163-00-00-001-000 | 3241.19  | Union        |                                 | CARLISLE     | SC | 29031 | TAX EXEMPT         |
| 948 | US FOREST SERVICE  | 126-00-00-001-000 | 5816.32  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 949 | US FOREST SERVICE  | 126-00-00-001-000 | 3127.79  | Union        |                                 | UNION        | SC | 29379 | TAX EXEMPT         |
| 950 | EVERGREEN TIMBERCO SC LLC                                | 45-313-001        | 1309.31  | Williamsburg |                                 | ANDREWS      | SC | 29510 | AGRICULTURAL (NEC) |
| 951 | KEYSTONE FOREST INVESTMENT LLC                           | 45-309-003        | 1330.60  | Williamsburg |                                 | ANDREWS      | SC | 29510 | AGRICULTURAL (NEC) |
| 952 | KNOLLWOOD INC  | 45-163-001        | 1206.17  | Williamsburg |                                 | LANE         | SC | 29564 | AGRICULTURAL (NEC) |
| 953 | TAMARACK TIMBERCO SC LLC                                 | 45-396-001        | 1337.51  | Williamsburg |                                 | NESMITH      | SC | 29580 | AGRICULTURAL (NEC) |
| 954 | IRI FOREST INVESTMENTS LLC                               | 45-046-003        | 1189.79  | Williamsburg | COMPANY RD                      | GREELEYVILLE | SC | 29056 | AGRICULTURAL (NEC) |
| 955 | KNOLLWOOD INC  | 45-039-001        | 1339.63  | Williamsburg |                                 | GREELEYVILLE | SC | 29056 | AGRICULTURAL (NEC) |
| 956 | TAMARACK TIMBERCO SC LLC                                 | 45-396-001        | 1487.52  | Williamsburg |                                 | NESMITH      | SC | 29580 | AGRICULTURAL (NEC) |
| 957 | STATE OF SC  | 45-204-001        | 1245.95  | Williamsburg |                                 | SALTERS      | SC | 29590 | AGRICULTURAL (NEC) |
| 958 | SPP HOBCAW LLC   | 45-348-002        | 1061.64  | Williamsburg |                                 | NESMITH      | SC | 29580 | AGRICULTURAL (NEC) |
| 959 | GOURDIN, W B   | 45-019-007        | 1363.71  | Williamsburg | US HWY 521                      | GREELEYVILLE | SC | 29056 | AGRICULTURAL (NEC) |
| 960 | ESSEX FARMS LLC  | 45-287-001        | 1118.30  | Williamsburg |                                 | ANDREWS      | SC | 29510 | AGRICULTURAL (NEC) |
| 961 | CREECH FAMILY LTD PTRNSHP                                | 45-305-019        | 1128.64  | Williamsburg | 380 RANSOM RD                   | KINGSTREE    | SC | 29556 | AGRICULTURAL (NEC) |
| 962 | CINAB INC  | 45-130-027        | 1195.85  | Williamsburg | 6286 S WILLIAMSBURG COUNTY H    | KINGSTREE    | SC | 29556 | AGRICULTURAL (NEC) |
| 963 | TAMARACK TIMBERCO SC LLC                                 | 45-396-001        | 1080.59  | Williamsburg |                                 | ANDREWS      | SC | 29510 | AGRICULTURAL (NEC) |
| 964 | SANTEE RIVER LLC   | 45-006-001        | 1710.86  | Williamsburg | TABLESPOON LN                   | GREELEYVILLE | SC | 29056 | AGRICULTURAL (NEC) |
| 965 | SOUTH CAROLINA, & STATE COMMISSION OF FORESTRY           | 45-213-001        | 11481.97 | Williamsburg |                                 | ANDREWS      | SC | 29510 | STATE PROPERTY     |
| 966 | TAMARACK TIMBERCO SC LLC                                 | 45-058-001        | 1612.45  | Williamsburg | CADE RD                         | NEW ZION     | SC | 29111 | AGRICULTURAL (NEC) |
| 967 | MCLEOD LUMBER CO INC                                     | 45-115-002        | 7534.55  | Williamsburg | SPEARMAN RD                     | LANE         | SC | 29564 | AGRICULTURAL (NEC) |
| 968 | KNOLLWOOD INC  | 45-039-001        | 1586.37  | Williamsburg |                                 | LANE         | SC | 29564 | AGRICULTURAL (NEC) |
| 969 | SANTEE RIVER LLC   | 45-007-014        | 5244.00  | Williamsburg | S WILLIAMSBURG COUNTY HWY       | GREELEYVILLE | SC | 29056 | AGRICULTURAL (NEC) |
| 970 | JAMESTOWN TIMBER 1                                       | 45-329-001        | 8784.86  | Williamsburg |                                 | NESMITH      | SC | 29580 | AGRICULTURAL (NEC) |




|     |                                       |               |         |              |                         |               |    |       |     |     |  |                    |
|-----|---------------------------------------|---------------|---------|--------------|-------------------------|---------------|----|-------|-----|-----|--|--------------------|
| 971 | IRI FOREST INVESTMENTS LLC            | 45-446-003    | 3536.69 | Williamsburg |                         | ANDREWS       | SC | 29510 |     |     |  | AGRICULTURAL (NEC) |
| 972 | VENTURE PLANTATION LLC                | 45-185-001    | 2245.55 | Williamsburg |                         | LANE          | SC | 29564 |     |     |  | AGRICULTURAL (NEC) |
| 973 | KNOLLWOOD INC                         | 45-023-001    | 2418.40 | Williamsburg | MACKEY RD               | GREELEYVILLE  | SC | 29056 |     |     |  | AGRICULTURAL (NEC) |
| 974 | KNOLLWOOD INC                         | 45-072-001    | 1624.04 | Williamsburg | 1408 GOURDIN RD         | LANE          | SC | 29564 |     |     |  | AGRICULTURAL (NEC) |
| 975 | TAMARACK TIMBERCO SC LLC              | 45-481-002    | 3532.97 | Williamsburg |                         | HEMINGWAY     | SC | 29554 |     |     |  | AGRICULTURAL (NEC) |
| 976 | RED MOUNTAIN TIMBER CO III LLC        | 45-113-001    | 2333.64 | Williamsburg | SEABOARD RD             | LANE          | SC | 29564 |     |     |  | AGRICULTURAL (NEC) |
| 977 | SHADES MOUNTAIN TIMBERCO SC           | 45-339-001    | 3230.79 | Williamsburg |                         | ANDREWS       | SC | 29510 |     |     |  | AGRICULTURAL (NEC) |
| 978 | TAMARACK TIMBERCO SC LLC              | 45-397-001    | 1991.48 | Williamsburg |                         | NESMITH       | SC | 29580 |     |     |  | AGRICULTURAL (NEC) |
| 979 | KEYSTONE FOREST INVESTMENT LLC        | 45-196-001    | 1709.15 | Williamsburg |                         | LAKE CITY     | SC | 29560 |     |     |  | AGRICULTURAL (NEC) |
| 980 | SCOTSWOOD LLC                         | 45-209-001    | 2667.31 | Williamsburg | 309 SCOTSWOOD RD        | SALTERS       | SC | 29590 |     |     |  | RESIDENTIAL (NEC)  |
| 981 | BROWN, HERBERT M                      | 45-324-002    | 1838.38 | Williamsburg |                         | NESMITH       | SC | 29580 |     |     |  | RESIDENTIAL (NEC)  |
| 982 | FBSC LLC                              | 45-210-002    | 1582.90 | Williamsburg |                         | SALTERS       | SC | 29590 |     |     |  | AGRICULTURAL (NEC) |
| 983 | TAMARACK TIMBERCO SC LLC              | 45-396-001    | 2411.97 | Williamsburg |                         | ANDREWS       | SC | 29510 |     |     |  | AGRICULTURAL (NEC) |
| 984 | TAMARACK TIMBERCO SC LLC              | 45-260-001    | 1669.05 | Williamsburg |                         | SALTERS       | SC | 29590 |     |     |  | AGRICULTURAL (NEC) |
| 985 | IRI FOREST INVESTMENTS LLC            | 45-046-003    | 2108.65 | Williamsburg | COMPANY RD              | GREELEYVILLE  | SC | 29056 |     |     |  | AGRICULTURAL (NEC) |
| 986 | TAMARACK TIMBERCO SC LLC              | 45-396-001    | 5522.72 | Williamsburg |                         | NESMITH       | SC | 29580 |     |     |  | AGRICULTURAL (NEC) |
| 987 | OAK MOUNTAIN TIMBERCO SC LLC          | 45-312-003    | 2023.74 | Williamsburg |                         | ANDREWS       | SC | 29510 |     |     |  | AGRICULTURAL (NEC) |
| 988 | PATRIOTS PLANTATION II LLC            | 45-503-001    | 1523.95 | Williamsburg | 700 MUDDY CREEK RD      | JOHNSONVILLE  | SC | 29555 |     |     |  | AGRICULTURAL (NEC) |
| 989 | FLYING KING RANCH LLC                 | 208-00-00-001 | 1191.26 | York         | 2233 OLD PINCKNEY RD    | YORK          | SC | 29745 | RUD | PUD |  | FARMS              |
| 990 | YORK COUNTY                           | 016-00-00-001 | 1335.62 | York         | 2165 DALTONS LANDING RD | HICKORY GROVE | SC | 29717 | AGC | AG  |  | VACANT LAND (NEC)  |
| 991 | FLYING KING RANCH LLC                 | 298-00-00-001 | 1333.91 | York         | 1546 CHESTER HWY        | YORK          | SC | 29745 | AGC | AG  |  | SFR                |
| 992 | SC DEPT OF PARKS RECREATION & TOURSIM | 782-00-00-110 | 8456.33 | York         | 2240 CAMP YORK          | CLOVER        | SC | 29710 | AGC | AG  |  | TAX EXEMPT         |
| 993 | BINGHAM PROPERITES LLC                | 026-00-00-001 | 1761.20 | York         |                         | SHARON        | SC | 29742 | AGC | AG  |  | FARMS              |
| 994 | TRES TIMBER LLC                       | 127-00-00-003 | 2103.61 | York         |                         | SHARON        | SC | 29742 | AGC | AG  |  | FARMS              |


**Exhibit E to  
Project Connect  
Revised Alternatives Analysis  
(AOI Properties; 1,000 acres; w/in 1 Mile of  
Interstate)**

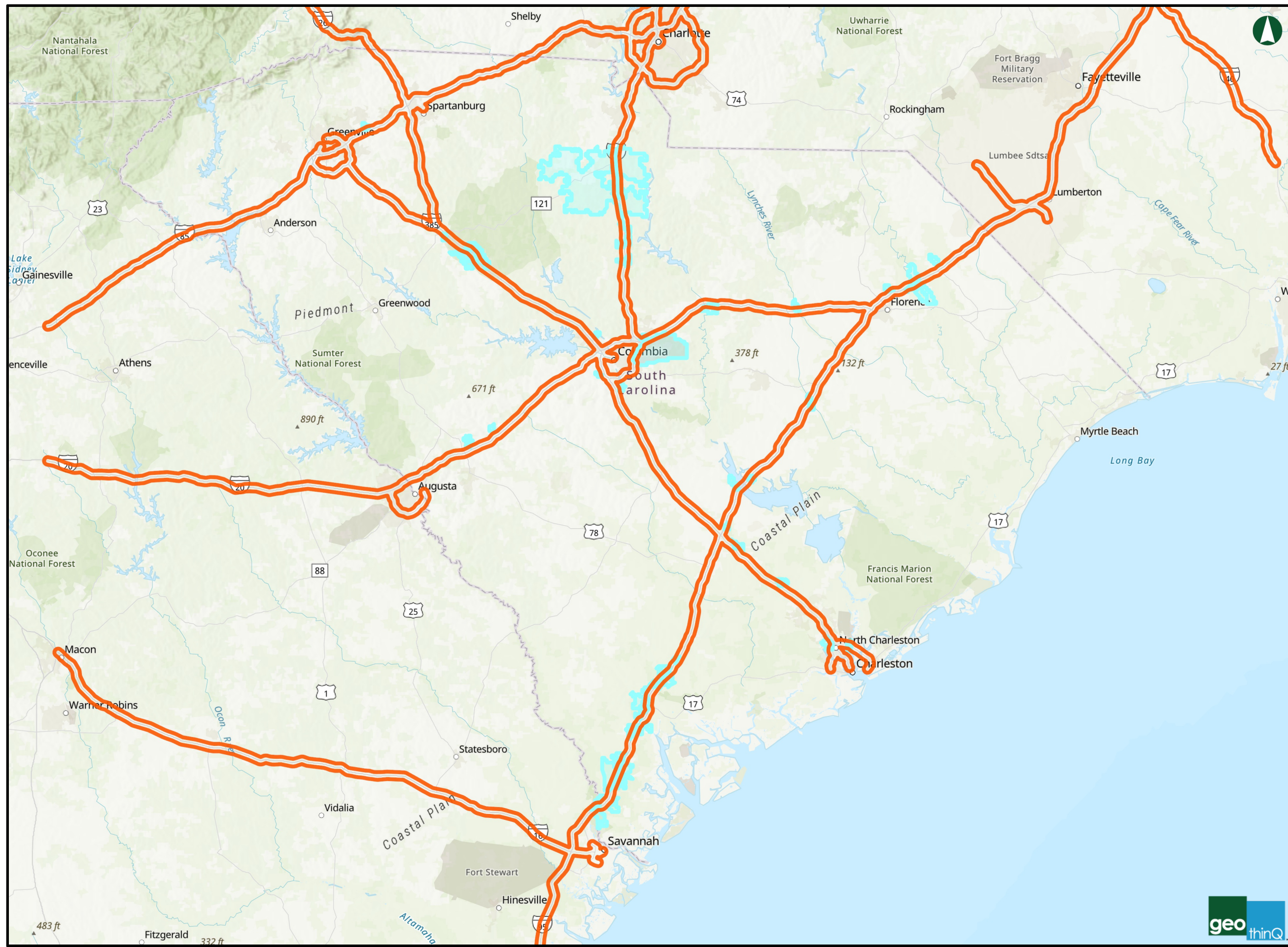
Applicant:  
South Carolina Department of Commerce  
Richland County

### Exhibit B

1,000 Acres and Greater Parcels within 1 Mile of Interstate  
05/04/2023

 1,000 acre and greater parcels within 1 mile of interstate

 1 mile interstate buffer





|    | Owner Name  | Parcel Number   | Calculated Acres | County     | Address                             | City             | State | Zip Code | Zoning Code | Zoning Type | Land Use           |
|----|---|---|------------------|------------|-------------------------------------|------------------|-------|----------|-------------|-------------|--------------------|
| 1  | THURMOND, JAMES S & THURMOND, HEATHER H           | 165-00-01-003   | 1227.38          | Aiken      | KEDRON CH. RD & KEYS POND           | RIDGE SPRING     | SC    | 29129    |             |             | AGRICULTURAL (NEC) |
| 2  | CITY OF AIKEN                                     | 100-00-03-001   | 2496.16          | Aiken      | MASON BRANCH RD                     | AIKEN            | SC    | 29805    |             |             | AGRICULTURAL (NEC) |
| 3  | NAHH LLC  | 022-17-01-001   | 1084.69          | Aiken      | 1677 ASCAUGA LAKE RD                | NORTH AUGUSTA    | SC    | 29841    |             |             | AGRICULTURAL (NEC) |
| 4  | ANDERSON LAKE                                     | 1700007005; 1950001003; 1950010009  | 1259.00          | Anderson   | HAMPTON ROAD                        | WILLIAMSTON      | SC    | 29697    |             |             |                    |
| 5  | BERKELEY COUNTY                                   | 176-00-01-001   | 1591.33          | Berkeley   | 1801 VOLVO CAR DR                   | RIDGEVILLE       | SC    | 29472    | PD-OP/IP    | PUD         | COMMERCIAL (NEC)   |
| 6  | SC STATE PORTS AUTHORITY                          | 271-00-01-057   | 1878.94          | Berkeley   |                                     | CHARLESTON       | SC    | 29492    | R-2         |             | TAX EXEMPT         |
| 7  | CAMP HALL INDUSTRIAL OWNER LLC                    | 157-00-00-003   | 2936.38          | Berkeley   | 464 AUTONOMOUS DR                   | RIDGEVILLE       | SC    | 29472    | PD-OP/IP    | PUD         | TAX EXEMPT         |
| 8  | CHARLESTON COUNTY AIRPORT DISTRICT                | 400-00-00-007   | 1177.93          | Charleston | 5400 INTERNATIONAL BLVD             | NORTH CHARLESTON | SC    | 29418    | M-1         | Ind         | WASTE LAND         |
| 9  | UNITED STATES OF AMERICA                          | 400-00-00-006   | 2903.83          | Charleston | 6390 DORCHESTER RD                  | NORTH CHARLESTON | SC    | 29418    | M-1         | Ind         | WASTE LAND         |
| 10 | WEST 77 LLC                                       | 118-00-00-045-000   | 2133.05          | Chester    |                                     | RICHBURG         | SC    | 29729    | EDD         | Misc        | AGRICULTURAL (NEC) |
| 11 | ST MICHAELS LLC                                   | 127-00-00-108-000   | 1730.51          | Chester    |                                     | RICHBURG         | SC    | 29729    | EDD         | Misc        | AGRICULTURAL (NEC) |
| 12 | OLD PINES LLC                                     | 138-00-00-001-000   | 1007.61          | Chester    |                                     | RICHBURG         | SC    | 29729    | EDD         | Res         | AGRICULTURAL (NEC) |
| 13 | SCP CATAWBA LLC                                   | 117-00-00-006-000   | 1900.85          | Chester    |                                     | RICHBURG         | SC    | 29729    | EDD         | Misc        | RESIDENTIAL (NEC)  |
| 14 | JAB I-77 SITE WEST                                | 113-00-00-017-000; 113-00-00-044-000  | 1023.00          | Chester    | DULAP RODDEY ROAD                   | EDGEMOORE        | SC    | 29712    | ID-1        | Ind         |                    |
| 15 | JUSTICE, JAMES C                                  | 230-00-01-001-00  | 1496.24          | Clarendon  | 10988 HWY 301                       | ALCOLU           | SC    | 29001    |             |             | AGRICULTURAL (NEC) |
| 16 | DEER & DUCK LLC                                   | 061-00-00-001-00  | 1022.69          | Clarendon  | 3467 OAKS RD                        | SUMMERTON        | SC    | 29148    |             |             | AGRICULTURAL (NEC) |
| 17 | S C DEPT TRANSPORTATION                           | 229-00-01-001-00  | 1642.62          | Clarendon  |                                     | GABLE            | SC    | 29051    |             |             | STATE PROPERTY     |
| 18 | WEYERHAEUSER COMPANY                              | 206-00-00-010   | 1151.11          | Colleton   | KATIE BRIDGE DR                     | WALTERBORO       | SC    | 29488    | RD          | Mixed       | AGRICULTURAL LAND  |
| 19 | ELGERBAR CORP                                     | 231-00-00-010   | 2273.59          | Colleton   | 4043 BLACK CREEK ROAD               | YEMASSEE         | SC    | 29945    | RD          | Mixed       | RESIDENTIAL (NEC)  |
| 20 | COLLUMS TIMBER INVESTMENTS LLC A SOU              | 266-00-00-002   | 1135.90          | Colleton   |                                     | YEMASSEE         | SC    | 29945    | RD          | Mixed       | RESIDENTIAL (NEC)  |
| 21 | ELGERBAR CORP                                     | 231-00-00-010   | 2327.69          | Colleton   | 4043 BLACK CREEK ROAD               | YEMASSEE         | SC    | 29945    | RD          | Mixed       | RESIDENTIAL (NEC)  |
| 22 | FPI PROPERTIES LLC                                | 064-00-00-007   | 2802.60          | Dillon     |                                     | LATTA            | SC    | 29565    |             |             | AGRICULTURAL (NEC) |
| 23 | CAROLINAS I-95 SUPER PARK                         | 080-00-00-092; 068-00-00-042; 058-00-00-024; 058-00-00-021; 068-00-00-030; 058-00-00-019; 058-00-00-018; 068-00-00-015; 058-00-00-006; 058-00-00-004; 067-00-00-012; 058-00-00-001; 067-00-00-009; 068-00-00-007; 068-00-00-006; 080-00-00-017; 080-00-00-016; 068-00-00-002; 068-00-00-001 | 1130.00          | Dillon     |                                     | DILLON           | SC    | 29536    | RURAL       |             |                    |
| 24 | NATIONAL AUDUBON SOCIETY INC                      | 009-00-00-008-000   | 1540.70          | Dorchester | INTERSTATE 26 W                     | HOLLY HILL       | SC    | 29059    |             |             | VACANT LAND (NEC)  |
| 25 | CATCHMARK SOUTH CAROLINA TIMBERLANDS LLC          | 074-00-00-017-000   | 1360.60          | Fairfield  | HWY 200 AT BEAVER DAM FORK BRIDGE   | WINNSBORO        | SC    | 29180    | RD          | Misc        | AGRICULTURAL (NEC) |
| 26 | MULLIS, J W                                       | 075-00-00-005-000   | 1632.26          | Fairfield  | FRAZIER-BARBER PITTMAN GLADDEN TRAC | WINNSBORO        | SC    | 29180    | I-1         | Ind         | AGRICULTURAL (NEC) |
| 27 | SAMSON WOODS LLC &, & MCMASTER FAMILY PARTNERSHIP | 041-00-00-032-000   | 1145.35          | Fairfield  | HOGFORK TRACT                       | WINNSBORO        | SC    | 29180    | I-1         | Ind         | FOREST             |
| 28 | AL VIRGINIA LEE LLC                               | 040-00-00-002-000   | 1210.69          | Fairfield  | BETWEEN I-77 & HWY 901              | BLACKSTOCK       | SC    | 29014    | RD          | Misc        | FOREST             |
| 29 | WEYERHAEUSER COMPANY                              | 110-00-00-004-000   | 1425.42          | Fairfield  | 14 TRACTS                           | WINNSBORO        | SC    | 29180    | I1          | Ind         | AGRICULTURAL (NEC) |
| 30 | WEYERHAEUSER COMPANY                              | 110-00-00-004-000   | 2164.07          | Fairfield  | 14 TRACTS                           | WINNSBORO        | SC    | 29180    | I1          | Ind         | AGRICULTURAL (NEC) |
| 31 | I-77 INTERNATIONAL MEGASITE                       | 148-00-00-013-000   | 1544.00          | Fairfield  | VALENCIA ROAD                       | RIDGEWAY         | SC    | 29130    | ID          | Ind         |                    |
| 32 | SONOCO PRODUCTS CO                                | 00301-01-001  | 6654.98          | Florence   | OFF ST HWY 24                       | FLORENCE         | SC    | 29506    |             |             | FARMS              |
| 33 | SOUTHERN DIVERSIFIED LLC                          | 00303-01-001  | 3922.31          | Florence   | ST HWY 24                           | FLORENCE         | SC    | 29506    |             |             | AGRICULTURAL (NEC) |
| 34 | INGRAM CHARLES LUMBER CO INC                      | 00270-01-001  | 1658.79          | Florence   | 3000 RESTVIEW RD                    | FLORENCE         | SC    | 29506    |             |             | FARMS              |
| 35 | ANGEL TRACT LLC                                   | 188-00-00-030   | 1571.48          | Hampton    | YEMASSEE                            | YEMASSEE         | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 36 | YEMASSEE TIMBER LLC                               | 191-00-00-002   | 1971.23          | Hampton    | POCOTALIGO                          | YEMASSEE         | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 37 | CHILTON TIMBER & LAND CO LLC                      | 191-00-00-001   | 7551.84          | Hampton    |                                     | YEMASSEE         | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 38 | JEPSON, ROBERT S & JEPSON, ALICE A                | 087-00-09-022   | 2200.49          | Jasper     | 1415 GREGORIE NECK RD               | YEMASSEE         | SC    | 29945    | RA          | Res         | SFR                |
| 39 | OKEETEE CLUB                                      | 023-00-02-020; 027-00-02-034; 045-00-01-035   | 39059.00         | Jasper     | BJWSA PLAT 26/249 159 835 OUT       | HARDEEVILLE      | SC    | 29927    | RA          | Res         | AGRICULTURAL (NEC) |

|    |  |   |          |             |                           |               |    |       |      |          |                    |
|----|--|---|----------|-------------|---------------------------|---------------|----|-------|------|----------|--------------------|
| 40 | BLACK, MARTHA C                            | 088-00-01-001   | 1417.69  | Jasper      |                           | YEMASSEE      | SC | 29945 | RA   | Res      | AGRICULTURAL (NEC) |
| 41 | CRIMSON INDEPENDENCE LLC                   | 066-00-00-004   | 1495.69  | Jasper      |                           | HARDEEVILLE   | SC | 29927 | PDD  | PUD      | AGRICULTURAL (NEC) |
| 42 | UNITED STATES OF AMERICA                   | 033-00-00-001   | 5369.71  | Jasper      | 765 ALLIGATOR ALLEY       | HARDEEVILLE   | SC | 29927 | RA   | Res      | PUBLIC (NEC)       |
| 43 | C & S NATIONAL BANK                        | 087-00-03-002   | 1092.04  | Jasper      |                           | RIDGELAND     | SC | 29936 | RA   | Res      | AGRICULTURAL (NEC) |
| 44 | CYPRESS WOODS CORP                         | 048-00-01-001; 048-00-03-019  | 4630.51  | Jasper      | 4190 LOG HAUL RD          | RIDGELAND     | SC | 29936 | RA   | Res      | SFR                |
| 45 | MAURENE PLANTATION LLC                     | 040-00-02-050   | 2668.57  | Jasper      | 2258 PLANTATION DR        | HARDEEVILLE   | SC | 29927 | RA   | Res      | SFR                |
| 46 | MFM RESIDENTIAL PROPERTIES LLC             | 041-00-04-060   | 1333.87  | Jasper      |                           | HARDEEVILLE   | SC | 29927 | PDD  | PUD      | AGRICULTURAL (NEC) |
| 47 | CLARK, JOCELYN & CLARK, ANDREA W TRUST     | 086-00-01-002   | 1226.35  | Jasper      | 506 SPRING HILL RD        | RIDGELAND     | SC | 29936 | RA   | Res      | AGRICULTURAL (NEC) |
| 48 | WA HOLDINGS SOUTH, LLC                     | 042-00-06-045   | 2629.85  | Jasper      |                           | HARDEEVILLE   | SC | 29927 | PDD  | PUD      | AGRICULTURAL (NEC) |
| 49 | SHERWOOD TRACT                             | 030-00-01-007; 031-00-00-017;<br>030-00-01-019; 030-00-01-020;<br>030-00-01-021; 030-00-01-022  | 1437.00  | Jasper      | US HIGHWAY 17             | HARDEEVILLE   | SC | 29927 | PDD  | Ind      | AGRICULTURAL (NEC) |
| 50 | MULBERRY PLANTATION INC                    | 327-00-00-001   | 1036.67  | Kershaw     | 559 SUMTER HIGH WAY       | CAMDEN        | SC | 29020 | RD-1 | Misc     | AGRICULTURAL (NEC) |
| 51 | MULBERRY PLANTATION INC                    | 327-00-00-001   | 2828.25  | Kershaw     | 559 SUMTER HIGH WAY       | REMBERT       | SC | 29128 | RD-1 | Misc     | AGRICULTURAL (NEC) |
| 52 | TYGER OAK INC                              | 745-00-00-009   | 1907.53  | Laurens     |                           | KINARDS       | SC | 29355 |      |          | AGRICULTURAL PLANT |
| 53 | LEE STATE PARK                             | 038-00-00-011-000   | 2360.17  | Lee         |                           | BISHOPVILLE   | SC | 29010 |      |          | TAX EXEMPT         |
| 54 | RICHLAND-LEXINGTON AIRPORT DIS             | 006797-01-006   | 1042.47  | Lexington   | AVIATION WAY              | WEST COLUMBIA | SC | 29170 | ID   | Mixed    | AIRPORT            |
| 55 | WATEREE HOLDINGS LLC                       | 075-01-01-002   | 5393.44  | Marlboro    | ROGERS LAKE LN            | BLENHEIM      | SC | 29516 |      |          | AGRICULTURAL (NEC) |
| 56 | SC DEPARTMENT OF PARKS<br>/RECREATION/T    | 0306-00-01-001.000  | 2640.36  | Orangeburg  | OFF HWY 6/S-38-105        | SANTEE        | SC | 29142 |      |          | COUNTY PROPERTY    |
| 57 | NATIONAL AUDUBON SOCIETY                   | 0316-00-00-005.000  | 1292.33  | Orangeburg  | NEAR DORCHESTER CNTY LINE | HOLLY HILL    | SC | 29059 |      |          | COUNTY PROPERTY    |
| 58 | SHULER, H E                                | 0297-00-03-008.000  | 1290.24  | Orangeburg  |                           | HOLLY HILL    | SC | 29059 |      |          | FOREST             |
| 59 | S C STATE COMM OF FORESTRY                 | 05000-02-15   | 1230.20  | Richland    | BROAD RIVER RD            | COLUMBIA      | SC | 29212 | C-1  | Bus/Comm | COMMERCIAL ACREAGE |
| 60 | SC DEPT OF PARKS RECREATION &<br>TOURISM   | 19900-01-03   | 1390.90  | Richland    | 800 POLO RD               | COLUMBIA      | SC | 29223 | GC   | Bus/Comm | COMMERCIAL (NEC)   |
| 61 | FORT, JACKSON & MILITARY RESERVATION       | 28400-01-01   | 51975.27 | Richland    | FORT JACKSON BLVD         | HOPKINS       | SC | 29061 | RU   | AG       | COMMERCIAL ACREAGE |
| 62 | BECKHAM SWAMP LLC                          | 10700-01-01<br>R12500-02-06; R12500-03-01;<br>R12600-03-20; R12600-03-23;<br>R15000-01-01; R15000-02-27;<br>R15004-01-01; R15004-01-02;<br>R15005-01-01; R15006-01-01;<br>R15007-01-01; R15008-01-01;<br>R15100-01-04; R15100-01-06;<br>R15100-01-07; R15100-02-01;<br>R15100-03-01; R15100-03-02;<br>R15100-03-03; R15100-03-04;<br>R15100-03-05; R15100-03-06;<br>R15100-03-07; R15100-03-08;<br>R15101-01-01; R15101-01-02;<br>R15106-01-01. | 1252.26  | Richland    | BLUFF RD                  | COLUMBIA      | SC | 29209 | RU   | AG       | SFR                |
| 63 | BLYTHEWOOD INDUSTRIAL PARK                 |   | 2097.06  | Richland    |                           | RICHLAND      | SC | 29016 | ID   | Ind      |                    |
| 64 | GREENVILLE-SPARTANBURG AIRPORT<br>DISTRICT | 5-23-00-008.00  | 1081.80  | Spartanburg | 1850 GSP DR               | GREER         | SC | 29651 |      |          | PUBLIC (NEC)       |




**Exhibit F to**  
**Project Connect**  
**Revised Alternatives Analysis**  
**(AOI Properties; 1,000 acres; w/in 1 Mile of**  
**Interstate; Onsite or Adjacent Rail)**

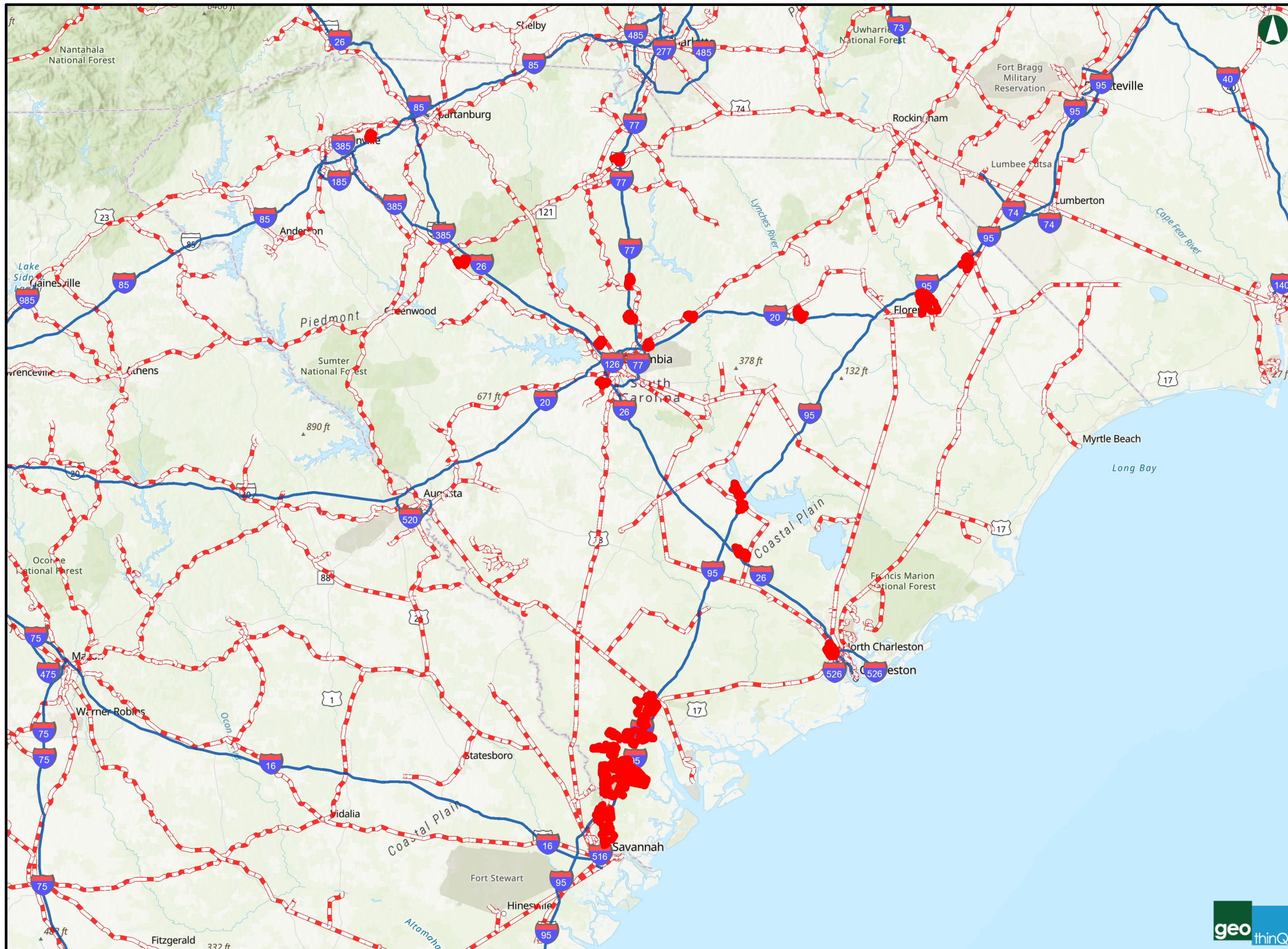
Applicant:  
South Carolina Department of Commerce  
Richland County



### Exhibit C

1,000+ Acre Parcels within 1 mile of Interstate and Adjacent Rail  
05/04/2023

-  Railroads
-  Interstates
-  1,000+ acre parcels within 1 mile of interstate, adjacent rail, and developable





|    | Owner Name                             | Parcel Number   | Calculated Acres | County     | Address                       | City             | State | Zip Code | Zoning Code | Zoning Type | Land Use           |
|----|--|---|------------------|------------|-------------------------------|------------------|-------|----------|-------------|-------------|--------------------|
| 1  | CHARLESTON COUNTY AIRPORT DISTRICT     | 400-00-00-007   | 1177.93          | Charleston | 5400 INTERNATIONAL BLVD       | NORTH CHARLESTON | SC    | 29418    | M-1         | Ind         | WASTE LAND         |
| 2  | UNITED STATES OF AMERICA               | 400-00-00-006   | 2903.83          | Charleston | 6390 DORCHESTER RD            | NORTH CHARLESTON | SC    | 29418    | M-1         | Ind         | WASTE LAND         |
| 3  | JAB I-77 SITE WEST                     | 113-00-00-017-000; 113-00-00-044-000  | 1023.00          | Chester    | DULAP RODDEY ROAD             | EDGEMOORE        | SC    | 29712    | ID-1        | Ind         |                    |
| 4  | CAROLINAS I-95 SUPER PARK              | 080-00-00-092; 068-00-00-042; 058-00-00-024; 058-00-00-021; 068-00-00-030; 058-00-00-019; 058-00-00-018; 068-00-00-015; 058-00-00-006; 058-00-00-004; 067-00-00-012; 058-00-00-001; 067-00-00-009; 068-00-00-007; 068-00-00-006; 080-00-00-017; 080-00-00-016; 068-00-00-002; 068-00-00-001 | 1130.00          | Dillon     |                               | DILLON           | SC    | 29536    | RURAL       |             |                    |
| 5  | NATIONAL AUDUBON SOCIETY INC           | 009-00-00-008   | 1540.70          | Dorchester | INTERSTATE 26 W               | HOLLY HILL       | SC    | 29059    |             |             | VACANT LAND (NEC)  |
| 6  | I-77 INTERNATIONAL MEGASITE            | 148-00-00-013-000   | 1544.00          | Fairfield  | VALENCIA ROAD                 | RIDGEWAY         | SC    | 29130    | ID          | Ind         |                    |
| 7  | SONOCO PROCUCTS CO                     | 00301-01-001  | 6654.98          | Florence   | OFF ST HWY 24                 | FLORENCE         | SC    | 29506    |             |             | FARMS              |
| 8  | SOUTHERN DIVERSIFIED LLC               | 00303-01-001  | 3922.31          | Florence   | ST HWY 24                     | FLORENCE         | SC    | 29506    |             |             | AGRICULTURAL (NEC) |
| 9  | ANGEL TRACT LLC                        | 188-00-00-030   | 1571.48          | Hampton    | YEMASSEE                      | YEMASSEE         | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 10 | YEMASSEE TIMBER LLC                    | 191-00-00-002   | 1971.23          | Hampton    | POCOTALIGO                    | YEMASSEE         | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 11 | CHILTON TIMBER & LAND CO LLC           | 191-00-00-001   | 7551.84          | Hampton    |                               | YEMASSEE         | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 12 | OKEETEE CLUB                           | 023-00-02-020; 027-00-02-034; 045-00-01-035   | 39059.00         | Jasper     | BJWSA PLAT 26/249 159 835 OUT | HARDEEVILLE      | SC    | 29927    | RA          | Res         | AGRICULTURAL (NEC) |
| 13 | BLACK, MARTHA C                        | 088-00-01-001   | 1417.69          | Jasper     |                               | YEMASSEE         | SC    | 29945    | RA          | Res         | AGRICULTURAL (NEC) |
| 14 | UNITED STATES OF AMERICA               | 033-00-00-001   | 5369.71          | Jasper     | 765 ALLIGATOR ALLEY           | HARDEEVILLE      | SC    | 29927    | RA          | Res         | PUBLIC (NEC)       |
| 15 | C & S NATIONAL BANK                    | 087-00-03-002   | 1092.04          | Jasper     |                               | RIDGELAND        | SC    | 29936    | RA          | Res         | AGRICULTURAL (NEC) |
| 16 | CYPRESS WOODS CORP                     | 048-00-01-001; 048-00-03-019  | 4630.51          | Jasper     | 4190 LOG HAUL RD              | RIDGELAND        | SC    | 29936    | RA          | Res         | SFR                |
| 17 | CLARK, JOCELYN & CLARK, ANDREA W TRUST | 086-00-01-002   | 1226.35          | Jasper     | 506 SPRING HILL RD            | RIDGELAND        | SC    | 29936    | RA          | Res         | AGRICULTURAL (NEC) |
| 18 | WA HOLDINGS SOUTH, LLC                 | 042-00-06-045   | 2629.85          | Jasper     |                               | HARDEEVILLE      | SC    | 29927    | PDD         | PUD         | AGRICULTURAL (NEC) |
| 19 | SHERWOOD TRACT                         | 030-00-01-007; 031-00-00-017; 030-00-01-019; 030-00-01-020; 030-00-01-021; 030-00-01-022  | 1437.00          | Jasper     | US HIGHWAY 17                 | HARDEEVILLE      | SC    | 29927    | PDD         | Ind         | AGRICULTURAL (NEC) |
| 20 | CENTRAL SC MEGASITE                    | 323-00-00-011; 323-00-00-014; 309-00-00-031; 309-00-00-032; 309-00-00-070; 310-00-00-080; 324-00-00-001; 323-00-00-006  | 1426.00          | Kershaw    | 1291 COMMERCE DRIVE           | LUGOFF           | SC    | 29078    | ID          | Ind         |                    |
| 21 | TYGER OAK INC                          | 745-00-00-009   | 1907.53          | Laurens    |                               | KINARDS          | SC    | 29355    |             |             | AGRICULTURAL PLANT |
| 22 | LEE STATE PARK                         | 038-00-00-011-000   | 2360.17          | Lee        |                               | BISHOPVILLE      | SC    | 29010    |             |             | TAX EXEMPT         |
| 23 | RICHLAND-LEXINGTON AIRPORT DIS         | 006797-01-006   | 1042.47          | Lexington  | AVIATION WAY                  | WEST COLUMBIA    | SC    | 29170    | ID          | Mixed       | AIRPORT            |
| 24 | SC DEPARTMENT OF PARKS /RECREATION/T   | 0306-00-01-001  | 2640.36          | Orangeburg | OFF HWY 6/S-38-105            | SANTEE           | SC    | 29142    |             |             | COUNTY PROPERTY    |
| 25 | NATIONAL AUDUBON SOCIETY               | 0316-00-00-005  | 1292.33          | Orangeburg | NEAR DORCHESTER CNTY LINE     | HOLLY HILL       | SC    | 29059    |             |             | COUNTY PROPERTY    |
| 26 | SOUTH CAROLINA GATEWAY                 | 0323-00-06-012; 0323-00-06-001; 0322-00-01-001  | 1257.50          | Orangeburg | HIGHWAY 301                   | SANTEE           | SC    | 29142    |             | Ind         |                    |
| 27 | S C STATE COMM OF FORESTRY             | 05000-02-15   | 1230.20          | Richland   | BROAD RIVER RD                | COLUMBIA         | SC    | 29212    | C-1         | Bus/Comm    | COMMERCIAL ACREAGE |
| 28 | SC DEPT OF PARKS RECREATION & TOURISM  | 19900-01-03   | 1390.90          | Richland   | 800 POLO RD                   | COLUMBIA         | SC    | 29223    | GC          | Bus/Comm    | COMMERCIAL (NEC)   |



|    |   |  |         |                         |          |    |       |    |              |
|----|---|--|---------|-------------------------|----------|----|-------|----|--------------|
| 29 | BLYTHEWOOD INDUSTRIAL PARK              | R12500-02-06; R12500-03-01;<br>R12600-03-20; R12600-03-23;<br>R15000-01-01; R15000-02-27;<br>R15004-01-01; R15004-01-02;<br>R15005-01-01; R15006-01-01;<br>R15007-01-01; R15008-01-01;<br>R15100-01-04; R15100-01-06;<br>R15100-01-07; R15100-02-01;<br>R15100-03-01; R15100-03-02;<br>R15100-03-03; R15100-03-04;<br>R15100-03-05; R15100-03-06;<br>R15100-03-07; R15100-03-08;<br>R15101-01-01; R15101-01-02;<br>R15106-01-01. | 2097.06 | Richland                | RICHLAND | SC | 29016 | ID | Ind          |
| 30 | GREENVILLE-SPARTANBURG AIRPORT DISTRICT | 5-23-00-008.00   | 1081.80 | Spartanburg 1850 GSP DR | GREER    | SC | 29651 |    | PUBLIC (NEC) |

**Exhibit G to  
Project Connect  
Revised Alternatives Analysis  
(AOI Properties; 1,000 acres; w/in 1 Mile of  
Interstate; Onsite or Adjacent Rail;  
Undeveloped)**

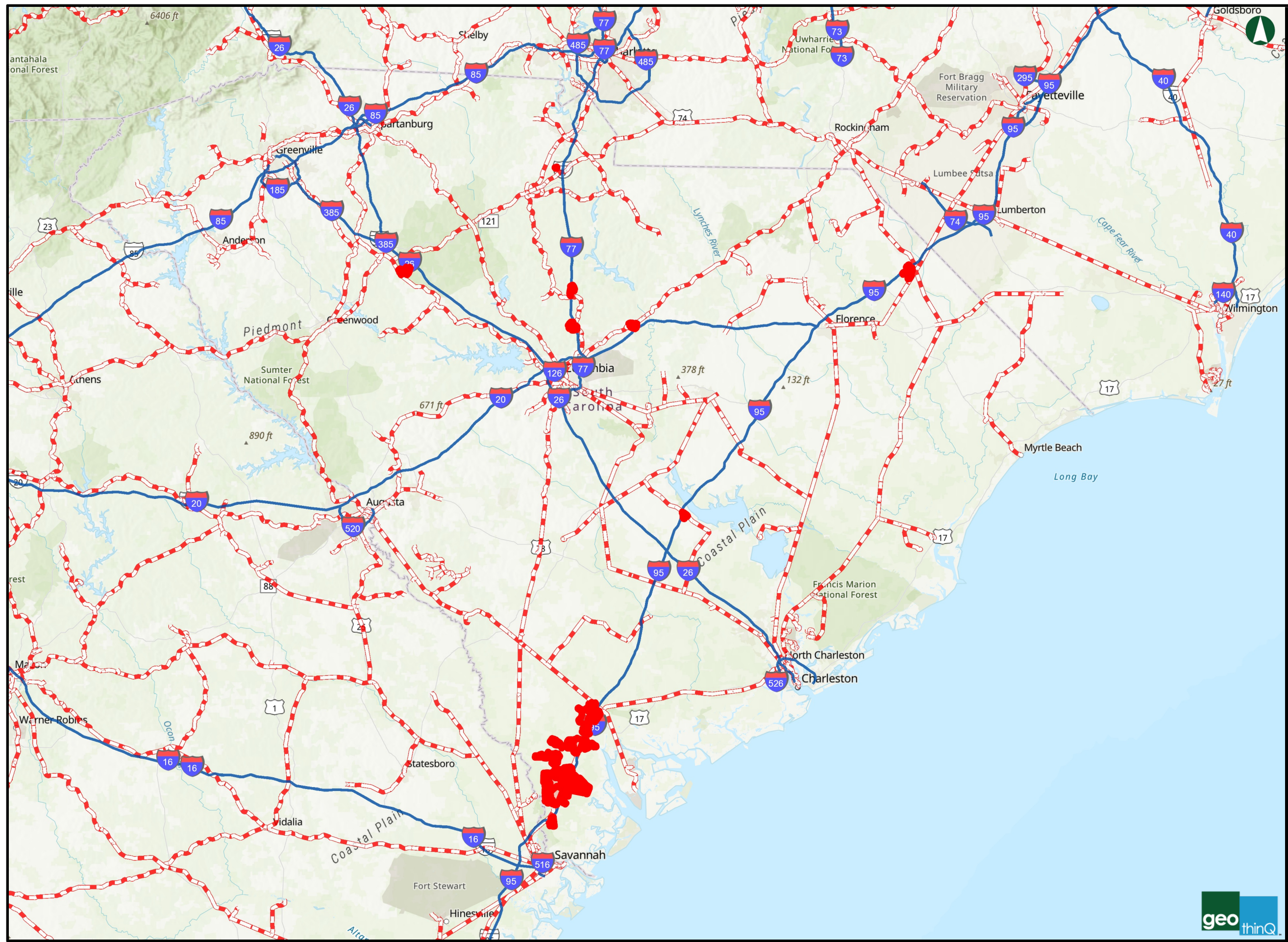
Applicant:  
South Carolina Department of Commerce  
Richland County



### Exhibit D

1,000+ Acre Parcels within 1 mile of Interstate, Adjacent Rail, and Developable  
05/04/2023

- 1,000+ acre parcels within 1 mile of interstate, adjacent rail, and developable
- Interstates
- Railroads





| Owner Name | Parcel Number                             | Calculated Acres | County    | Address                          | City        | State | Zip Code | Zoning Code | Zoning Type | Land Use           |
|------------|---|------------------|-----------|----------------------------------|-------------|-------|----------|-------------|-------------|--------------------|
| 1          | BLYTHEWOOD INDUSTRIAL PARK                | 2097.06          | Richland  |                                  | RICHLAND    | SC    | 29016    | ID          | Ind         |                    |
|            |   |                  |           |                                  |             |       |          |             |             |                    |
| 2          | JAB I-77 SITE WEST                        | 1023.00          | Chester   | DULAP RODDEY ROAD                | EDGEMOORE   | SC    | 29712    | ID-1        | Ind         |                    |
|            |   |                  |           |                                  |             |       |          |             |             |                    |
| 3          | CAROLINAS I-95 SUPER PARK                 | 1130.00          | Dillon    |                                  | DILLON      | SC    | 29536    | RURAL       |             |                    |
|            |   |                  |           |                                  |             |       |          |             |             |                    |
| 4          | I-77 INTERNATIONAL MEGASITE               | 148.00           | Fairfield | VALENCIA ROAD                    | RIDGEWAY    | SC    | 29130    | ID          | Ind         |                    |
| 5          | ANGEL TRACT LLC                           | 1571.48          | Hampton   | YEMASSEE                         | YEMASSEE    | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 6          | YEMASSEE TIMBER LLC                       | 1971.23          | Hampton   | POCOTALIGO                       | YEMASSEE    | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 7          | CHILTON TIMBER & LAND CO LLC              | 7551.84          | Hampton   |                                  | YEMASSEE    | SC    | 29945    |             |             | AGRICULTURAL (NEC) |
| 8          | OKEETEE CLUB                              | 39059.00         | Jasper    | BJWSA PLAT 26/249 159<br>835 OUT | HARDEEVILLE | SC    | 29927    | RA          | Res         | AGRICULTURAL (NEC) |
| 9          | BLACK, MARTHA C                           | 1417.69          | Jasper    |                                  | YEMASSEE    | SC    | 29945    | RA          | Res         | AGRICULTURAL (NEC) |
| 10         | C & S NATIONAL BANK                       | 1092.04          | Jasper    |                                  | RIDGELAND   | SC    | 29936    | RA          | Res         | AGRICULTURAL (NEC) |
| 11         | CYPRESS WOODS CORP                        | 4630.51          | Jasper    | 4190 LOG HAUL RD                 | RIDGELAND   | SC    | 29936    | RA          | Res         | SFR                |
| 12         | CLARK, JOCELYN & CLARK, ANDREA W<br>TRUST | 1226.35          | Jasper    | 506 SPRING HILL RD               | RIDGELAND   | SC    | 29936    | RA          | Res         | AGRICULTURAL (NEC) |
| 13         | WA HOLDINGS SOUTH, LLC                    | 2629.85          | Jasper    |                                  | HARDEEVILLE | SC    | 29927    | PDD         | PUD         | AGRICULTURAL (NEC) |
|            |   |                  |           |                                  |             |       |          |             |             |                    |
| 14         | SHERWOOD TRACT                            | 1437.00          | Jasper    | US HIGHWAY 17                    | HARDEEVILLE | SC    | 29927    | PDD         | Ind         | AGRICULTURAL (NEC) |
|            |   |                  |           |                                  |             |       |          |             |             |                    |
| 15         | CENTRAL SC MEGASITE                       | 1426.00          | Kershaw   | 1291 COMMERCE DRIVE              | LUGOFF      | SC    | 29078    | ID          | Ind         |                    |
|            |   |                  |           |                                  |             |       |          |             |             |                    |
| 16         | TYGER OAK INC                             | 1907.53          | Laurens   |                                  | KINARDS     | SC    | 29355    |             |             | AGRICULTURAL PLANT |

|    |                        |  |         |            |             |        |    |       |     |
|----|------------------------|--|---------|------------|-------------|--------|----|-------|-----|
| 17 | SOUTH CAROLINA GATEWAY | 0323-00-06-012; 0323-00-06-001; 0322-00-01-001 | 1257.50 | Orangeburg | HIGHWAY 301 | SANTEE | SC | 29142 | Ind |
|----|------------------------|--|---------|------------|-------------|--------|----|-------|-----|

**Exhibit H to  
Project Connect  
Revised Alternatives Analysis  
(Blythewood Industrial Site Alternative Site 1)**

Applicant:  
South Carolina Department of Commerce  
Richland County



J:\27015\27015.0007\ENGINEERING\DRAWINGS\WETLANDS\WETLANDS IMPACT OVERALL EXHIBIT - STUDY AREA - SEP 21, 2023 - 11:13 AM



JURISDICTIONAL IMPACTS

|  |   |           |
|--|---|-----------|
|  | WETLAND PERMANENT FILL IMPACT   | 60.649 AC |
|  | WETLAND PERMANENT CLEARING IMPACT   | 8.742 AC  |
|  | WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT) | 0.317 AC  |
|  | NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT                                    | 38.219 AC |
|  | NON-WETLAND WATERS (TRIBS) MORPHOLOGICAL IMPACT                                     | 3,043 LF  |
|  | NON-WETLAND WATERS (TRIBS) PERMANENT FILL IMPACT                                    | 23,599 LF |
|  | NON-WETLAND WATERS (TRIBS) PIPE IMPACT  | 9,019 LF  |
|  | NON-WETLAND WATERS (TRIBS) TEMPORARY EXCAVATION IMPACT                              | 30 LF     |

WETLANDS IMPACT OVERALL EXHIBIT - STUDY AREA  
 PROJECT CONNECT - PERMIT DRAWINGS  
 BLYTHEWOOD, SC  
 PREPARED FOR:  
 RICHLAND COUNTY AND STATE OF SC  
 PREPARED BY:



1501 Main Street • Suite 760  
 Columbia, SC 29201 • 803.451.6789  
 www.thomasandhutton.com

|                      |                  |
|----------------------|------------------|
| JOB NO: J-27015.0007 | DATE: 9/21/23    |
| DRAWN: BEB           | SCALE: 1" = 800' |
| REVIEWED: CW         | SHEET: 3         |

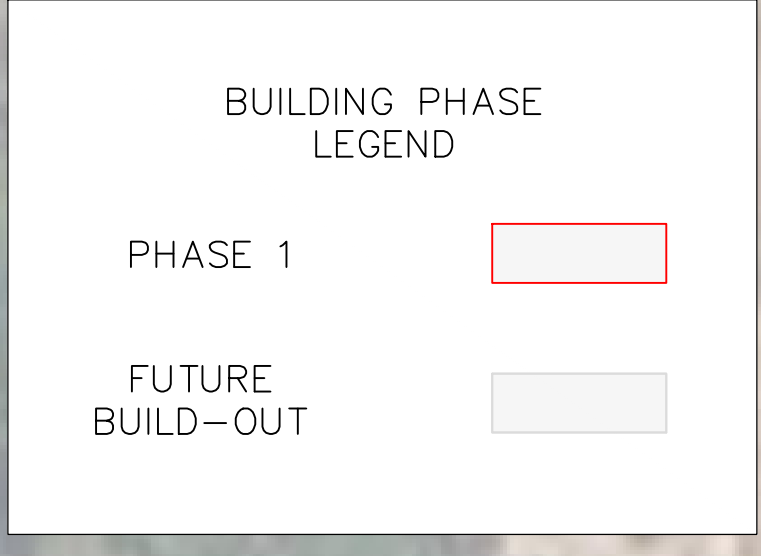


J:\27015\27015.DWG - WETLANDS IMPACT OVERALL EXHIBIT - PERMIT DRAWINGS - SEP 21, 2023 - 11:13 AM



### JURISDICTIONAL IMPACTS

|  |   |           |
|--|---|-----------|
|  | WETLAND PERMANENT FILL IMPACT   | 60.649 AC |
|  | WETLAND PERMANENT CLEARING IMPACT   | 8.742 AC  |
|  | WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT) | 0.317 AC  |
|  | NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT                                    | 38.219 AC |
|  | NON-WETLAND WATERS (TRIBES) MORPHOLOGICAL IMPACT                                    | 3,043 LF  |
|  | NON-WETLAND WATERS (TRIBES) PERMANENT FILL IMPACT                                   | 23,599 LF |
|  | NON-WETLAND WATERS (TRIBES) PIPE IMPACT   | 9,019 LF  |
|  | NON-WETLAND WATERS (TRIBES) TEMPORARY EXCAVATION IMPACT                             | 30 LF     |



WETLANDS IMPACT OVERALL EXHIBIT - PROJECT AREA

PROJECT CONNECT - PERMIT DRAWINGS

BLYTHEWOOD, SC

PREPARED FOR:

RICHLAND COUNTY AND STATE OF SC

PREPARED BY:

**THOMAS & HUTTON**

1501 Main Street • Suite 760  
Columbia, SC 29201 • 803.451.6789

www.thomasandhutton.com

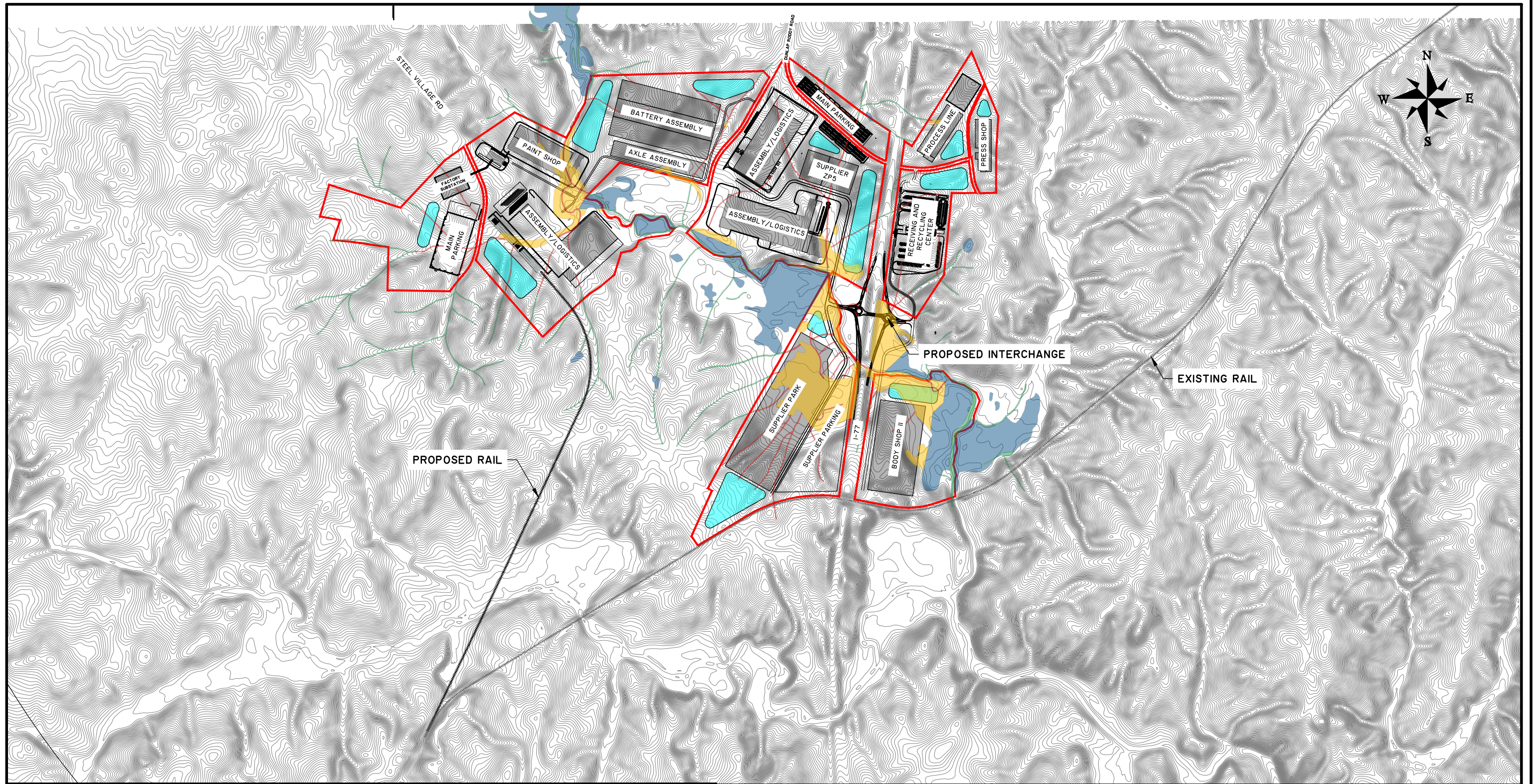
|                      |                  |
|----------------------|------------------|
| JOB NO: J-27015.0007 | DATE: 9/21/23    |
| DRAWN: BEB           | SCALE: 1" = 400' |
| REVIEWED: CW         | SHEET: 4         |



**Exhibit I to  
Project Connect  
Revised Alternatives Analysis  
(JAB Site West Alternative Site 2)**

Applicant:  
South Carolina Department of Commerce  
Richland County





# PROJECT CONNECT

AT THE JAB SITE WEST  
OFF-SITE ALTERNATIVE EXHIBIT

CLIENT:  
RICHLAND COUNTY

LOCATION: CHESTER COUNTY, SC  
DATE: 08/08/2023  
JOB NUMBER: J-27015.0007

DRAWN BY: MTC  
REVIEWED BY: WFL  
SHEET: 2 OF 4  
SCALE: 1" = 2000'



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[www.thomasandhutton.com](http://www.thomasandhutton.com)

- WETLANDS
- NON-WETLAND SURFACE WATERS
- WETLAND IMPACTS
- NON-WETLAND SURFACE WATERS IMPACTS

WETLAND IMPACTS: 129 ACRES

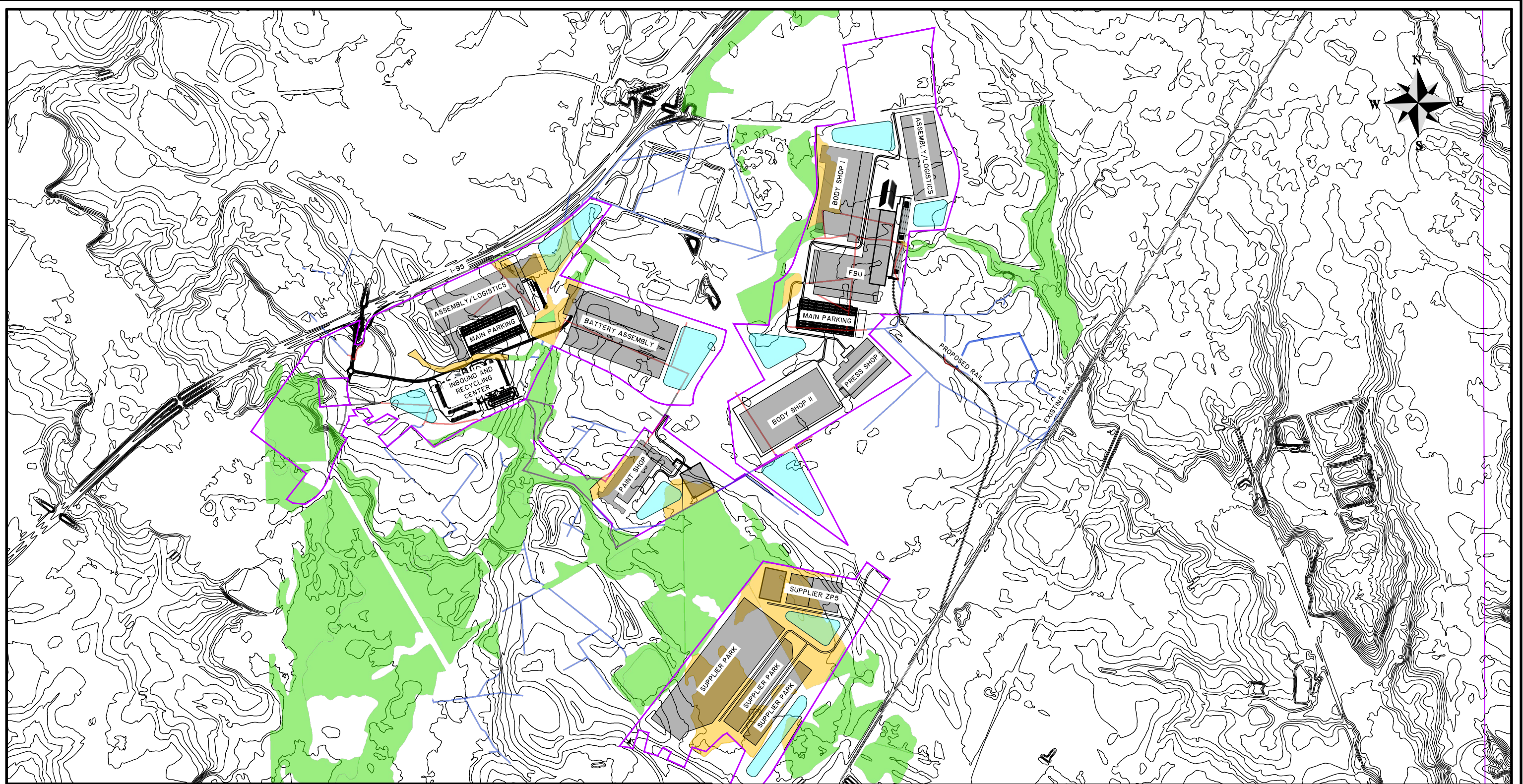
NON-WETLAND SURFACE WATERS IMPACTS: 52,350 LF



**Exhibit J to**  
**Project Connect**  
**Revised Alternatives Analysis**  
**(Carolinas I-95 Super Park Alternative Site 3)**

Applicant:  
South Carolina Department of Commerce  
Richland County

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\EXHIBITS\2023-09-05 - ALTERNATE SITES\CAROLINA'S I-95 SUPERPARK LAYOUT.DWG - Sep 6, 2023 - 2:10 PM



**PROJECT CONNECT**

AT THE I-95 SUPER PARK  
OFF-SITE ALTERNATIVE EXHIBIT

CLIENT:  
**RICHLAND COUNTY**

LOCATION: DILLON COUNTY, SC  
DATE: 09/08/2023  
JOB NUMBER: 27015.0007

DRAWN BY: MTC  
REVIEWED BY: WFL

SHEET: 1 OF 4  
SCALE: 1" = 2000'



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[www.thomasandhutton.com](http://www.thomasandhutton.com)

- WETLANDS
- NON-WETLAND SURFACE WATERS
- WETLAND IMPACTS
- NON-WETLAND SURFACE WATERS IMPACTS

WETLAND IMPACTS: 216.5 ACRES

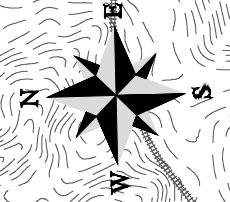
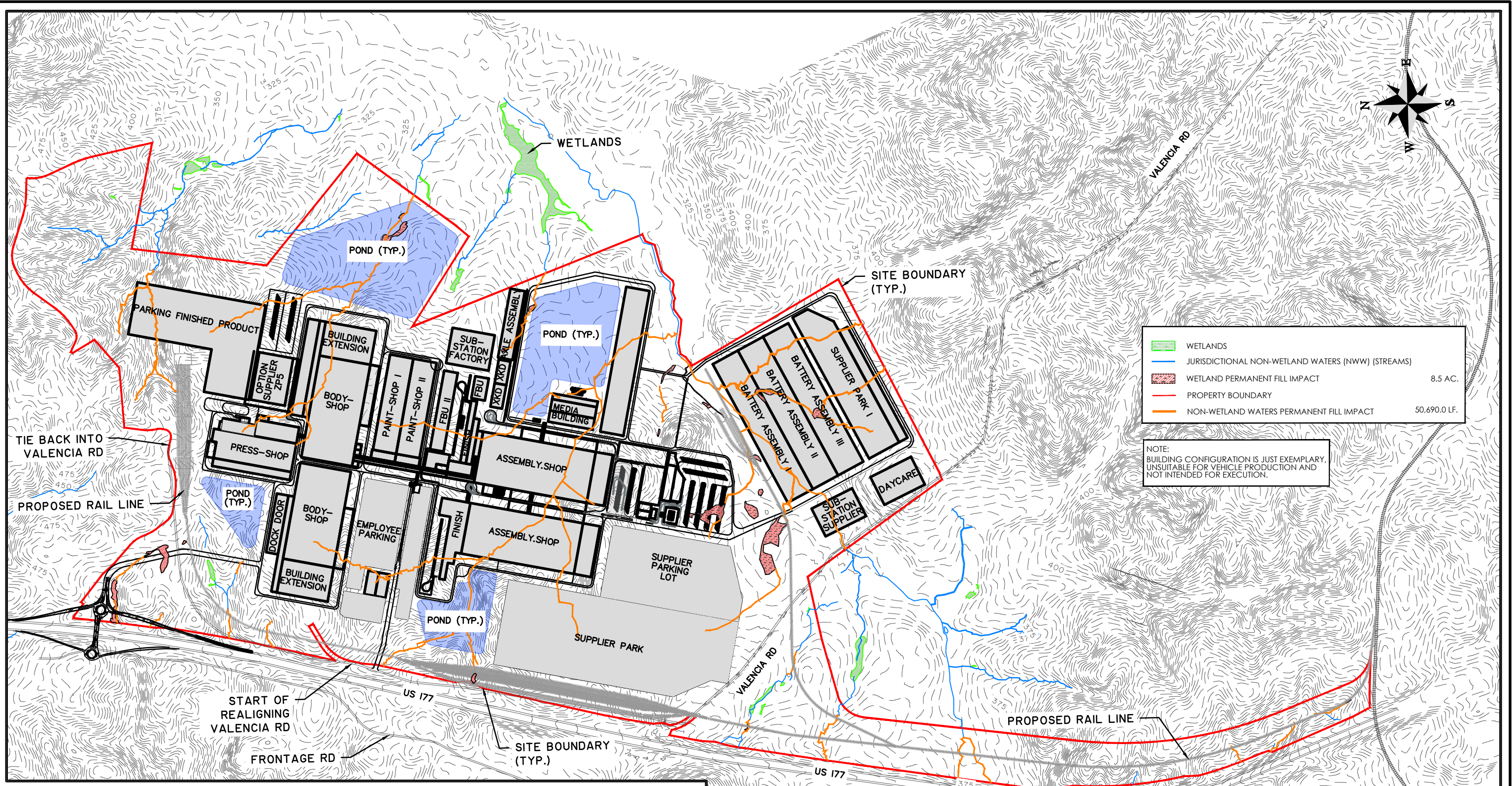
NON-WETLAND SURFACE WATERS IMPACTS: 23,850 LF

**Exhibit K to  
Project Connect  
Revised Alternatives Analysis  
(I-77 International Megasite Alternative Site 4)**

Applicant:  
South Carolina Department of Commerce  
Richland County



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|  |   |              |
|--|---|--------------|
|  | WETLANDS  |              |
|  | JURISDICTIONAL NON-WETLAND WATERS (NWW) (STREAMS) |              |
|  | WETLAND PERMANENT FILL IMPACT                     | 8.5 AC.      |
|  | PROPERTY BOUNDARY                                 |              |
|  | NON-WETLAND WATERS PERMANENT FILL IMPACT          | 50,690.0 LF. |

NOTE:  
BUILDING CONFIGURATION IS JUST EXEMPLARY,  
UNSUITABLE FOR VEHICLE PRODUCTION AND  
NOT INTENDED FOR EXECUTION.

**PROJECT CONNECT**  
 AT THE I77 MEGA SITE  
 OFF - SITE ALTERNATIVE EXHIBIT  
 CLIENT:  
**RICHLAND COUNTY**  
 LOCATION: FAIRFIELD COUNTY, SC  
 DATE: 04/10/23 DRAWN BY: JHV SHEET: 1 OF 3  
 JOB NUMBER: J-27015.0007 REVIEWED BY: WFL SCALE: 1" = 1300'






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**Exhibit L to  
Project Connect  
Revised Alternatives Analysis  
(Central South Carolina Megasite Alternative  
Site 15)**

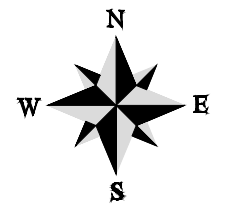
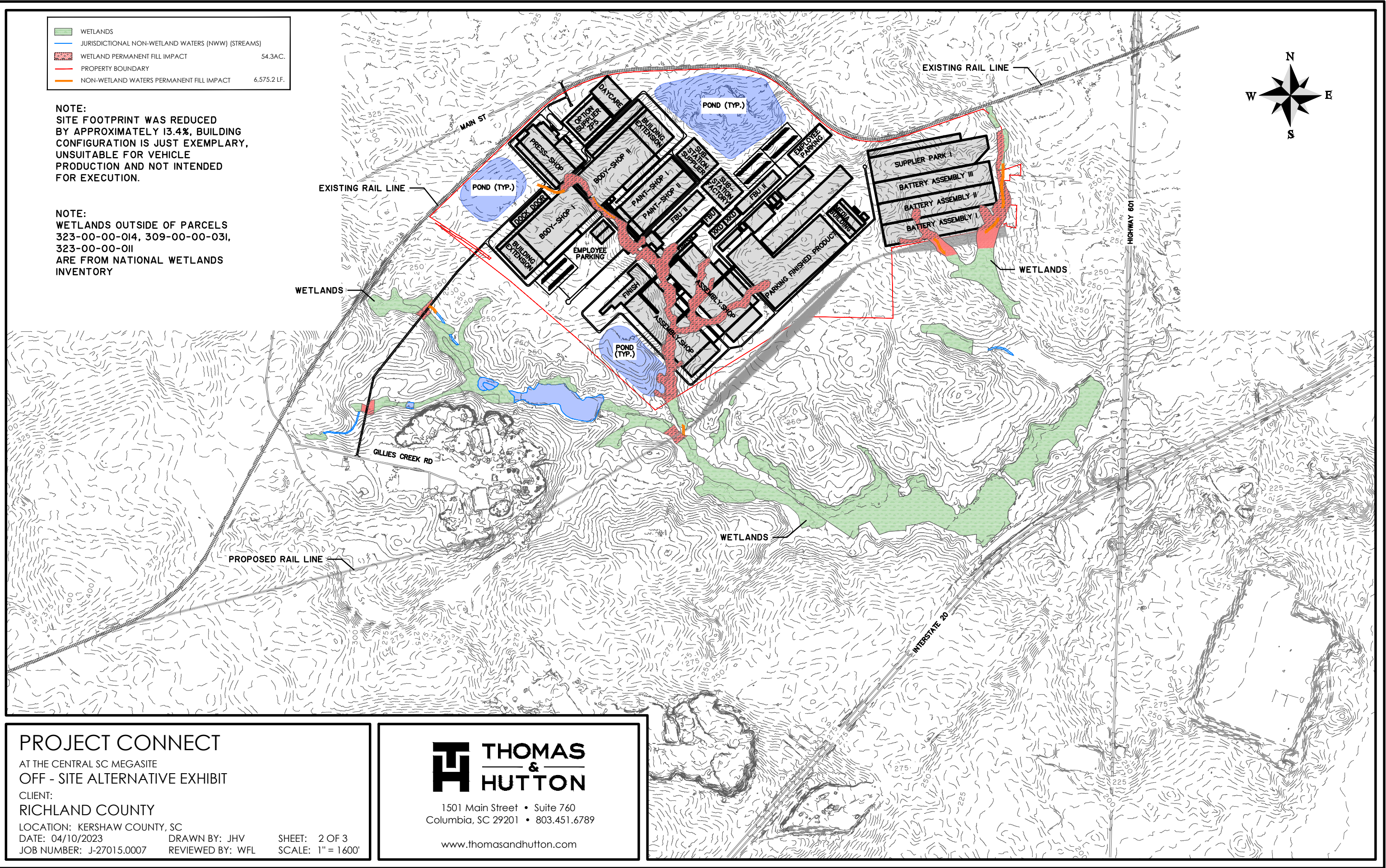
Applicant:  
South Carolina Department of Commerce  
Richland County

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\EXHIBITS\2023-04-06 OFFSITE ALTERNATIVES\27015.0007 OFFSITE ALTERNATIVE ANALYSIS CENTRAL SC MEGASITE.DWG - Apr 27, 2023 - 1:25 PM

|   |   |             |
|---|---|-------------|
|  | WETLANDS  |             |
|  | JURISDICTIONAL NON-WETLAND WATERS (NWW) (STREAMS) |             |
|  | WETLAND PERMANENT FILL IMPACT                     | 54.3AC.     |
|  | PROPERTY BOUNDARY                                 |             |
|  | NON-WETLAND WATERS PERMANENT FILL IMPACT          | 6.575.2 LF. |

NOTE:  
SITE FOOTPRINT WAS REDUCED  
BY APPROXIMATELY 13.4%, BUILDING  
CONFIGURATION IS JUST EXEMPLARY,  
UNSUITABLE FOR VEHICLE  
PRODUCTION AND NOT INTENDED  
FOR EXECUTION.

NOTE:  
WETLANDS OUTSIDE OF PARCELS  
323-00-00-014, 309-00-00-031,  
323-00-00-011  
ARE FROM NATIONAL WETLANDS  
INVENTORY



**PROJECT CONNECT**  
AT THE CENTRAL SC MEGASITE  
OFF - SITE ALTERNATIVE EXHIBIT  
CLIENT:  
**RICHLAND COUNTY**  
LOCATION: KERSHAW COUNTY, SC  
DATE: 04/10/2023      DRAWN BY: JHV      SHEET: 2 OF 3  
JOB NUMBER: J-27015.0007      REVIEWED BY: WFL      SCALE: 1" = 1600'

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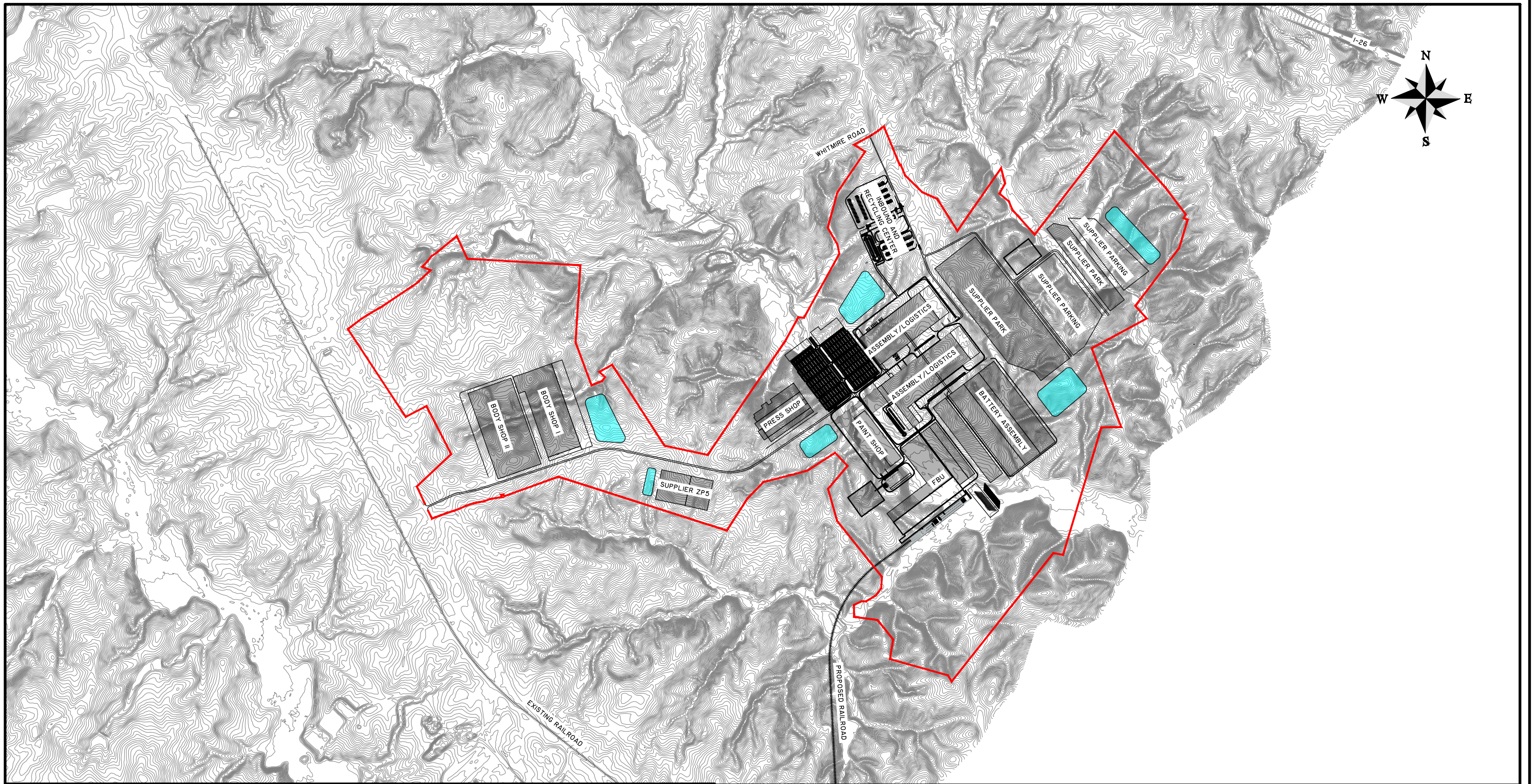


**Exhibit M to  
Project Connect  
Revised Alternatives Analysis  
(Tyger Oak Inc. Alternative Site 16)**

Applicant:  
South Carolina Department of Commerce  
Richland County



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# PROJECT CONNECT

AT THE TYGER OAK INC.  
OFF-SITE ALTERNATIVE EXHIBIT

CLIENT:  
RICHLAND COUNTY

|                              |                  |                   |
|------------------------------|------------------|-------------------|
| LOCATION: LAURENS COUNTY, SC | DRAWN BY: MTC    | SHEET: 4 OF 4     |
| DATE: 09/08/2023             | REVIEWED BY: WFL | SCALE: 1" = 2000' |
| JOB NUMBER: J-26382.0007     |                  |                   |



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- WETLANDS
- NON-WETLAND SURFACE WATERS
- WETLAND IMPACTS
- NON-WETLAND SURFACE WATERS IMPACTS

WETLAND IMPACTS: 5.5 ACRES

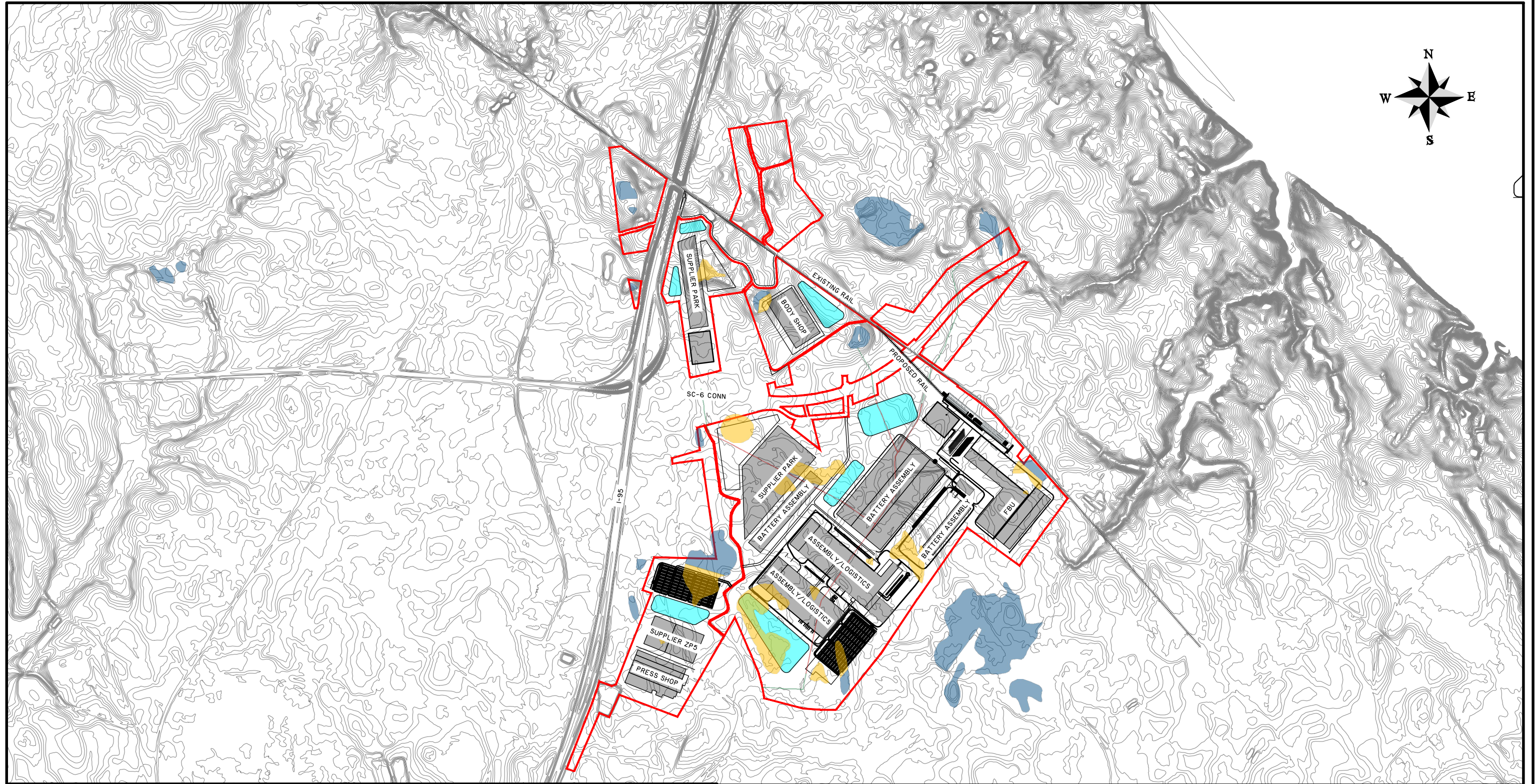
NON-WETLAND SURFACE WATERS IMPACTS: 26,900 LF



**Exhibit N to**  
**Project Connect**  
**Revised Alternatives Analysis**  
**(South Carolina Gateway Alternative Site 17)**

Applicant:  
South Carolina Department of Commerce  
Richland County





# PROJECT CONNECT

AT THE SOUTH CAROLINA GATEWAY  
OFF-SITE ALTERNATIVE EXHIBIT

CLIENT:  
RICHLAND COUNTY

LOCATION: ORANGEBURG, SC  
DATE: 09/08/2023  
JOB NUMBER: J-27015.0007

DRAWN BY: MTC  
REVIEWED BY: WFL

SHEET: 3 OF 4  
SCALE: 1" = 2000'



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- WETLANDS
- NON-WETLAND SURFACE WATERS
- WETLAND IMPACTS
- NON-WETLAND SURFACE WATERS IMPACTS

WETLAND IMPACTS: 74 ACRES

NON-WETLAND SURFACE WATERS IMPACTS: 12,250 LF

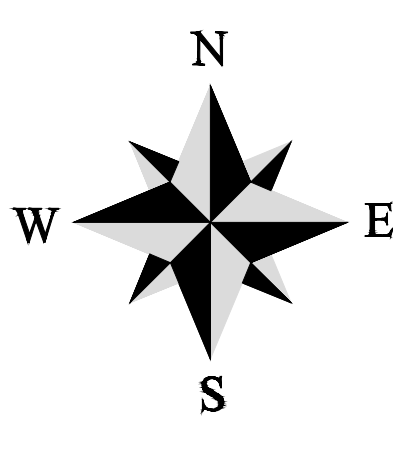
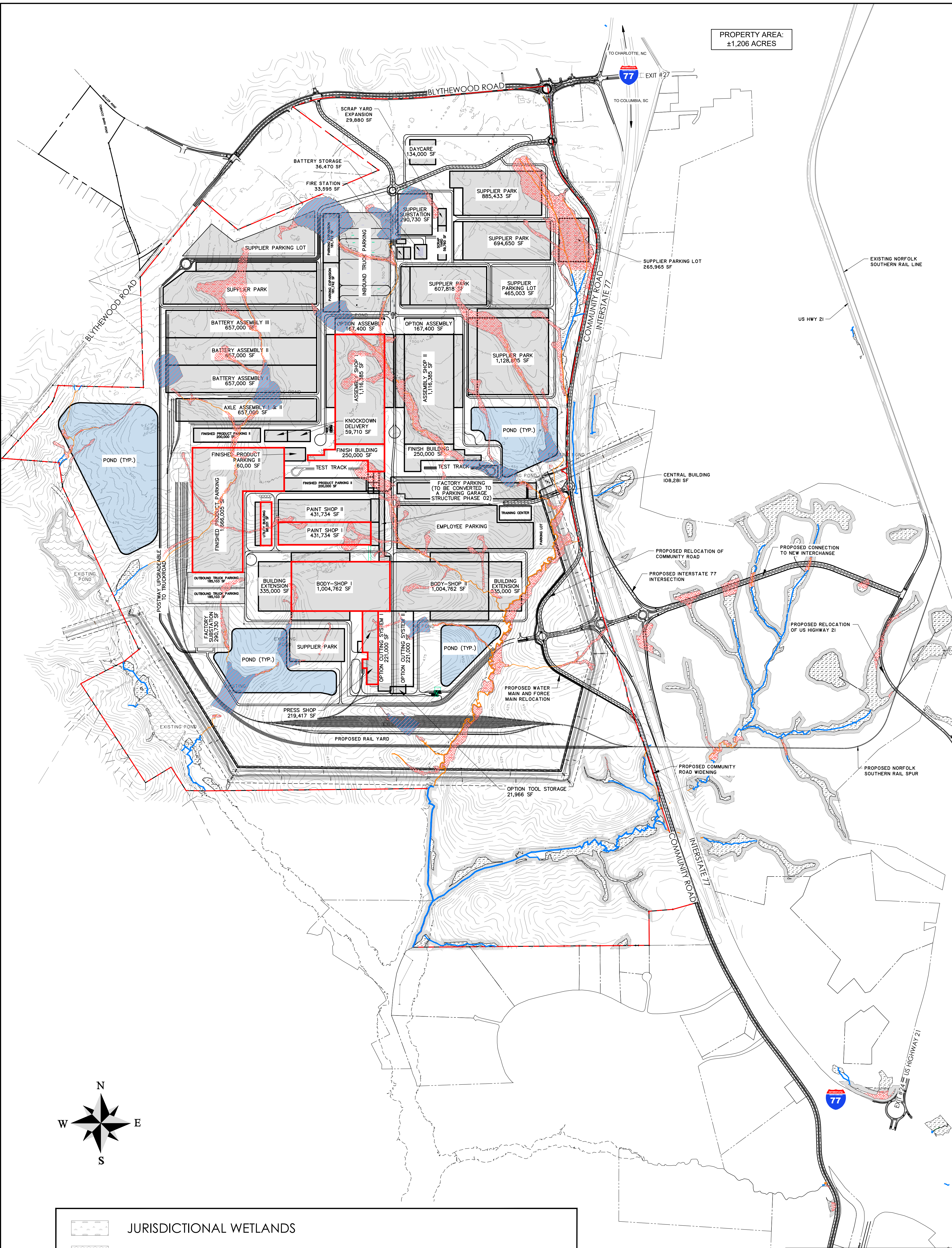


**Exhibit O to  
Project Connect  
Revised Alternatives Analysis  
(Site Layout Alternative 2)**

Applicant:  
South Carolina Department of Commerce  
Richland County



PROPERTY AREA:  
±1,206 ACRES



|  |   |            |
|--|---|------------|
|  | JURISDICTIONAL WETLANDS                           |            |
|  | JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)   |            |
|  | JURISDICTIONAL NON-WETLAND WATERS (NWW) (STREAMS) |            |
|  | WETLAND PERMANENT FILL IMPACT                     | 80.5 AC.   |
|  | NON-WETLAND PERMANENT FILL IMPACT                 | 38.2 AC.   |
|  | PROPERTY BOUNDARY                                 |            |
|  | NON-WETLAND WATERS PERMANENT FILL IMPACT          | 41,234 LF. |
|  | 100 - YR FLOOD PLAIN                              |            |

| BUILDING PHASE LEGEND |                    |
|-----------------------|--------------------|
|                       | PHASE I            |
|                       | FUTURE BUILD - OUT |

PROJECT CONNECT AT THE BLYTHEWOOD INDUSTRIAL PARK

ON-SITE ALTERNATIVE 2  
RICHLAND COUNTY

PREPARED FOR:  
RICHLAND COUNTY

PREPARED BY:  
**THOMAS & HUTTON**

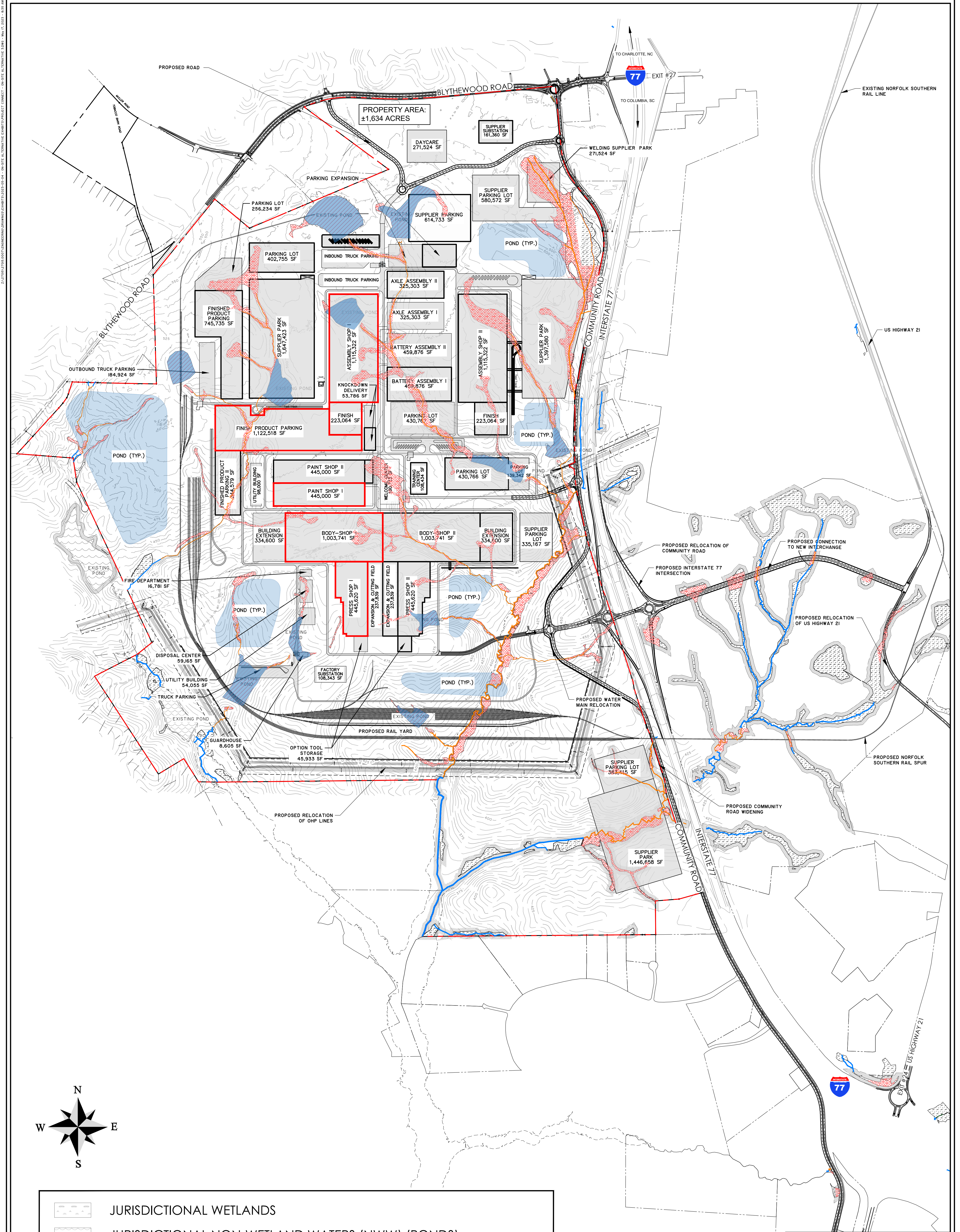
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**Exhibit P to**  
**Project Connect**  
**Revised Alternatives Analysis**  
**(Site Layout Alternative 3)**

Applicant:  
South Carolina Department of Commerce  
Richland County





|  |   |              |
|--|---|--------------|
|  | JURISDICTIONAL WETLANDS                           |              |
|  | JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)   |              |
|  | JURISDICTIONAL NON-WETLAND WATERS (NWW) (STREAMS) |              |
|  | WETLAND PERMANENT FILL IMPACT                     | 84.9 AC.     |
|  | NON-WETLAND PERMANENT FILL IMPACT                 | 37.9 AC.     |
|  | PROPERTY BOUNDARY                                 |              |
|  | NON-WETLAND WATERS PERMANENT FILL IMPACT          | 44,731.9 LF. |
|  | 100 - YR FLOOD PLAIN                              |              |

| BUILDING PHASE LEGEND |                    |
|-----------------------|--------------------|
|                       | PHASE I            |
|                       | FUTURE BUILD - OUT |

PROJECT CONNECT AT THE BLYTHEWOOD INDUSTRIAL PARK

ON-SITE ALTERNATIVE 3  
 RICHLAND COUNTY  
 PREPARED FOR:  
 RICHLAND COUNTY  
 PREPARED BY:

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