

# TECHNICAL PROPOSAL



Georgia Department of Transportation

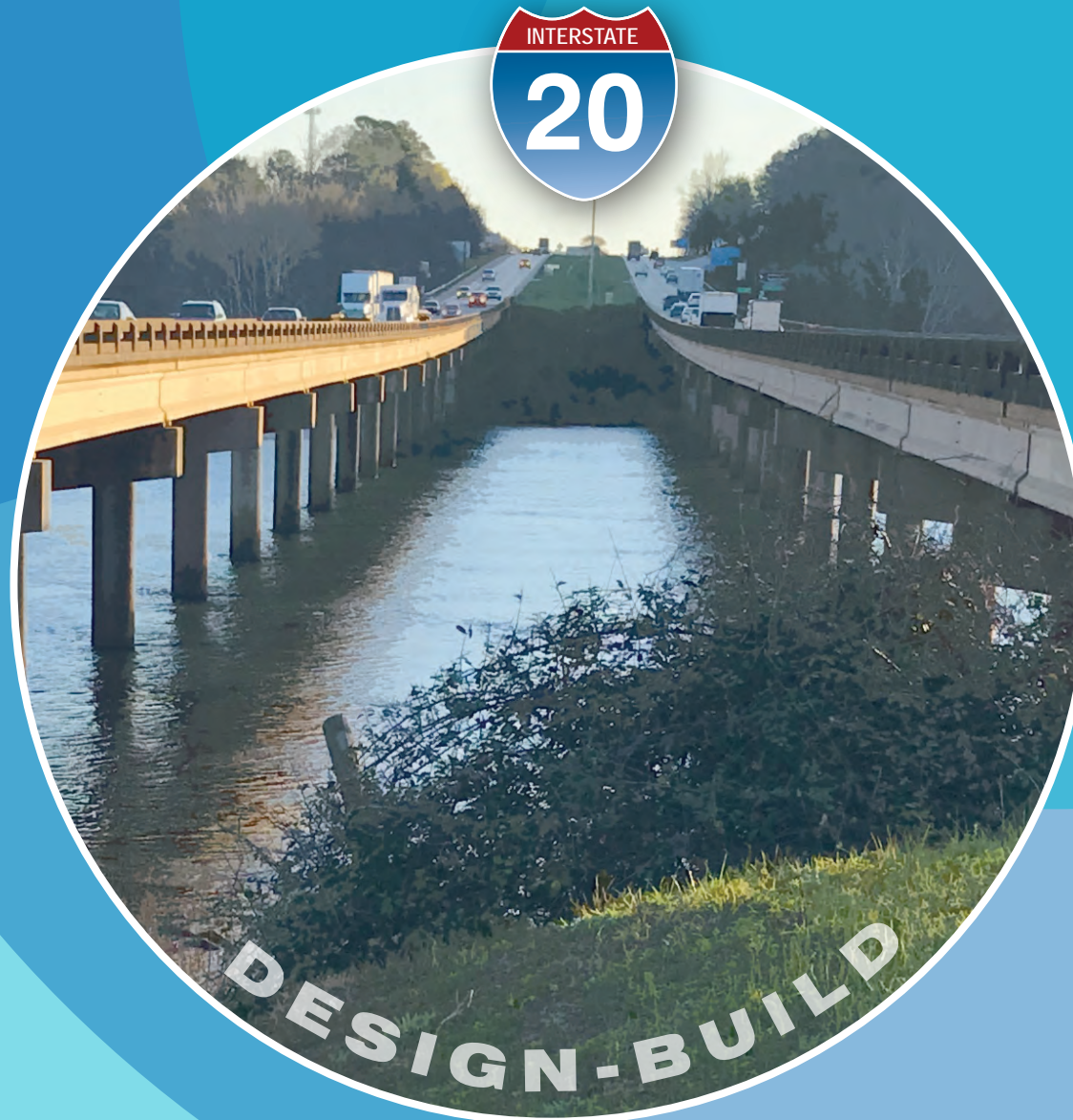
in conjunction with



RFQ NO. 484-03302018DB

## I-20 AT SAVANNAH RIVER BRIDGE REPLACEMENTS AND ROADWAY WIDENING PROJECT

P.I. NO. 210327



Submitted to:  
**Georgia Department of Transportation**

Submitted by:  
**Superior Construction Company Southeast, LLC  
WSP USA Inc.**

September 26, 2018





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Georgia Department of Transportation

in conjunction with **SCDOT**

RFQ NO. 484-03302018DB

**DESIGN-BUILD**  
**I-20 AT SAVANNAH RIVER BRIDGE**  
**REPLACEMENTS AND ROADWAY**  
**WIDENING PROJECT**  
P.I. NO. 210327

# **SECTION C.1**

## **Technical Proposal**





**C.1.1. Construction Staging and Traffic Management**

**C.1.1.1. Requirements for Construction Staging and Traffic Management**

**C.1.1.1.a. Construction phasing bridge work, identifying the five most significant project challenges/solutions**

Project phasing and construction staging are key to this project's success. The **SUPERIOR** Team analyzed numerous concepts, including alternate alignments, to minimize project costs and schedule. Our analysis determined the Georgia Department of Transportation (GDOT), in conjunction with South Carolina Department of Transportation (SCDOT), costing plans were well thought out, most economical, and efficient. **Our Team optimized the span arrangement for both bridges and refined elements of the roadway design.** We finalized our construction phasing by combining GDOT's costing plans and our Team's expertise to develop innovative solutions to access work areas and to facilitate our innovative construction methods. **Figure 1 on the following page illustrates our phasing and staging plan.**

Our overall construction phases will be segmented into four phases. The Savannah River Bridge (SRB) construction will have three major construction phases, with two sub-phases each, and a fourth phase for final median barrier wall installation. The Augusta Canal Bridge (ACB) and roadway construction throughout Georgia and South Carolina will have three major construction phases, as well as a fourth phase for final median barrier wall installation. A detailed description of each phase is highlighted below.

**Phase 1:** This phase will maintain two lanes of traffic in each direction throughout the project corridor. The work zone in Phase 1 will be in the median of the existing eastbound (EB) and westbound (WB) travel lanes throughout the project limits. All roadway work areas (inside the existing median) will have a temporary barrier wall installed along each inside shoulder to protect travelers and provide access for construction. Access points into the roadway work zone will be installed at the beginning and end of the work areas on the Georgia and South Carolina side of the project and at designated points within the workzone (Figure 1). Construction access and egress points will be established into the work zone to not hinder traffic. This will be done at all access points for all construction phases.

Each of the three main SRB construction phases will be completed in two sub-phases.

Phase 1A will involve construction of Phase 1's western portion, while Phase 1B includes construction of the eastern portion of the bridge. Access points will be constructed at the outside shoulder of the EB and WB travel way for the river bridge construction. This provides east and west access to the river bridge throughout the bridge construction. The access points for 1A will be on the west end of the bridge and 1B will be on the east end.

Our temporary cofferdam system will be installed in the river during Phase 1A. This will allow us to access and build the Phase 1A portion of the SRB. Once Phase 1A components are complete, the cofferdam system will be relocated to the east side of the river

**INNOVATIVE AND VALUE ADDED FEATURES**

- ▶ ACB (three-span bridge): eliminated the middle canal pier and shortened bridge - reduces impacts
- ▶ SRB (nine-span bridge): eliminated five piers and shortened bridge - reduces impacts
- ▶ Increased span lengths on ACB and SRB - reduces impacts
- ▶ Temporary cofferdam - allows construction from the river and reduces environmental impacts
- ▶ Rubblization of existing concrete pavement in Georgia and South Carolina - allows schedule savings, material reuse, and reduces construction traffic
- ▶ Steel end diaphragms at end of concrete beams - speeds construction
- ▶ Less piers, longer spans, temporary cofferdam, and reused materials - minimizes environmental impacts
- ▶ Maintain traffic flow - minimizes disruptions
- ▶ Use of temporary accel/decel lanes into work zone - minimizes lane closures and impacts to traveling public
- ▶ Innovative design and construction methods - streamlines construction phasing
- ▶ Thorough construction sequencing - ensures longitudinal joints in the concrete pavement are on the final lane skip and edge line markings

for Phase 1B work. This will allow access to build Phase 1B and Phase 2A portions of the river bridge.

The installation and removal of the cofferdam system for all phases will be performed outside of the March 1<sup>st</sup> to July 1<sup>st</sup> time frame to comply with Special Provision Section 107. **Special designed temporary acceleration (accel) and deceleration (decel) lanes for construction vehicles entering and exiting the work zone from all access points on I-20 will be established at designated locations.** These lanes will allow construction vehicles to enter/exit at normal highway speeds, with ample distance to slow or accel once inside the lanes. Signs will be posted "Construction Traffic Only." Construction deliveries will use these access points throughout construction. We will schedule incoming and outgoing construction traffic outside of peak travel periods as much as possible. Our construction access will not hinder the traveling public.

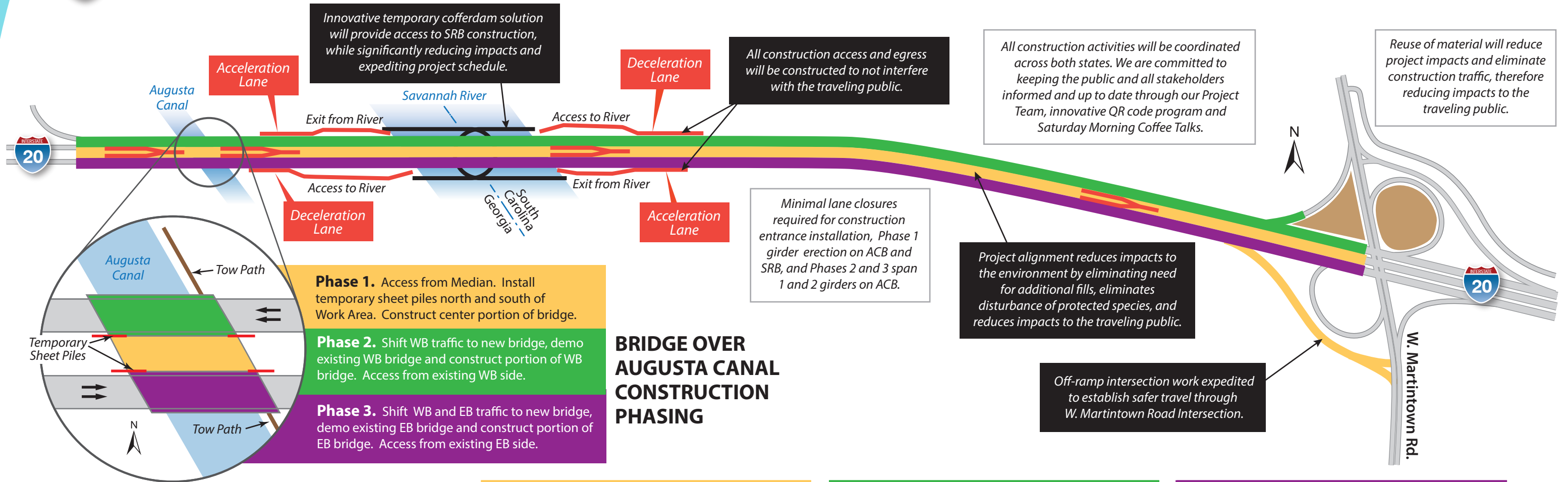
**The installation and removal of the cofferdam system for all phases will be performed outside of the March 1<sup>st</sup> to July 1<sup>st</sup> time frame to comply with Special Provision Section 107.**

Our construction planning and analysis determined the safest method to install Phase 1 girders for the SRB will require closing the inside travel lane of EB and WB river bridges for 18 nights. **This will be the extent of lane closures during all phases of our Team's SRB construction.**

Access for the ACB construction will be at the abutments on both ends of the bridge. Our equipment will access the canal and be loaded on barges to construct the bridge foundations and



FIGURE 1

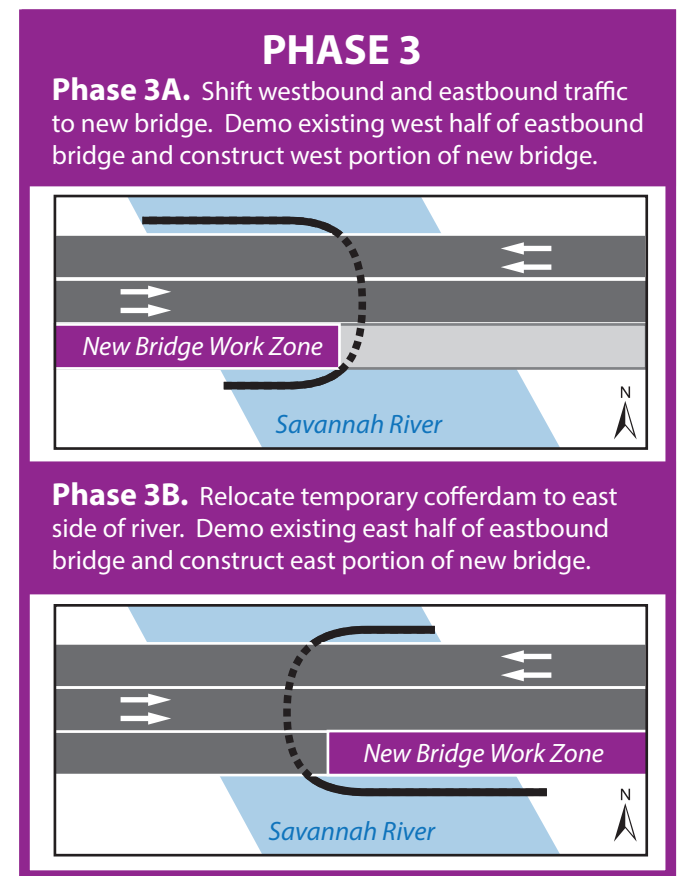
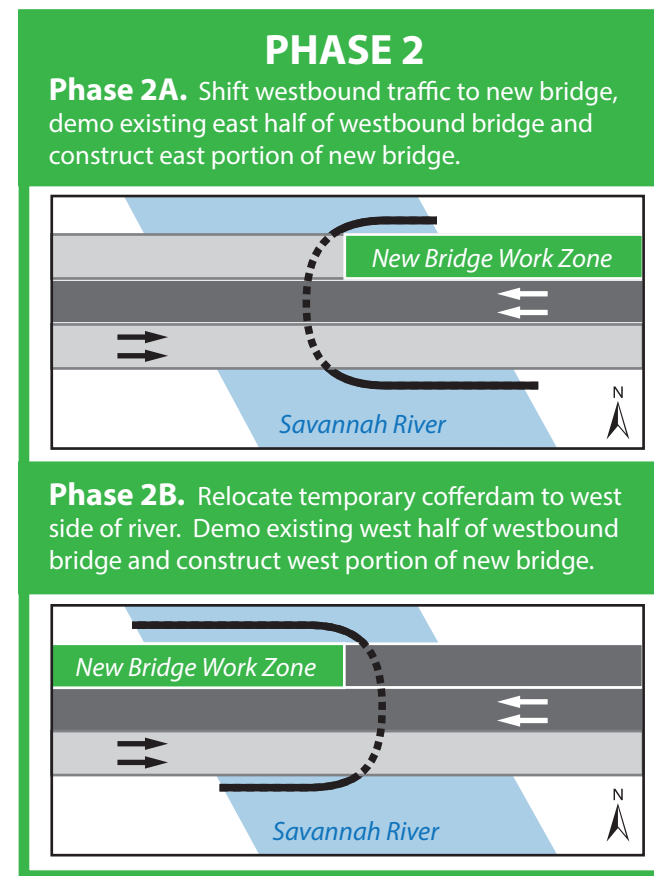
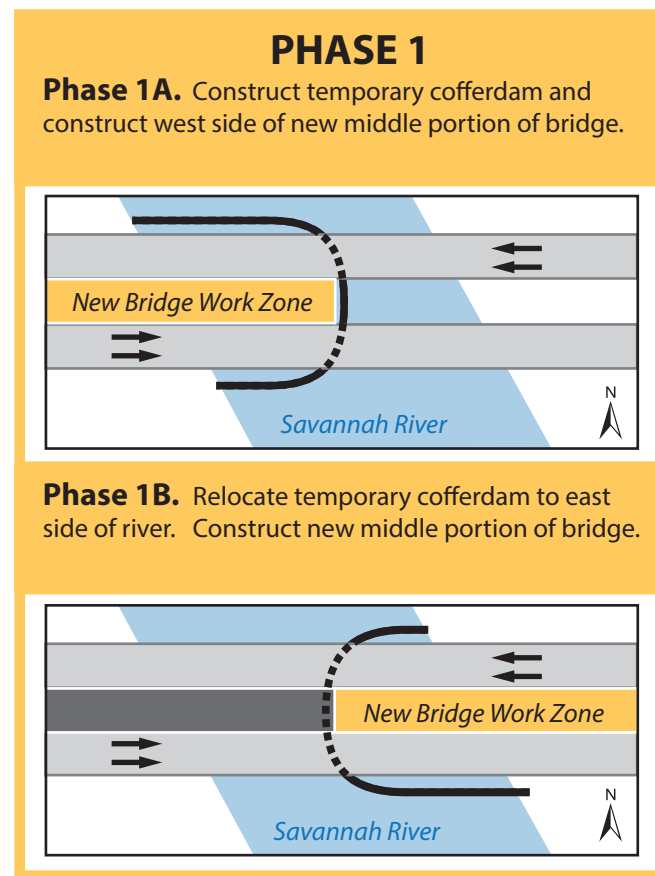


**LEGEND**

- Phase 1
- Phase 2
- Phase 3
- Specially Designed Temporary Access Road to Construction Staging
- Temporary Acceleration/Deceleration Median Construction Access
- Potential Laydown/Storage Area
- Temporary Cofferdam System

**BRIDGE OVER SAVANNAH RIVER CONSTRUCTION PHASING**

- Existing
- Construction completed in previous phase





substructure. For the ACB Phase 1 girder erection, we will need to close the inside travel lane of EB and WB bridges for six nights.

*During all phases, we will maintain access to the Welcome Center at all times.*



**Phase 2:** This phase will maintain two lanes of traffic in each direction throughout the project corridor. Two lanes of traffic will remain on the existing EB travel lanes, while the WB travel lanes will be placed on the newly constructed roadway and bridges. The work zone will be the existing WB travel lanes on the project limits. Temporary barrier walls will be relocated to protect travelers from work areas and act as a median between EB and WB traffic. Access points into the work zone will be maintained at the start and end of the roadway work areas on the Georgia and South Carolina sides of the project and at designated interim locations (Figure 1).

SRB Phase 2A will include the demolition and construction of the eastern portion (WB bridge). Phase 2B will involve the demolition and construction of the western portion (WB bridge). The access points for the SRB Phase 2 construction will be the same as Phase 1. Phase 2A will be on the east end of the bridge and Phase 2B will be on the west end.

The temporary cofferdam system installed during Phase 1B will remain in place for Phase 2A construction. This will allow our Team to access and build the Phase 2A portion of the river bridge, including the partial demolition of the existing WB bridge. Once Phase 2A bridge components are complete, the temporary cofferdam system will be relocated to the west side of the river for Phase 2B work, allowing us to access and build the Phase 2B and Phase 3A portions of the river bridge. This includes demolition of the remaining portions of the existing WB bridge.

**No lane closures will be required during Phase 2 for the SRB construction.** Travel lanes will be protected from the work zone with temporary barrier walls.

Phase 2 construction of the ACB will require our cranes and other equipment to be loaded onto barges to construct the new bridge and demolish the existing bridge. Unlike Phase 1, crane mounted barges will be used to erect bridge girders. This work will require four night lane closures.

We will coordinate and phase the roadway construction around the entrance and exit of the Georgia Welcome Center. A detailed plan of construction phasing has been created to ensure traffic will not be restricted at any time.

**Phase 3:** This phase will maintain two lanes of traffic in each direction throughout the project corridor. Two EB and WB travel lanes will be on the newly constructed roadway and bridges. The work zone will be the existing EB lanes throughout the project limits. Temporary barrier walls will be relocated to protect travelers from work areas and act as a median between EB and WB traffic. Access points into the work zone will be maintained at the beginning and end of roadway work areas on the Georgia and South Carolina sides of the project and at designated interim locations (Figure 1).

SRB Phase 3A includes the demolition and construction of the western portion of Phase 3. Phase 3B involves the demolition and construction of the eastern portion of Phase 3. The access point for 3A will be on the west end of the bridge and access for 3B will be on the east end of the bridge, the same as Phases 1 and 2.

The cofferdam system installed during Phase 2B will remain in place for Phase 3A construction allowing access to build Phase 3A, including the partial demolition of the existing EB bridge required to build the portion of the new bridge. Once Phase 3A bridge components are complete, the cofferdam system will be relocated to the east side of the river for Phase 3B, allowing access to build Phase 3B. This includes the demolition of the remaining portions of the existing EB bridge. **At the end of Phase 3B, the cofferdam system will be removed from the river and no additional construction will be required in the river.**

During Phase 3 roadway and SRB bridge construction, no lane closures will be required to perform the work.

Phase 3 construction of the ACB will use the same equipment setup as Phase 2. To relocate our equipment from Phase 2 to Phase 3, cranes will be partially disassembled in order to float below the bridge girders. Access for the ACB construction will be on the south side (EB) of both ends of the bridge. ACB girder erection for Phase 3 will require six night lanes closures.

We will coordinate and phase the roadway construction around the entrance and exit of the South Carolina Welcome Center. A detailed plan of construction phasing has been created to ensure traffic will not be restricted at any time.

*During Phase 3 roadway and SRB bridge construction, no lane closures will be required to perform the work.*

**Phase 4:** This phase will maintain two lanes of traffic in each direction throughout the project corridor. Two lanes of EB and WB traffic will be on the newly constructed outside roadway and bridge travel lanes. The work zone will be the median of the newly constructed roadway and bridges. The remaining areas of temporary pavement will be removed and completion of permanent road and bridge work will be completed in this phase. **At the completion of Phase 4, all new travel lanes will be opened to the traveling public and construction will be complete.**

**Significant Known and Anticipated Challenges**

While there are many challenges to this project's construction phasing, **we have identified the five most significant known and anticipated challenges and our solutions for them.**

1. **Construction Access to the Savannah River.** Due to the very shallow water, accessing the river will be a challenge. Typical construction techniques for a river crossing are either crane mounted barges, or trestle and cofferdams. However, due to the limited water depth and rocky bottom, the use of barges will be impossible; and using a trestle and traditional cofferdams with sheet pile will be problematic given the shallow elevations of hard geotechnical rock formations.

**Installing a trestle and sheets will have extensive impacts to the environment.** Therefore, this challenge requires unique construction methods.

**Solution:** We evaluated several options and decided upon using a temporary cofferdam system, which provides the most cost-effective solution.



**Example of Temporary Cofferdam**

Our Team analyzed multiple ideas and determined the temporary cofferdam system provides an effective and innovative solution to addressing the most significant project challenge. We designed temporary access roads for material and equipment deliveries and detailed our project schedule to ensure the **temporary cofferdam is installed and removed outside of the water work restriction window identified in the Requests for Proposal (RFP).** We will inspect the cofferdam system daily and temporary access roads weekly, at a minimum.

The temporary cofferdam system will allow our construction equipment and material deliveries to access the river. **This will drastically reduce traffic disruptions and environmental impacts.** The only lane closures required for the SRB construction will be the girder erection for Phase 1.

**The only lane closures required for the SRB construction will be the girder erection for Phase 1.**

2. **Construction Access to the Augusta Canal.** Accessing the canal presents challenges unlike those to the Savannah River. We intend to use barge mounted cranes for the ACB work. Similar to the Savannah River, our Team designed temporary

access for material and equipment deliveries. The challenges occur in how to erect the Phase 1 girders and how to relocate the crane mounted barges from Phase 1 to the Phase 2 work areas outside the existing canal bridges. The equipment becomes trapped between the bridges due to vertical clearances of the existing EB and WB bridges. The equipment would be required to be dismantled. Likewise, geometric restrictions will not allow for crane boom clearances adjacent to the existing bridges, nor for girder delivery onto the canal.

**Solution:** Our solution to these challenges is to use a Mi-Jack Straddle Crane to straddle the new structure and install the bridge girders for Phase 1 rather than using conventional cranes and barges. This method eliminates the "trapped" scenario. This will require closing the inside travel lane of EB and WB bridges for six nights, but significantly reduces the overall exposure to the work area and schedule. Temporary access will be constructed and conventional construction methods using crane mounted barges will be used for Phases 2 and 3. The only lane closures for ACB will be for Phase 1 girder erection. **This solution provides an overall safer work environment for project personnel, as well as the traveling public.** A detailed erection plan using the Mi-Jack to install the Phase 1 girders will be provided. We have confirmed the existing bridge is suitable for the construction loads. Our maintenance of traffic (MOT) plan will incorporate truck mounted attenuators and law enforcement support while we safely install the girders during the short duration lane closures. This work will be thoroughly coordinated with GDOT and all stakeholders.



**Mi-Jack Straddle Crane (Superior Project)**

3. **SRB Geometric Restrictions to Constructing Phase 1 in Proposed Alignment.** Similar to the challenge identified in Item 2, geometric restrictions in Phase 1 are a significant challenge. Cranes will be used inside our temporary cofferdam system to construct bridge foundations and substructures. We analyzed using the same cranes to install the Phase 1 girders. To do this, a complex erection sequence was developed and analyzed by our construction engineering consultant, McNary Bergeron & Associates. This procedure requires the last two beams in each span be rolled and jacked into position to allow



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an envelope for the cranes to work. This option was ruled out due to the extraordinary risk of having crane booms between the existing bridges and rolling very large girders into place.

**Solution:** The solution for the ACB will be implemented in the same manner for the SRB. The use of the Mi-Jack to install the Phase 1 girders on the SRB is the safest solution. *The risk of crane booms contacting the substructure and rolling/jacking very large girders into place is eliminated.* Although this option does introduce the need for 18 nighttime lane closures, our construction experience suggests this is by far the safest installation method. Girders will be staged in the median. We understand the importance of traffic flow and the value to GDOT and SCDOT of eliminating lane closures. This is a high priority for us as well; therefore, this analysis, and decision was taken with the highest consideration regarding project and public safety.

- 4. **Schedule Restraints within the Savannah River.** The overall project schedule is aggressive due to the December 31, 2021 end date and the restraints for in-water work within the Savannah River. *Special Provision Section 107, requires no work in the Savannah River from March 1<sup>st</sup> through July 1<sup>st</sup>.* These constraints create challenges with scheduling our work to maintain work flow and continuity with crews and resources. Numerous schedules were created to optimize our manpower and equipment resources to develop a solution to work around the schedule constraints and achieve the desired end date.

**Solution:** *With creative crew overlapping and the addition of resources, we were able to develop a solution to the schedule challenges.* Our project staff will actively manage the schedule and use this as a tool to ensure schedule goals are achieved. Detailed schedules for each work item will be created and updated weekly to ensure milestone dates are met. If schedule slippage occurs, we will have alternate plans and backup resources available to recover time and regain the schedule. Our Team will maintain the highest level of communication to ensure stakeholders are informed of upcoming traffic shifts, project milestones, and overall progress.

- 5. **Traffic Flow and Environmental Protection.** Our approach is to ensure the traveling public, GDOT and SCDOT representatives, and project personnel are not in danger by having non-critical lane closures or disruptions to traffic. Therefore, we developed construction methods that provide minimal lane closures and limit impact to construction traffic.

**Solution:** Our lane closures will be limited to additional borings during design, installation of accel/decel lanes, and the girder erection within Phase 1 of the SRB and ACB and Phases 2 and 3 (spans 1 and 2) of the ACB. *Outside of those limited lane closures, we do not anticipate any traffic restrictions.* Our Team will use special designed accel and decel lanes for construction traffic access and egress.

*We will not put the traveling public, GDOT and SCDOT representatives, and project personnel in danger by having non-critical lane closures or disruptions to traffic. We developed methods to construct work with minimal lane closures and limit impacts of construction traffic.*

*Our goal is to keep drivers focused on safe driving and not the construction activities surrounding them. The welfare of the traveling public and project personnel is our top priority.*

Likewise, we will be good stewards of the environment. Protecting the natural resources within and around the project is very important and *the SUPERIOR Team is committed to doing so.* We analyzed numerous alignment options and ultimately selected the costing plan option to reduce impacts to the environment. Our Team is familiar with designing and working in environmentally-sensitive areas. *We understand the commitments for the SRB and selected a temporary cofferdam system and construction methods that have minimal impacts to the river and surrounding environment.*

We also understand the commitments within the Augusta Canal and have selected construction methods for the ACB to protect the natural resources within the area. *Additionally, we designed our roadway construction to have minimal impacts to the environment by reducing material exports and imports as evidenced by our approved Alternative Technical Concepts (ATC) 001A and 002A,* and by reducing the environmental footprint felt by the project by eliminating bents in the canal and the river. We also evaluated an alignment shift and found it to have far greater impact on the environment; therefore, we rejected the idea. We are committed to designing and maintaining the project to protect the surrounding environment and natural resources that exist in the area.

**C.1.1.1.b. Traffic management/control/sequencing approach**

While design and construction are important, minimizing delays to motorists and maximizing safety for the public and construction workers is critical for project success. We developed a detailed MOT plan, as identified below, that will be part of a comprehensive traffic management plan (TMP). The TMP includes detailed plans and will be a living document throughout the project's design and construction phases. It will also meet the Federal Highway Administration (FHWA) Work Zone Mobility and Safety Program requirements. It will include detailed descriptions of each MOT phase; impacts to traveling public; descriptions of travel routes; laydown, recycling, and staging areas; disposal locations; haul routes; maintenance plans; notification procedures for traffic pattern changes; procedures for incident management and public outreach. Other information, such as specific requirements for stakeholders adjacent to the project, will be detailed in the TMP. *We will develop a detailed plan for each construction phase emphasizing safety and improving driver expectancy.*





**C.1.1.1.c. Conceptual construction staging drawings**

Conceptual Construction Staging Drawings are included in Schematic Designs accompanying this proposal.

**C.1.1.2. Minimum Lane Closure Durations**

Our construction approach will significantly minimize the use of lane closures for the new bridge and roadway reconstruction.

As outlined in C.1.1.1.a, **our Team will use special designed accel and decel lanes for construction traffic access and egress.** Our plan allows nearly all material and equipment deliveries to safely navigate to and from the project using these accel/decel lanes to the specific site location. These lanes will be constructed on both the Georgia and South Carolina sides, in both EB and WB lanes. **Our temporary cofferdam system will provide access to a dry river bottom for deliveries to the SRB construction zone with minimal lane closures.** As previously identified in Significant Known and Anticipated Challenges, the only exceptions for lane closures during construction will be the Phase 1 bridge beam erection on the SRB and ACB, and ACB Phases 2 and 3 (spans 1 and 2).

**We will significantly minimize the use of lane closures for the new bridge and roadway reconstruction.**

**C.1.1.3. Work Areas, Yard Locations, and Sequencing**

This project will require a unique approach to construction means and methods, specifically to address access, work areas, yard locations, sequencing, and challenges. **We will use a temporary cofferdam system, which will provide an economic and efficient solution to this challenge allowing us to work in the water during the restricted timeframes.**

This cofferdam system, essentially a portable cofferdam, will allow a portion of the river to be temporarily dewatered while foundations, substructure, and superstructure components are constructed.

**Our innovative cofferdam system allows for a simplified design of the new bridge structure, reduces costs, allows smaller equipment to be used, produces less noise, and reduces temporary river impacts.**

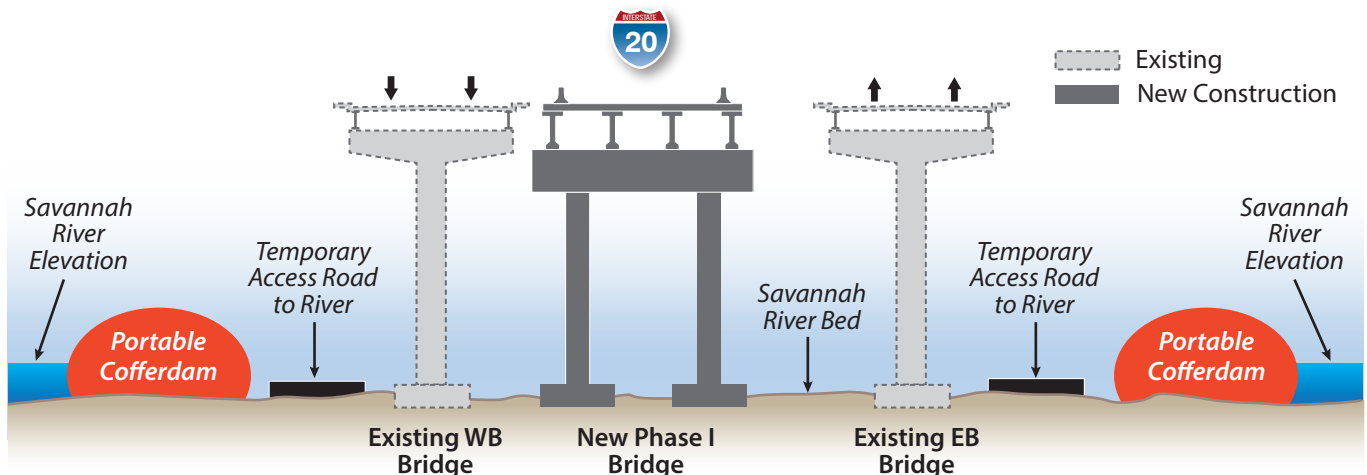
This provides for direct riverbed access while having little to no adverse impacts to the public and the environment. This unique solution will allow construction crews to work throughout the year while not being affected by environmental work restrictions in the water. Our cofferdam system will allow a dry work area, encompassing approximately half of the bridge construction in each phase, including demolition.

The cofferdam system will also simplify the design, making it more economical while minimizing impacts to the public and the environment. This solution will eliminate the need for traditional cofferdams and sheet pile installation, which will be problematic given the shallow elevations of hard geotechnical rock formations. Installing sheet piles will have extensive impacts to the environment, require larger equipment, prolong construction durations, produce excess noise and vibration, and create an adverse impact to the public.

Our innovative cofferdam system allows for a simplified design of the new bridge structure, reduce costs, allows smaller equipment to be used, produces less noise, and reduces temporary impacts to the river.

**C.1.1.3.a. Minimizing impacts to the traveling public from staging or laydown yard locations**

The SUPERIOR Team approach to minimizing impacts to the traveling public begins with the innovative concepts presented within our proposal. Our primary laydown area will be the dry riverbed, created by our cofferdam system. For the SRB, we will deliver and install bridge components from this location, except Phase 1 girders. This will keep traffic flowing safely and eliminate impacts to the traveling public. We will also use the



Phases 2 and 3 are similar

**Typical Section Showing Portable Cofferdam Location and Access Roads for SRB**



areas within the I-20 WB on-ramps (South Carolina) to potentially store material. Our Team will develop a plan to establish safe ingress and egress, and review the laydown locations with GDOT, SCDOT, and other stakeholders. These ramp locations will be improved to return the sites to their original condition or better.

For the ACB, we will use barges for the material storage and laydown. Resource coordination will be closely monitored to minimize on-site material and equipment.

Our Team has also coordinated with multiple nearby businesses for off-site laydown/storage areas. These yard locations are within two miles of the project site and will provide easy access for project personnel and equipment. Our project field office will be located here.

The Welcome Centers in Georgia and South Carolina will remain open and functional with no impacts resulting from our construction activities, including the ramp tie-ins.

Welcome Centers will not be used for material storage or laydown. With our innovative approach to working within the river, virtually all deliveries will use our special designed accel and decel lanes, greatly reducing construction impacts to adjacent routes and degradation of existing infrastructure.

Our approach also includes a well-defined truck route for deliveries, which will be communicated and updated weekly through our Public Information Network. **All major deliveries will be planned outside of peak travel times on the I-20 corridor.**

### **C.1.1.3.b. Minimizing impacts to the traveling public, public recreational users, and stakeholders from noise, vibration, dust, erosion, and light**

As previously referenced, our cofferdam system on the SRB will allow our crews to work within a dry riverbed. Our special designed accel and decel lanes, and direct access to the riverbed will significantly minimize impacts to the traveling public. By working in the riverbed, we have direct access to the bridge components, which allows for smaller equipment; produces less noise, less vibration, less dust; and greatly reduces impacts to the area.

We will work around recreational users of the canal and towpath for the ACB construction. Our crews are accustomed to working on major waterways and dealing with high volumes of recreational traffic. We will coordinate our work schedules to minimize inconvenience to recreational users on the towpath and canal. Signage will be installed to identify all work zones and notify recreational users. During all work activities for the ACB, we will delineate a safe passage way through the work area for the recreational water user by installing floating barriers in the canal. We will also delineate safe passage for the towpath users through the work area as well. During girder erection and demolition, portions of the canal/towpath will be closed—public safety is our top priority.

**Our ACB design eliminated the pier in the middle of the canal, which will minimize impacts to the recreational traffic.**

We have limited our exposure through design. Our focus points will be the in-water foundation and substructure work. We will use drilled shafts in casings for intermediate bents; therefore, no cofferdams are needed. Since the Phase 1 girder erection will involve lane closures on I-20, it will occur at night and recreational users will not be present. During demolition, we will have spotters on barges and the canal/towpath will be closed from public use.

During our limited night work, we will ensure temporary lighting is directed away from traffic to minimize distractions. During demolition activities, dust control will be in place to reduce or eliminate airborne particles and employ methods to prevent materials from falling into the water. Our erosion control measures will be installed and maintained throughout the life of the project. We will also accommodate the canal inspections and required access on the towpath through the work zone.

### **C.1.1.3.c. Safe ingress and egress to and from the work zone during construction, including truck accel/decel when merging**

As stated in C.1.1.2, our Team will use special designed accel and decel lanes to enter and exit the project site for construction traffic providing a means of safe access and egress for construction vehicles and material deliveries. **These lanes will give construction vehicles the ability to enter and exit the site at normal speeds in a safe manner** and not hinder the normal traveling operations of I-20. Our Team has previously implemented these accel and decel lanes with other DOT projects to successfully provide safe project access. This has proven to be a safe solution for construction personnel and the traveling public. Construction of the new SRB structure will be completed in multiple phases. This phased work typically requires numerous deliveries off the shoulder of the existing road. Our design and construction approach, with the use of our cofferdam system and the proposed accel/decel lanes adjacent to the travel lanes of I-20 will eliminate the need for lane closure deliveries, reduce impacts to the traveling public, and provide a safe travel experience through the project.

### **C.1.1.4. Maintenance of Traffic, GDOT Values**

#### **C.1.1.4.a. Traffic control phased to maximize flow within the allowable lane closures**

The staging and sequence of construction were carefully studied and developed to minimize lane closures. Limited nighttime closures will be required for Phase 1 bridge beam erection on the SRB and ACB. ACB Phases 2 and 3 (spans 1 and 2) will also require nighttime lane closures. There will also be minimal nighttime lane closures for installation of the accel/decel lanes and to obtain additional soil borings for the foundation design during preconstruction. Aside from these activities, **our traffic control is phased to maximize flow.**

**We will reduce the impact to the public by scheduling major deliveries/activities, such as bridge beams, concrete pours, etc., outside peak time congestion.**



**C.1.1.4.b. Establishing temporary visual barriers to minimize user distraction and impacts**

Our commitment for a safe work zone includes the safety of the traveling public and minimal user distraction. During bridge construction, we will use an opaque fence material as part of our safety handrail of the deck overhang form system. This will create a visual deterrent and act as a “catch” mechanism for any falling or blowing debris. Our construction schedule and phasing will also minimize the use of night work and lane closures to reduce user distraction glare from the temporary lighting, and impacts in proximity to the travel lanes.

**C.1.1.4.c. Minimizing the impact of the construction during peak-time congestion**

We understand the traffic needs of the area, especially during peak travel times.

We will reduce the impact to the traveler by scheduling major deliveries/activities, such as bridge beams and concrete pours, outside peak time congestion.

**C.1.1.4.d. Optimize driving conditions during construction so that they are unimpeded**

Our Team’s optimization of driving conditions throughout the project corridor during construction is highlighted below.

**i. Maintain clear, identifiable temporary pavement markings**

- Temporary pavement markings will be re-coated as needed to meet standards

**ii. Minimize the degradation of pavement conditions from the removal of existing pavement markings**

- Pavement marking removal by waterblasting to minimize roadway degradation

**iii. Minimize the need for narrowed lanes and shoulders**

- Travel lane widths will be 11 and 12 feet wide during construction
- Our staging sequence has been carefully developed to ensure longitudinal joints in the concrete pavement are on the final lane skip and edge line markings

**iv. Smooth, consistent transitions between temporary and permanent pavement**

- All temporary pavement will smoothly transition

**v. Rapid response times to maintenance of the facilities**

- Personnel available for rapid response for repairs of MOT devices
- We will implement a response plan should an incident require maintenance within the project limits
  - Rob Clark or his designee will be immediately notified
  - We will engage in coordination with first responders
  - Assessment and repair of the facility will be initiated, including MOT
  - Rob will address and contact appropriate individuals

**vi. During off-peak hours, maintaining a speed band through the construction period where 75% of vehicles through the construction zone will be within five miles per hour of the**

**posted construction zone speed**

We will maintain the speed band during off-peak hours by focusing on the following:

- Minimize lane closures during off-peak hours
- Utilize off non-peak hours for major deliveries
- Accel and decel lanes will provide a means of safe access and egress for construction vehicles, allowing traffic to maintain the desired speed band
- We will work with GDOT’s motorist assistance program Coordinated Highway Assistance and Maintenance Program (CHAMPS)

**vii. During peak hours, maintaining a speed band where 75% of the vehicles through the construction zone will be within five miles per hour of the pre-construction speed**

We will maintain the speed band during peak hours by focusing on the following:

- No major deliveries during peak hours
- Accel and decel lanes will provide a means of safe access and egress for construction vehicles, allowing traffic to maintain the desired speed band
- We will work with GDOT’s motorist assistance program Coordinated Highway Assistance and Maintenance Program (CHAMPS)

**viii. Use of enhanced public outreach strategies to inform and update the traveling public**

- Update the traveling and recreational public during all phases of this project using proven enhanced outreach strategies, as highlighted in our proposal

**C.1.2. Proposal (Project) Schedule**

**C.1.2.a. Overall approach to the design, construction phasing, planning, scheduling, and execution of the work**

Our project schedule is enclosed in the Schedule Tab of our submittal and depicts our **Substantial Completion by December 23, 2021, ahead of the December 31, 2021 deadline.** The Final Acceptance date is February 9, 2022. Our schedule identifies the overall schedule approach and execution for design and construction. It details design submittals, review periods for each component, and items leading up to permit submittals. Roadway items are divided between Georgia and South Carolina to better define scope and review responsibilities. Critical shop drawings and material procurement activities are identified. Each construction phase is divided to identify sub-phases. **Constraints were placed on work within the Savannah River to ensure no work will occur in the water from March 1<sup>st</sup> through July 1<sup>st</sup>.**

Our Team will start **“at-risk” preliminary permitting and design work**, as well as project management planning once we are determined the apparent winner. This will allow us to get ahead of the process by procuring long lead-time materials, plan early works, develop detailed work plans, and proactively manage toward the success of the project.



Our project Team will meet with GDOT, SCDOT, and other key stakeholders to ensure project milestones are clearly communicated and understood. We will conduct regular meetings internally, with design and construction personnel as well as externally with GDOT, SCDOT, project personnel, and other key stakeholders to review schedule updates and provide up-to-date details on upcoming milestones and events.

### C.1.2.b. Schedule activities in South Carolina and Georgia

Our construction schedule details Georgia and South Carolina roadway, SRB, and ACB activities for each phase of work. Due to the required phasing on the SRB, the three main phases are divided into sub-phases. For example, our schedule identifies roadway work in Georgia (Phase 1A) and South Carolina (Phase 1B) and will be completed concurrently. As shown in Phase 1A, the ACB work can continue throughout Phase 1. This is similar for Phases 2 and 3.

Our bridge construction sequence starts with foundation work, followed by substructure activities (columns and caps) and then girder erection. After the girders are erected, the stay-in-place (SIP) deck will be installed and deck concrete placement will occur from previously poured bridge decks. **Deck installation will not require lane closures**, which will keep construction traffic minimized inside our temporary cofferdam system.

### C.1.2.c. Critical Path

The project schedule will be updated weekly, with monthly status updates submitted. This will confirm the critical path and other milestone dates are being achieved. The weekly and monthly schedule updates will be reviewed with our Team during our schedule update meetings. The overall Critical Path Method (CPM) schedule will be used to create detailed construction schedules by field staff for day-to-day activity planning. This will be the basis of our detailed construction look-ahead schedules and will be used as tools to actively manage project progression.

The critical path starts with design, specifically related to the SRB and runs concurrent with permit acquisition. Once permits are obtained, and the National Environmental Policy Act (NEPA) re-evaluation completed, construction of the SRB is the critical path in each phase of work. Due to the constraint on relocating our temporary cofferdam system between March 1<sup>st</sup> and July 1<sup>st</sup>, the relocation at the end of Phase 1A is paused until after July 1<sup>st</sup>, 2020. This constraint removes items from the critical path, prior to Phase 1B. These activities remain critical to our schedule and will be actively pursued. The critical path extends through the completion of bridge construction and then into Phase 4, where barrier wall and final roadway construction is completed, ending at substantial completion.

The schedule is developed using a seven-day calendar for design and permitting activities and a five-day calendar for construction activities. **GDOT and SCDOT standard holidays and special events are identified as non-work days**. Durations are based on one shift per day. Activities requiring lane closures will be at night; therefore, these items will be pursued as two shifts per day.

We will use weekend work and additional shifts, when necessary, as opportunities to recover from schedule delays to expedite milestone dates.

**Acumen Fuse reports will be created as an added value to typical schedule updates.**

Acumen Fuse Software is another tool we will utilize. This is a metric analysis and visualization tool to assess the quality of schedules, accuracy of cost forecasts, and realism of risk models. Acumen Fuse reports will be created as an added value to typical schedule updates.

### i. Interim completion deadlines for early portions of the work (if any)

- Interim completion will be 660 days from Notice to Proceed (NTP) 1

### ii. Substantial completion

- December 23, 2021

### iii. Final acceptance (reference Form M)

- February 9, 2022

### C.1.2.d. Schedule Requirements: Substantial Completion on or before December 31, 2021

Our schedule complies.

### C.1.2.e. Proposal Schedule will incorporate all restrictions for protected species

Our schedule complies.

### C.1.2.f. Proposal Schedule will be a computer prepared, critical path method

Our proposal schedule is a detailed Primavera P6 schedule containing 534 activities. Each activity is uniquely identified so that its intent and location is clearly understood and its order and interdependence accurately illustrates the overall approach to the work. Durations and logic ties illustrate the planning, scheduling, and execution of the work. All elements of the project are considered in the schedule, including design, permitting, utilities, and construction. Construction activities are to a level of detail such that no activity has a duration more than 90 days and design packages are appropriately tied to each construction phase.

- ✓ i. Contain a minimum of 400 schedule activities
- ✓ ii. Uniquely identify each schedule activity with a noun, verb, and location
- ✓ iii. Indicate the order and interdependence of activities and sequence for accomplishing the work
- ✓ iv. Include reasonable durations and appropriate logic ties to show the proposer's overall approach to the planning, scheduling and execution of the work
- ✓ v. Include activities for design, permitting, utilities, and construction for each of the two states
- ✓ vi. Not have any schedule activity longer than 90 days in duration
- ✓ vii. Show separate design packages with appropriate logic ties to each construction phase

**C.1.3. Environmental Impacts/Public Outreach**

**C.1.3.a. Durations (days) for single allowed canal closure**

*We will plan the work within the Augusta Canal to minimize the closure period to the shortest extent possible at all times during construction and use floating barrier or buoys to delineate a safe waterway passage for recreational users through the work area. We will respect the users' ability to access the canal area and coordinate work activities to inform the surrounding public and canal users. The activities requiring canal closures are demolition and the erection of girders. This work will require eight days of canal closures for demolition of the existing bridge. Girder erection will occur at night, when canal usage is limited.*

**C.1.3.b. Durations (days) for 2 allowed towpath closures**

Similarly, we understand the usage of the towpath is vital to the community and we are committed to keeping the towpath open and operational. We will minimize the impacts to the towpath and only implement full closures of the path for demolition and girder erection. We will delineate a safe walkway for the recreational user of the towpath through the work area. This work will require two three-day towpath closures for demolition of the existing bridge. The girder erection over the towpath will occur at night, when the towpath is closed to recreational users. We will maintain access for the canal bank inspections. The towpath will be safely re-opened and operational for users for day time use during work.

***We are committed to keeping the towpath open and operational.***

**C.1.3.c. CEPP Enhancements**

**i. Specific protections to the environmentally-sensitive areas and species**

Environmental management best management practices (BMPs) adhering to specific requirements outlined in the GDOT-approved Ecology Assessment of Effects Report (AOER), including Supplemental Specification 107.23G and Special Provision 107.23H, as well as environmental commitments outlined in the environmental document, will be implemented. These will be closely monitored to ensure success. Our Team's approach to environmental compliance and permitting will begin upon award with early integration of design and NEPA leads, ecologists, compliance managers, and construction managers into the project development group to fully understand the environmental issues, Special Provision 107, and develop a comprehensive BMP strategy. ***Our Team is committed to environmental compliance and will insist on adherence to the requirements of Special Provision 107.*** Our Team members have a comprehensive understanding of environmental requirements and best practices from their qualifications and past experience working on bridge projects over sensitive waterways. Our design for the canal bridge intermediate bents includes drilled shafts within casings to minimize canal impacts.

**ii. Additional worker training will be provided**

Construction personnel will be trained to recognize the appearance of protected species that may occur on site. All



**Augusta Canal and Towpath**

personnel will be made aware of the civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting individuals of these species. Photos of these species and their habitat information will be posted in a conspicuous location in the project field office and all foreman connex boxes, until construction has been completed.

**iii. Other actions deemed beneficial**

Per the requirements of Special Provision 107, an ecologist prequalified in Area Class 1.06(e) will be present for cofferdam dewatering activities and will remove any fish or other visible aquatic animal species that become trapped within the structures. A qualified ecologist will also periodically inspect orange barrier fence and erosion control BMPs to ensure they have not been damaged and remain in place to minimize additional impacts to protected species. Additionally, a qualified ecologist will be available to perform a site visit if requested by the contractor, due to damage of orange barrier fence, erosion control BMPs, or suspected/known impacts to protected species.

***Our design for the canal bridge intermediate bents includes drilled shafts within casings to minimize impacts to the canal.***

**C.1.3.d. Descriptions and Commitments**

**i. Schedule/sequence to minimize environmentally-sensitive impacts**

Members of our environmental Team will identify potential environmental issues that may reasonably occur during construction and develop mitigation strategies to avoid potential schedule delays. During development of the final plans, ***our Team's ecologist will review the final construction plans to ensure compliance with requirements outlined in Special Provision 107.23H and avoidance and/or minimization of impacts to protected species' suitable habitats. Construction sequence will occur with adherence to in-stream restrictions.***

Construction will not begin until the required erosion control BMPs, orange barrier fence, and netting are installed. Temporary cofferdams will be used to provide a dry work area within the Savannah River. Any temporary placement of material within this dry area will be fully contained by geotextile fabric to prevent debris from being released into the river.



ii. Protecting environment during construction

Protecting the environment during construction, particularly in the staging areas will address recycling, construction equipment storage and maintenance, material storage, and disposal locations used during construction. Emergency Spill Kits will be located and maintained at staging/storage locations, and our personnel will be trained in proper use of these kits. See Section C.1.3.c. CEPP Enhancements to review how we intend to manage environmental concerns.

C.1.3.e. Public Outreach

**SUPERIOR** is dedicated to achieving GDOT’s communication and public outreach goals. Our Team will support GDOT Office of Communications (GDOTOC) and SCDOT in providing objective and useful information regarding the project on both sides of the Savannah River, both before construction begins and throughout the project. We will provide materials and strategies to **communicate potential impacts for travel along I-20 and local roadways, and to recreational users of the waterway and towpath.**

*Providing up-to-the-minute updates is at the forefront of our Team’s outreach philosophy.*

Our Team has experience working with GDOTOC on a corridor-wide and statewide basis, managing the public involvement process for the Statewide Transportation Improvement Program (STIP), and the Statewide Transportation Plan (SWTP).

i. Early notification methods for traffic information

We understand GDOT will lead the outreach program and has completed public outreach in this corridor prior to the letting of this project, including the presentation of project renderings at a Public Information Open House. Upon Award, our Team will build upon these efforts using messaging that is consistent with language used previously about the project. To accomplish this goal, we are prepared to **coordinate early and often with GDOTOC, SCDOT, project partners, and FHWA.**

Our Team will begin by drafting a communications and engagement plan with GDOTOC describing the ground work for our approach, one that will build upon established communication tools with innovative strategies to reach both groups of impacted residents and stakeholders on a regular basis. Strategies will involve use of QR codes in highly visible locations at the project site to inform and educate the public on the project. **We will hold regular Saturday Morning Coffee Talks, where a member of the project Team will host the public to answer questions and provide updates.** To assist GDOT and SCDOT in providing up-to-the-minute travel data for motorists, we will provide information regularly to designated 511 managers.



ii. Early installation and additional CMS signage

The I-20 at Savannah River Bridge project will be phased to reduce disruption to the public. Helping the traveling public plan for these phases by providing up-to-the-minute updates is at the forefront of our Team’s outreach philosophy. We will put this philosophy into action with the early installation of additional CMS signage and the **consistent flow of useful, relevant, timely information into CMS signage for immediate communication to the public.** In particular, our Team will also support the GDOTOC and SCDOT communication teams in working early in the project process to make residents aware of the location, use, and impacts of the truck accel/decel lanes that will be constructed within the project.

iii. Frequent, consistent coordination with key stakeholders

The foundation of our successful outreach approach is the **early and clear identification of stakeholders, which whom we will coordinate frequently and consistently.** There will be a Section 4(f) use of a publicly owned recreational resource and the Augusta Canal National Heritage Area (NHA). **The SUPERIOR Team** will contact stakeholders that represent the experiences the canal offers: the NHA; operators of Petersburg Boat Tours; and hikers, bikers, runners, canoers, and kayakers who frequent the trails and waterways. We will coordinate with GDOTOC, SCDOT, and the NHA’s communications staff and resources to post up-to-date information regarding upcoming trail closures for demolition and girder erection, and build a database of email addresses for direct communication about the project.

C.1.4. Project Management Approach

C.1.4.1. Organization, Management, and Key Personnel

**The SUPERIOR Team** was assembled specifically to fulfill the requirements of this contract and is ideally suited to serve GDOT and SCDOT on this complex river bridge replacement, and interstate widening project. Our Team brings excellence in design-build (D-B) projects, specializing in marine bridge construction, interstate widening, concrete pavement, engineering, and public involvement. This section of I-20 is located at the border of Georgia and South Carolina in Augusta and provides a vital link to the transportation corridor in this region. Additionally, environmental challenges working in the Savannah River and Augusta Canal, while maintaining uninterrupted traffic movement on I-20, makes it a challenging site to reconstruct due to extraordinary traffic volumes during peak usage. Adding in a multi-year D-B contract administered through GDOT in conjunction with multi-state coordination with the SCDOT, will require **the SUPERIOR Team** to develop the schedule and coordination strategies to ensure seamless communication to all stakeholders. **Our Team is ready to meet this challenge head on and has the resources, experience, and capabilities to deliver this complex and important project for GDOT and its partner SCDOT.**



### **C.1.4.1.a. Organization chart**

Our Team's organizational chart appears as Figure 2 on the following page.

### **C.1.4.1.b. Organization, management, design, construction, quality, and project controls GA and SC; addressing how construction requirements will be separated while the overall project management and quality management maintained**

**SUPERIOR, WSP, and STV** have enjoyed a long-standing professional relationship and have worked closely together on multiple projects in the past.

Our key Team members were selected based on past proven excellence on bridge and interstate widening and reconstruction projects with complex access conditions, environmental challenges, and high traffic volumes.

**SUPERIOR** is teamed with **WSP** for their GDOT knowledge and experience, **STV** for their SCDOT knowledge and experience, and our subconsultants and subcontractors for their local expertise and knowledge. The synergy established between these professionals over numerous similar projects will enable fluid communication and shared knowledge among Team members, as well as the commitment of personnel throughout the entire process. With two states involved, **WSP** and **STV** have worked closely together during the proposal phase to develop a consistent design, while adhering to each owners' specifications and requirements. **WSP** will be responsible for overall project design, the Georgia roadway portion of the project, and both bridges. **STV** will provide design services for the South Carolina roadway portion.

**The SUPERIOR Team will implement procedures and controls to eliminate the challenge of working in two states.** Our Team will ensure a seamless transition with different specifications, design submittals and standards, material requirements, and the highest standard of testing and quality control are achieved.

**Rob Clark, PE, Lead Contractor Project Manager (LCPM)** will be involved in all project development processes to ensure adherence to contract requirements and allocate appropriate resources. Our design and construction Teams will interface throughout the life of the project. **SUPERIOR** will be the lead for construction and **WSP** will lead design. We have organized our Team to have leadership and supporting personnel for each state, reporting up through and to **SUPERIOR** and **WSP**.

**Design:** In addition to leading the overall design, **WSP** will be responsible for the Georgia roadway, ACB and SRB and design quality control (QC). **STV** will have design and QC responsibilities for South Carolina components.

**Construction:** **SUPERIOR** has designated a **Project Manager (Rob Clark, PE) and Superintendent (Kenny Wooten)**, responsible for the overall project. We will also designate assistant superintendents, foremen, and field engineers for work throughout Georgia and South Carolina. Their responsibilities will include constructing the work to the appropriate specifications and

design, and ensuring proper materials are ordered and delivered.

**QC:** Our materials testing and certification Teams will be specific to each state and certified by each DOT.

**The SUPERIOR Team's** extensive D-B experience has demonstrated regular discipline coordination meetings throughout project execution are critical to success, particularly in an environment of working in two states under one contract. These meetings, led by **David Nardon D-B Coordinator**, will serve as the central decision-making and communications tool among key staff. These open forums of discussion with the project Team (including GDOT and their Program Management Consultant (PMC), and SCDOT representatives) will address design status, key project elements, project schedule, safety, constructability issues, Q/C testing, and methods to address technical challenges. Through this approach, we will develop strong relationships and a firm foundation for mutual trust, partnering, and interactions within the entire project Team leading to open communications, streamlined reviews, reduced potential for construction field issues, and the ability to deliver the project safely, and as early as possible. **WSP** has worked with GDOT's PMC on the SR 299 over I-24 Bridge Replacement.

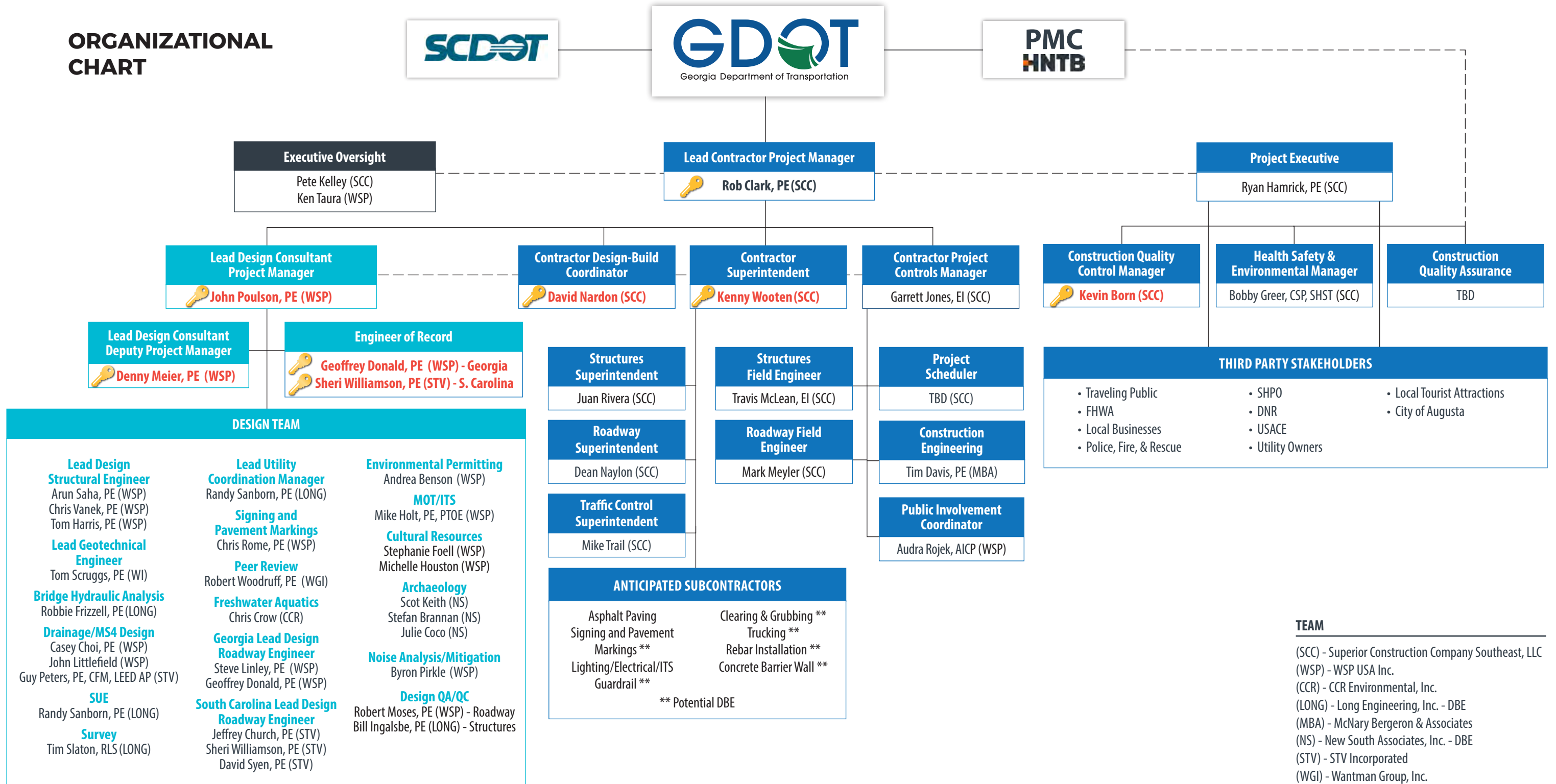
### **C.1.4.1.c. Conducting work in the two States: how State-specific technical requirements will be applied and what methods of ensuring they are properly applied will be used**

During final design, **WSP's** roadway design manager will work closely with **STV** to ensure clear and concise project details, standards, and call-outs are noted appropriately for Georgia and South Carolina portions of the project. The line of demarcation from Georgia to South Carolina specifications is clear. Both bridges will follow GDOT design requirements and will be designed by **WSP**. **Willmer Engineering** is familiar with geotechnical requirements for both states. Final plan quantities and details by state, will be clearly denoted for their intended location on the project. The coordination of design and construction activities, including MOT, will be crucial due to the location, particularly the SRB connecting Georgia and South Carolina. **Independent design reviews will ensure compliance with state-specific technical requirements and methods** to confirm they are properly applied. **SUPERIOR**, in our weekly coordination meetings will ensure project communication and documentation is shared with **WSP** and **STV**. We will provide exceptional coordination between GDOT, SCDOT, and the D-B Team to ensure traffic control and project details are distributed to inform the public and third-party stakeholders.

### **C.1.4.1.d. Quality processes for the Project**

Our Team's principal quality goal will be to meet or exceed GDOT and SCDOT expectations and eliminate revisions or rework by performing the work correctly the first time. We are dedicated to performing quality work and strive for continual improvement. Our Team's quality policy and procedures are designed to meet these objectives, and to be compliant to the International Organization for Standardization (ISO) 9001:2008 international standard for quality management, quality assurance, and quality systems.

**ORGANIZATIONAL CHART**



**TEAM**

(SCC) - Superior Construction Company Southeast, LLC  
 (WSP) - WSP USA Inc.  
 (CCR) - CCR Environmental, Inc.  
 (LONG) - Long Engineering, Inc. - DBE  
 (MBA) - McNary Bergeron & Associates  
 (NS) - New South Associates, Inc. - DBE  
 (STV) - STV Incorporated  
 (WGI) - Wantman Group, Inc.  
 (WI) - Willmer Engineering

**Note:** **Key Team Leads in RED**

**LEGEND**

Design Construction





At the start of the project, a meeting will be convened to discuss the work, clarify requirements, establish lines of communication, and review quality plans and procedures. **The uniqueness of working in two states, under different design requirements, specifications, inspection practices and testing (at a minimum) will be thoroughly reviewed.** Accommodation and consideration for GDOT, SCDOT, and other stakeholder personnel and programs will be provided throughout the duration of the project.

Regularly scheduled meetings will be convened to address performance, schedule, material, and quality issues throughout the duration of the project to ensure GDOT and SCDOT stakeholder concerns are understood and addressed, and ensure continual improvement is implemented and evident.

In the case of an error or ambiguity during the life of the project, we will have a plan in place for the identification and control of non-conforming conditions, identified as a Condition Adverse to Quality (CAQ). CAQs are identified, documented, evaluated, and resolved in accordance with applicable procedures. Non-conforming items are segregated, when appropriate, to preclude inadvertent use.

### Design Quality Assurance

In accordance with GDOT's D-B Manual, **the SUPERIOR Team** will develop a formal Quality Control Plan (QCP) documenting the roles, responsibilities, and requirements of the design Team throughout the design development process. **The QCP will be tailored to include SCDOT requirements.** This documented approach involves a collaborative effort between **John Poulson, PE, Lead Design Consultant Project Manager; Geoffrey Donald, PE, Engineer of Record (EOR)** for Georgia; and **Sheri Williamson, PE, EOR** for South Carolina; the design Teams; Independent Design Reviewer (IDR) for both bridges; the Quality Assurance Manager; and **Rob Clark, PE, LCPM.**

Design quality management will be led by the Design Quality Assurance Manager (DQAM), John Poulson, Geoffrey Donald, Sheri Williamson will be integrally involved in implementing quality control reviews by the discipline leads. For design activities and deliverables, the Design Quality Management Plan (DQMP) will include requirements for GDOT and SCDOT and will be the framework for quality assurance, while the EORs will be responsible for QC. **The SUPERIOR Team** Design Quality Management Program will provide a framework through which appropriate management controls are developed and implemented.

The DQAM will review the QC documentation and perform specific quality assurance checks, as defined in the DQMP, to confirm the Released for Construction (RFC) plans are prepared in accordance with GDOT and SCDOT requirements and the IDR comments have been addressed. **The SUPERIOR Team** will implement the following formal design QA/QC procedures during design development using the following process.

- WSP will develop project-specific compliance checklists (by discipline and state) using the Project Technical Requirements during the early stages of design development
- Checklists will be developed by the EOR for both states and submitted to the DQAM for review and approval
- Interdisciplinary design reviews, discipline QC reviews, and design builder reviews to be performed using Bluebeam software (with cloud hosting), so review comments from multiple Team members can be captured in one file (and saved as documentation of the QC process)
- Bluebeam comments will be exported to Excel, for development of a formal Comment Resolution Form for use in disposition of all plan review comments
- Responsible design engineer completes the Design Discipline Project Checklists and submits concurrently with each formal submittal as documentation of the QC process
- Complete quality assurance certifications
- Conversion of GDOT and SCDOT generated RFC Plan comments to a Comment Resolution Form, for easy review and disposition of comments

Other components of the DQMP will include meetings between the D-B Team, project PMC, GDOT, SCDOT, and other representatives as previously noted. The purpose of these meetings is to allow for construction Team oversight and constructability input during design development and provide for "over-the-shoulder" reviews from GDOT, SCDOT, PMC, and key stakeholders.

For RFC submittals, individual drawings will be signed and sealed by discipline leads and the title sheet signed and sealed by the EOR for both states prior to submittal to GDOT for acceptance and then distribution as the approved RFC Plans. Formal design changes during construction will involve the same rigorous process as noted above.

WSP has used similar procedures on several D-B projects to control quality of design deliverables, minimize the need for re-work and re-submittal, and meet client and owner expectations so the design is developed to expected quality standards.

### Construction Quality Control

Our Team will take responsibility for the quality of the work and all QC activities, including construction inspection, materials testing, and reporting required by the contract. Through the development and implementation of a QCP, we will verify adherence to the standards set forth in the contract and systematically evaluate the adequacy and appropriateness of our work. The QCP will contain the project standards and measurable goals, along with the established policies and procedures. The QCP will also require staff training and continuous review of data associated with the project standards. The QCP will contain a quality assurance component to act as a system of 'checks and balances' for the life of the project. We will meet with stakeholders, including GDOT,



# I-20 at Savannah River Bridge Replacements and Roadway Widening Project

## TECHNICAL PROPOSAL

SCDOT, City of Augusta, Augusta Canal Authority, Augusta National, Petersburg Boat Tours, first responders, and local businesses.

We are committed to:

- Providing properly trained and qualified inspectors and technicians
- Implementing a system ensuring each inspector and technician understands the QCP requirements
- Committing to effective project management and oversight by the QAM and construction QA manager
- Ensuring inspectors and technicians are onsite and responsive to needs

### C.1.4.1.e. Identify all Key Personnel, organization, function and responsibility relative to the Project, and percent of time devoted to the project for each phase

Table 1 highlights our key Team members and their function for this project. **Our Team members will be 100% committed to this project during each phase.**

Name/Title	Function/Responsibility
<b>Robert Clark, PE</b> <i>Lead Contractor Project Manager</i>	Manage planning, permitting, execution and control of all project aspects
<b>John Poulson, PE</b> <i>Lead Design Consultant Project Manager</i>	Manage project design in coordination with environmental documents, utilities, and construction
<b>Geoffrey Donald, PE</b> <i>Engineer of Record (Georgia)</i>	Oversee design for the Georgia portion of the project
<b>Sheri Williamson, PE</b> <i>Engineer of Record (South Carolina)</i>	Oversee design for the South Carolina portion of the project
<b>Kenny Wooten</b> <i>Contractor Superintendent</i>	Manage construction, coordinate subcontractors, drive schedule
<b>Kevin Born</b> <i>Construction QC Manager</i>	Perform construction quality acceptance/oversight
<b>David Nardon</b> <i>Contractor D-B Coordinator</i>	Manage/coordinate design activities, provide oversight, serve as liaison between design and construction, provide technical assistance and constructability reviews
<b>Denny Meier, PE</b> <i>Lead Design Consultant Deputy Project Manager</i>	Serve as the single point of contact for design discipline and segment leads

### C.1.4.1.f. Brief qualification and experience statement for task managers and required personnel in each sub-organization reporting to the Key Personnel

Table 4 highlights the qualifications of personnel.

### C.1.4.1.g. Current and projected workload and backlog of the Proposer team

The SUPERIOR Team has reviewed our current and projected

workload and identified the resources necessary for this project. Our Team will have ample resources available to perform the work starting upon the anticipated award in December 2018. Our construction Team will have the required capacity when the construction is anticipated to begin in mid-2019.

### C.1.4.1.h. Participating Members and Major Non-Participating Members have relationships outside this Proposal

#### i. A table indicating the roles of participating members and major non-participating members

Table 2 indicates the roles of the Participating Members and Major Non-Participating Members and their shares of ownership of any joint venture entities.

Firm	Role	JV %	Project Position
Superior Construction Company Southeast, LLC.	Participating Member	N/A	Lead Contractor
WSP USA Inc.	Major Non-Participating Member	N/A	Lead Design Consultant EOR for Georgia
STV Incorporated	Major Non-Participating Member	N/A	EOR for South Carolina

#### ii. A table showing the relationship between any of the participating members and major non-participating member

Table 3 indicates the relationships between participating and major non-participating members.

Firm	Role	Relationship
Superior Construction Company Southeast, LLC.	Participating Member	SUPERIOR is the sole Participating Member and will be the contracting entity with GDOT
WSP USA Inc.	Major Non-Participating Member	WSP is a Major Non-Participating Member and will contract under a design subcontract agreement with SUPERIOR
STV Incorporated	Major Non-Participating Member	STV is a Major Non-Participating Member and will contract under a design subcontract agreement with WSP

### C.1.4.2 Organizational Communication

#### C.1.4.2.a. Proposer's team members working together to provide a unified design, construction, maintenance during construction, and quality approach to the Project

SUPERIOR brings proven methods for creating a harmonious environment of Team members working together to provide a unified design, construction, facility maintenance during construction, and a committed quality approach to all elements of the work.





Table 4

Name/Title	Function/Responsibility	Qualifications	Years
<b>Arun Saha, PE (WSP)</b> <i>Lead Design Structural Engineer</i>	Lead structural design efforts, including the bridges over the Savannah River and Augusta Canal	Experience working on multiple D-B and innovative projects. Experience working with GDOT on multiple bridges. In-depth knowledge of GDOT's Bridge and Structures Design Manual. Experience with multiple D-B projects throughout the nation using LRFD method. Demonstrated project success on several GDOT bridge projects.	26
<b>Steve Linley, PE (WSP)</b> <i>Georgia Lead Design Roadway Engineer</i>	Oversee design of new lanes, auxiliary lanes, and ramp systems; coordinate other discipline leads and construction managers for Georgia	Experienced in the management and design in all phases of highway projects. His work experience includes the successful completion of roadway and bridge projects including a wide spectrum of design ranging from interchange reconstruction, interstate widenings, rural widenings, urban arterials and intersection improvements.	29
<b>Jeff Church, PE (STV)</b> <i>South Carolina Lead Design Roadway Engineer</i>	Oversee design of new lanes, auxiliary lanes, and ramp systems; coordinate other discipline leads and construction managers for South Carolina	Experience providing design and management for state and local highway projects, including projects with SCDOT and GDOT. Provides design, geometric design, drainage layout and design, ROW plans, signing and marking, erosion control, and MOT.	25
<b>Tom Scruggs, PE (Willmer)</b> <i>Lead Geotechnical Engineer</i>	Preparation of geotechnical reports, lead site investigation and lab testing, provide analysis	Experience providing geotechnical services for roadway/bridge design and construction projects, including soil surveys and foundation design. Former GDOT Geotechnical Engineer Bureau Chief. Experience includes developing the GDOT Geotechnical Manual for drilling, sampling, and report writing guidelines. Considered a subject matter expert.	37
<b>Robbie Frizzell, PE (LONG)</b> <i>Bridge Hydraulics Analysis</i>	Provide bridge hydraulic analysis	Experience with structural and hydraulic design, FEMA modeling, and permitting. Provides preliminary and final geometric layout. He was key in the development of a methodology combining 2-D and 1-D modeling for bridge design for published in ASCE EWRI conference proceedings .	30
<b>Andrea Benson (WSP)</b> <i>Environmental Permitting</i>	Lead NEPA and environmental activities and coordinate with other discipline leads	Significant NEPA and permitting experience on GDOT projects including specializing in data collection and analysis for natural resource and other environmental/ecological studies. Established working relationships with GDOT Environmental staff and permitting agency staff.	6

The **SUPERIOR** Team is comprised of highly qualified and experienced firms that are well suited to deliver the I-20 Savannah River Bridge Replacements and Roadway Widening Project on schedule. Success starts with the pre-award effort during the proposal phase. Our D-B task groups have had regularly scheduled weekly meetings to develop innovative solutions to the many challenges set forth in the project.

**Our plan approaches the project on two fronts: design and construction concurrently.** We will collaborate upon anticipated award to begin final design and interface between disciplines.

We will establish a project field office in Augusta during design to begin detailed operation planning, project coordination, and staging preparation. Weekly coordination meetings with GDOT, SCDOT, and other key stakeholders, will begin immediately. All design discipline leads will meet weekly for internal and external coordination. Internal coordination will be accomplished through design management meetings and informal communication between disciplines. External coordination occurs during task force meetings (including design, construction and owner representatives), schedule meetings, and design kickoff and review meetings. This execution plan is similar to the plan used on other successful D-B projects in which **SUPERIOR** has been

the lead. Through the use of electronic collaboration and effective meetings, **this organizational approach has proven numerous times to be efficient and effective.**

**Design**

Our plan begins with implementing a Design Coordination Plan that integrates design and construction. Through effective innovation, collaboration, and detailed planning, the approach accelerates design while minimizes design changes. To optimize the benefits of the D-B process and provide GDOT with the best value, we will coordinate within our Team, GDOT, SCDOT, and outside stakeholders. Our coordination plan will be implemented by **David Nardon, D-B Coordinator**, during design, and **Rob Clark, Construction PM**, during construction.

**Internal Design Review Process**

Our design coordination process will accelerate design completion, ensure timely constructability input/reviews, facilitate permitting and third-party coordination, allow for NEPA reevaluation, minimize field changes, and provide continuous quality control.

We will hold weekly interdisciplinary design review and coordination meetings to guarantee interdisciplinary communication by bringing discipline leads together to share



# I-20 at Savannah River Bridge Replacements and Roadway Widening Project

## TECHNICAL PROPOSAL

innovative concepts, update plans, and coordinate and monitor schedule milestones. Constructability reviews will evaluate means and methods, safety, efficiency, specification conformance, and improve value.

Design submittal packages at conceptual, preliminary, and final stages will be posted to ProjectSolve<sup>2</sup> for internal distribution. We will create design schedules and plans for early construction activities, with sufficient information for NEPA re-evaluation including foundations and MOT. Internal task force Teams for specific disciplines will focus on design concepts, technical approaches, compliance with design standards and guidelines, issue resolution, schedule status, and constructability.

**David Nardon, D-B Coordinator (D-BC)**, will review and compile the comment sheets and marked-up drawings. A formal comment review/resolution meeting will be scheduled with our Team for final disposition. A Final “Submittal Package” Compliance Review Matrix will ensure compliance with submittal requirements. Once construction begins, weekly construction coordination meetings will be held, which will include GDOT, SCDOT, and key stakeholders, ensuring project commitments and schedules are maintained.

### GDOT and SCDOT Comment Review

During design, we will hold weekly progress meetings with GDOT and SCDOT to confirm expectations and commitments. Design submittal meetings with GDOT and SCDOT will define and expedite the review process. **We propose informal preliminary and final over-the-shoulder reviews with GDOT and SCDOT** to proactively expedite the final design submittal. These design and constructability over-the-shoulder review meetings with GDOT and SCDOT will ensure the design meets and is consistent with all commitments and requirements. We propose to hold face-to-face working meetings with GDOT and SCDOT for final design submittal comment resolution as well.

### Construction and Maintenance

The importance of project coordination during construction cannot be overstated. Internal coordination will include continuous collaboration between the design and construction Teams through regularly scheduled planning and progress meetings and continue with the construction Team during construction. External coordination will include weekly progress meetings with GDOT, the PMC, SCDOT, and key stakeholders to review upcoming activities/submittals, track progress, review schedule, key activities, and develop solutions to issues well in advance of their impact to design and/or construction activities.

Maintenance of existing facilities will be reviewed, at a minimum, during weekly scheduled meetings with stakeholders. Emergency needs will be remedied immediately.

### Partnering Process

**Our Team will use a formal partnering process for this project and engaging all stakeholders to ensure success.** We will hold an initial kickoff meeting and subsequent monthly meetings coordinated with GDOT and SCDOT. We will keep

**Our approach to resolving potential quality concerns is to immediately identify the issue, communicate with the Department regarding the issue, and select/implement the desired solution without additional costs or delays.**

project stakeholders updated and informed through various public information forums and key stakeholder meetings. Key stakeholders include GDOT, SCDOT, City of Augusta, Augusta Canal Authority, Augusta National, Petersburg Boat Tours, first responders, and local businesses. We will coordinate MOT with key stakeholders and accommodate special events, including The Masters.

### Quality Approach

Quality assurance and control will begin with specific constructability reviews integrated into the DQMP for all project phases, and with our Construction Quality Control (QC) Plan during construction. Our Team will develop a comprehensive QC plan specific to this project to verify, check, and maintain control of key construction processes. The implementation of this plan will be managed by **SUPERIOR’s QC Manager Kevin Born** to provide the Department with one point of contact for all QC-related issues. Sampling, testing, and reporting of all materials will be in compliance with GDOT’s and SCDOT’s procedures.

Our approach to resolving potential quality concerns is to immediately identify the issue, communicate with the Department regarding the issue, and select and implement the desired solution without additional costs or delays.

#### C.1.4.2.b. Proposer’s team decision-making process

**SUPERIOR believes the decision-making process begins and should end at the lowest level possible.** Should an issue be unresolved at the lowest level, we have a hierarchy in place for dispute resolution to immediately elevate unresolved issues to the next level. In concert with organizational and personnel hierarchy, we also will **implement a task force group comprised of senior members of our Team for specific issue resolution** impacting cost, schedule, or quality. At no time during this process will the project be adversely affected.

#### C.1.4.2.c. Methods used to establish lines of communication and documentation within the Proposer’s team

**The foundation of the project communication plan is our meeting integration strategy, which provides stakeholders the opportunity to meet face-to-face on a regularly scheduled basis** and communicate the status of project goals, expectations, construction, environmental and quality issues, safety, public outreach, and schedule. Each meeting will be documented by minutes and distributed to all participants. Action item lists will be developed to identify critical issues and establish milestones for resolution.

The **SUPERIOR Team** will use the GDOT web-based management website, e-Builder.net, for all contractual file storage, communication, and correspondence. This system will provide automated tracking of time critical submittals and will be



the official record of all project communication. **SUPERIOR** will use Viewpoint for internal financial controls.

### **C.1.4.2.d. Management approach for design and construction**

**The SUPERIOR Team's** management of the I-20 at Savannah River Bridge project will be governed by the Project Management Plan (PMP). This Plan will be developed to serve as the blueprint and primary tool utilized in managing design, permitting functions, and construction. The PMP will also incorporate a management approach to make certain the project is constructed in a safe, environmentally-sensitive, and timely manner while maintaining GDOT's and SCDOT's high standards for quality.

**We will be sufficiently organized to manage the design and construction phases of the project.** The pre-award proposal phase began with developing our technical proposal and included optimizing the costing plans design and gaining a complete understanding of the permitting requirements. The D-B phase will focus on final design development, permitting, NEPA re-evaluation, and integrating final design into construction operations.

Key personnel and task managers have held regularly scheduled meetings during the pre-award design phase to develop the following tasks:

- Conceptual development of a PMP
- ATC Development
- Preliminary (Proposal) Project Schedule
- Risk Matrix
- DBE Subcontracting Good Faith Effort
- Bid Package Development
- Evaluation of Environmental Commitments and permitting requirements
- Evaluation and Development of Technical Solutions for MS4 Compliance
- MOT Plan
- Identification of Utility Conflicts and Solutions
- Project Communication Plan
- Optimize costing plans design, project quantities, and construction pricing
- Production of Submittal Documents and Plans

**The SUPERIOR Team's** effective transition to the Construction phase is critical to continuing the D-B process. **David Nardon, D-BC,** was assigned at the onset of the statement of qualifications (SOQ) and pre-award design phase and will remain through final design, ensuring first-hand knowledge and experience gained during the preliminary design will be carried through final design.

The design and permitting function will be segmented by technical discipline: roadway design, MOT, structures design, drainage design, traffic engineering, ITS, environmental, lighting, utilities, and support functions, such as survey and geotechnical.

**The SUPERIOR Team** commits to utilize the Project Management Control System (PMCS). We will use this system for all project communications, interactions and tracking. We are familiar with and understand the PMCS and will utilize this to perform our responsibilities on the project. We will organize all members of the D-B team and have them fully integrated into the system within 30 days from the start of the contract (NTP 1).

**An effective Project Execution Plan among the SUPERIOR Team, GDOT, and SCDOT is important in maintaining design consistency, quality, and schedule,** in addition to the regularly scheduled meetings. **The SUPERIOR Team** will use the GDOT project design-based management system "e-Builder.net" for communications, file sharing, and electronic communications. With multiple subconsultants working on the design plans, a system must be established for design file management and communication. WSP will implement dedicated file management systems for use by the D-B team during design development and construction. Communication and collaboration within the **SUPERIOR Team** will be accomplished through interactive on-line web meetings/conference calls, face-to-face meetings and action item reports to document the actions required of all parties. Direct electronic communication including email, on-line web meetings and voicemail will be used to conduct project business and keep all parties informed.

### **ProjectSolve<sup>2</sup>**

In addition to these typical communication approaches, **the SUPERIOR Team** will use ProjectSolve<sup>2</sup> (PS<sup>2</sup>), WSP's proprietary web-based collaboration tool, as a primary team interface and communication tool. PS<sup>2</sup> allows a project team to communicate, consolidate and coordinate information and activities from anywhere in the world using simple yet robust tools and an internet connection. This tool is being used during the pursuit phase and will be configured to meet the specific needs of the **SUPERIOR Team** for this Project.

### **C.1.4.2.e. Proposers interface with GDOT, its consultants, SCDOT, and other stakeholders on all matters**

**SUPERIOR** knows this project is important to GDOT, SCDOT, City of Augusta, Augusta Canal Authority, Augusta National, Petersburg Boat Tours, first responders, and local businesses and welcomes their participation and involvement in the project.

**Beginning at the kickoff meetings, all key stakeholders will be integrated into the project meeting protocol.** Each entity, including utilities and subcontractors will be invited to participate in task force and technical meetings to promote communications and the early identification and resolution of issues before they impact the schedule and timely completion of the project.

### **Public Involvement**

Public involvement and communications will be a critical aspect of this project. We have designated **Audra Rojek, AICP,** as our local outreach liaison. Audra has 10 years of planning and outreach experience in Georgia and knows how to develop stakeholder relationships that will aid in building trust and rapport with the community from the project outset.



*We will educate the community of pending construction activities well before the actual start of construction, using stakeholder and public meetings, variable onsite message boards, posting to project related websites or use of other social media platforms.*

Our Public Involvement Plan will include outreach to numerous stakeholders including GDOT, SCDOT, City of Augusta, Augusta Canal Authority, Augusta National, Petersburg Boat Tours, first responders, and local businesses. Because stakeholder needs affect project schedule and construction, **we will begin coordination with key stakeholders early in the design process and continue through construction.**

We will educate the community of pending construction activities well before the actual start of construction, using stakeholder and public meetings, variable onsite message boards, posting to project related websites or use of other social media platforms.

#### C.1.4.3. Safety Plan

**SUPERIOR'S** safety program has won numerous regional and national awards including eight straight Florida Transportation Builders Association (FTBA) Safety Awards and the 2013 American Road and Transportation Builders Association (ARTBA) National Safety Award, in addition to currently being a finalist for the 2018 ARTBA National Safety Award. This award winning program will be implemented on this project to ensure the safety of the traveling public, our partners, GDOT, SCDOT, and our Team is integrated into every aspect of the project.

**Safety begins at the most senior level of our company; our culture is led by example.** Everyone at **SUPERIOR** is held accountable for the safety of their colleagues and the traveling public. Regardless of role or title, **each employee is empowered and expected to be engaged in fostering a safety culture.**

This exceptional commitment to promoting and maintaining a safe work environment emanates from **SUPERIOR's** leadership who are rigorously trained and challenged to ensure each employee has the proper resources and are empowered to create a safe work place.

**SUPERIOR** will have a dedicated Safety Professional on site, to oversee the entirety of the project limits. Our Safety Professional will lead the efforts in creating a project-specific Safety Plan. This plan will identify all project related health and safety hazards, as well as environmental hazards. We will then develop specific plans to avoid hazards or engineer safe solutions to each hazard to create a safe working environment, for the traveling public, GDOT, SCDOT, and the project personnel. Our cofferdam concept eliminates the need of working over water in the Savannah River. There will be times where we will be within the water to install the cofferdam, and while working in the Augusta Canal. For these times, we will have a dedicated manned safety boat, along with the appropriate personal protective equipment (PPE) and safety equipment.

Due to the logistics of the project, our Project Specific Safety Plan and Project Communication Plan will **identify specific arrival locations and access points in both states for first responders to muster should an incident occur.** We will have an onsite Project Safety Meeting with first responders to establish jurisdictions so they are aware of arrival and access points.

#### C.1.4.4. DBE Utilization

**SUPERIOR** has already begun the process of teaming with DBE firms during our initial teaming discussions and with our bid solicitations.

##### a. Meeting or exceeding the DBE participation goals

- We are committed to meet the 11% DBE utilization for this project

##### b. Integrating DBEs at all levels of the Project

- **SUPERIOR** will hold an initial workshop for DBEs. This will be an introduction to our company and the Project to identify opportunities for DBE firms to participate, including subcontractors, subconsultants, and suppliers.

##### c. DBEs utilize during construction

- Workshops will be scheduled to aid in exceeding the project goals and create a diverse field of DBE firms

##### d. Promote DBE in new or under-represented areas

- **SUPERIOR** has experience teaming and mentoring DBE firms. In Florida for the Florida Air National Guard (FANG) 125<sup>th</sup> Fighter Wing; M2 Taxiway Project, **SUPERIOR** (Teaming Contractor) teamed with AKI Partnership, Inc. (Contractor), a small DBE firm and supported and mentored them in successfully completing the project.

**The DBE Participation portion of the PMP shall describe the Proposer's intentions and commitments regarding DBE usage throughout the Project Term to achieve the values identified above, including:**

##### C.1.4.4.a. Proposer's commitment and good faith effort

- The **SUPERIOR** Team commits to meeting the 11% DBE goal

##### C.1.4.4.b. Proposer's commitment to engage DBE firms in aspects of the Work

- We will schedule workshops to further identify and develop DBE firms for the project

##### C.1.4.4.c. Proposer's indication and its good faith effort commitment of how they plan to utilize DBE firms

- We have identified design DBE firms in our SOQ as noted on the organizational chart, and will further develop DBE firms

##### C.1.4.4.d. Proposer's commitment to promote DBE firms

- In addition to meeting the goal, we feel confident that we will identify additional DBE opportunities



Georgia Department of Transportation

in conjunction with The logo for the South Carolina Department of Transportation (SCDOT), featuring the letters "SCDOT" in a bold, blue, sans-serif font with a stylized white and blue graphic element to the right.

RFQ NO. 484-03302018DB

## **DESIGN-BUILD**

**I-20 AT SAVANNAH RIVER BRIDGE  
REPLACEMENTS AND ROADWAY  
WIDENING PROJECT**

P.I. NO. 210327

# **SECTION C.2**

## **Project Differences from Reference Information Documents (RIDs)**





C.2 Project Differences from Reference Information Documents (RIDs)

The SUPERIOR Team is dedicated to developing unique design solutions, including our Alternative Technical Concepts (ATCs). While not considered an ATC, the SUPERIOR Team approached bridge elements of the project with a focus on innovative ideas to streamline phasing and minimize disruptions to the traveling public, ease construction to reduce the construction duration, minimize environmental impacts, and develop an efficient and cost-effective solution for the bridges. Maximizing efficiency has been achieved through smart bridge layout by increasing span lengths, thus reducing the impacts on the Augusta Canal and Savannah River by reducing the number of bents from what is shown in the costing plans. A high-level beam optimization analyses and cost estimates were performed to choose the correct materials. High performance concrete (f'c=10 ksi) is included in our analyses to maximize the span lengths and shorten bridges for concrete beam-type.

The following is a listing and brief summary of approved ATCs to be included by the SUPERIOR Team for implementation during final design and construction. A table highlighting our design modifications appears at the bottom of this page.

ATC001A – Pavement Design Modification

Concrete Pavement Rubblization in Georgia. ATC001A was developed and approved by GDOT to rubblize the existing concrete pavement on I-20 for the project limits within Georgia.

The I-20 typical sections were modified to rubblize the existing concrete pavement and use the fractured concrete as aggregate base course. Prior to rubblization, Willmer Engineering will conduct a Soil Survey Investigation to obtain samples adjacent to the travel lanes and determine the potential for weak or wet subgrade soils. The investigation will include in-place and lab tests on samples obtained, including soil support capacity. If weak/wet soils are found, one or more of the following measures will be used:

- 1. Adjusting the rubblization energy to ensure the underlying areas and not overstressed
2. Removing and replacing the weak/wet subgrade soil

- 3. Adjusting the pavement design to account for these soils
We will ensure the rubblized section drains properly or install under drains as necessary.

ATC002A – Pavement Design Modification

Concrete Pavement Rubblization in South Carolina. ATC002A was developed and approved by GDOT to rubblize the existing concrete pavement on I-20 for the project limits within South Carolina.

The I-20 typical sections were modified to rubblize the existing concrete pavement and use the fractured concrete as aggregate base course. Levelling or wedging the rubblized section will be accomplished using HMA (Type E for depths less than 1.5 inches and Type C for depths greater than 1.5 inches). The minimum lift thickness for GABC in South Carolina will be six inches and the maximum lift thickness will be 10 inches. We will also use proof rolling.

The rubblization for ATC001A and ATC002A will re-purpose the existing concrete pavement, allowing it to remain in place as aggregate base and will result in construction schedule time savings, less truck hauling for slab disposal and removal of existing base materials, and less truck hauling for new base materials. This will provide an improvement to traffic flow for motorists on I-20. The rubblized concrete will be compacted and brought to grade, the three-inch interlayer of 19 mm asphalt applied (Georgia) or 175 HMA surface Type C interlayer (South Carolina), and the 12 inches of Plain PC Concrete Pavement constructed.

ATC003 – Concrete Edge Beam Modification

Steel End Diaphragms at Ends of Concrete Beams. ATC003 was developed and approved by GDOT for modification to edge beams. The modification provides a galvanized steel end diaphragm at the ends of pre-stressed concrete beams at open deck expansion joints and for continuous deck locations at interior bents. The depth of the steel diaphragm will be at least half the depth of the largest connecting girder. The approved ATC003 detail will replace the concrete edge beam detail shown on GDOT Bridge Cell.

Table with 3 columns: Modifications, Details, Benefit. It lists two modifications: Modification 1 - Augusta Canal Bridge and Modification 2 - Savannah River Bridge, detailing span configurations and their benefits like shortened bridges and reduced impacts.





Georgia Department of Transportation

in conjunction with **SCDOT**

RFQ NO. 484-03302018DB

**DESIGN-BUILD**  
**I-20 AT SAVANNAH RIVER BRIDGE**  
**REPLACEMENTS AND ROADWAY**  
**WIDENING PROJECT**  
P.I. NO. 210327

# **SCHEMATIC DESIGNS**

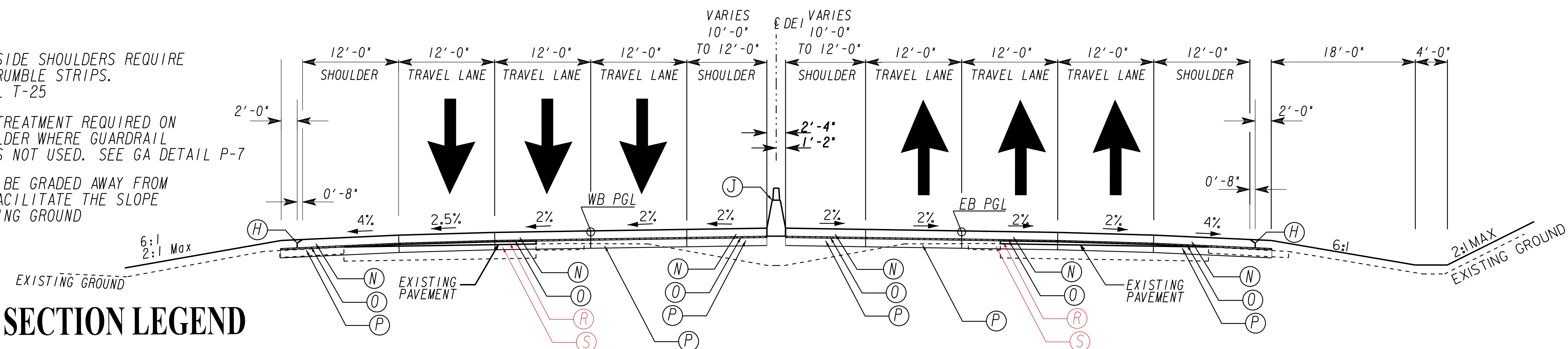


NOTES:

- INSIDE & OUTSIDE SHOULDERS REQUIRE INDENTATION RUMBLE STRIPS. SEE GA DETAIL T-25
- SAFETY EDGE TREATMENT REQUIRED ON OUTSIDE SHOULDER WHERE GUARDRAIL OR BARRIER IS NOT USED. SEE GA DETAIL P-7
- SHOULDER MAY BE GRADED AWAY FROM ROADWAY TO FACILITATE THE SLOPE TIE TO EXISTING GROUND

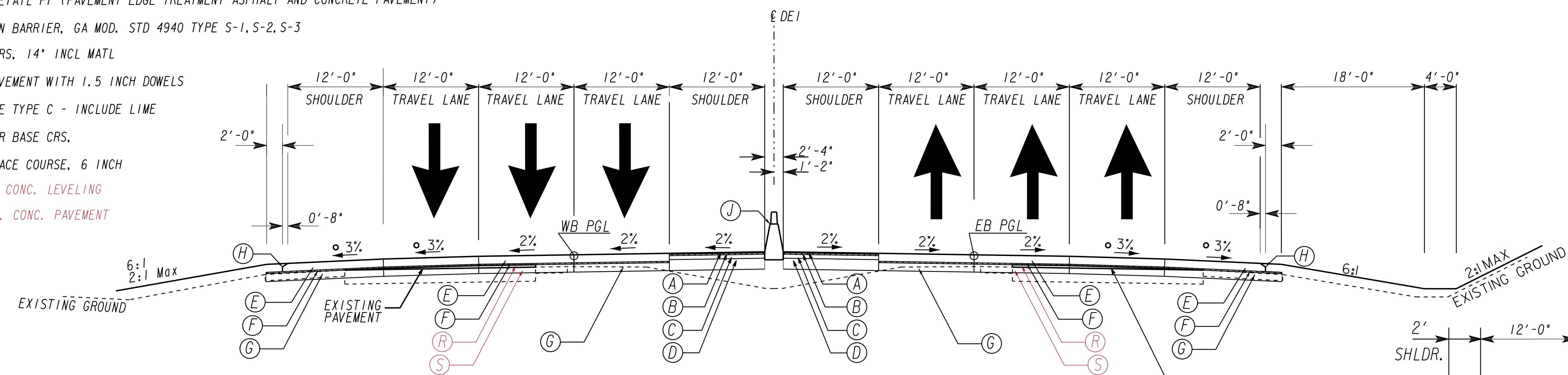
TYPICAL SECTION LEGEND

- (A) RECYCLED ASPH CONC 12.5MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME - 220\*/SY
- (B) RECYCLED ASPH CONC 19MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME - 220\*/SY
- (C) RECYCLED ASPH CONC 25MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME - 770\*/SY
- (D) GR AGGR BASE CRS, 16.0"
- (E) PLAIN PC CONC PVMT, CL 1 CONC, 12 INCH THK
- (F) ASPH CONC 19MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME - 330\*/SY
- (G) GR AGGR BASE CRS, 12" INCL MATL
- (H) CONSTRUCTION DETAIL P7 (PAVEMENT EDGE TREATMENT ASPHALT AND CONCRETE PAVEMENT)
- (J) CONCRETE MEDIAN BARRIER, GA MOD. STD 4940 TYPE S-1,S-2,S-3
- (L) GR AGGR BASE CRS, 14" INCL MATL
- (N) 12 INCH PCC PAVEMENT WITH 1.5 INCH DOWELS
- (O) 175 HMA SURFACE TYPE C - INCLUDE LIME
- (P) 10 INCH GR AGGR BASE CRS,
- (T) AGGREGATE SURFACE COURSE, 6 INCH
- (R) RECYCLED ASPH. CONC. LEVELING
- (S) RUBBLIZE EXIST. CONC. PAVEMENT



TYPICAL SECTION NO. 2  
TANGENT SECTION

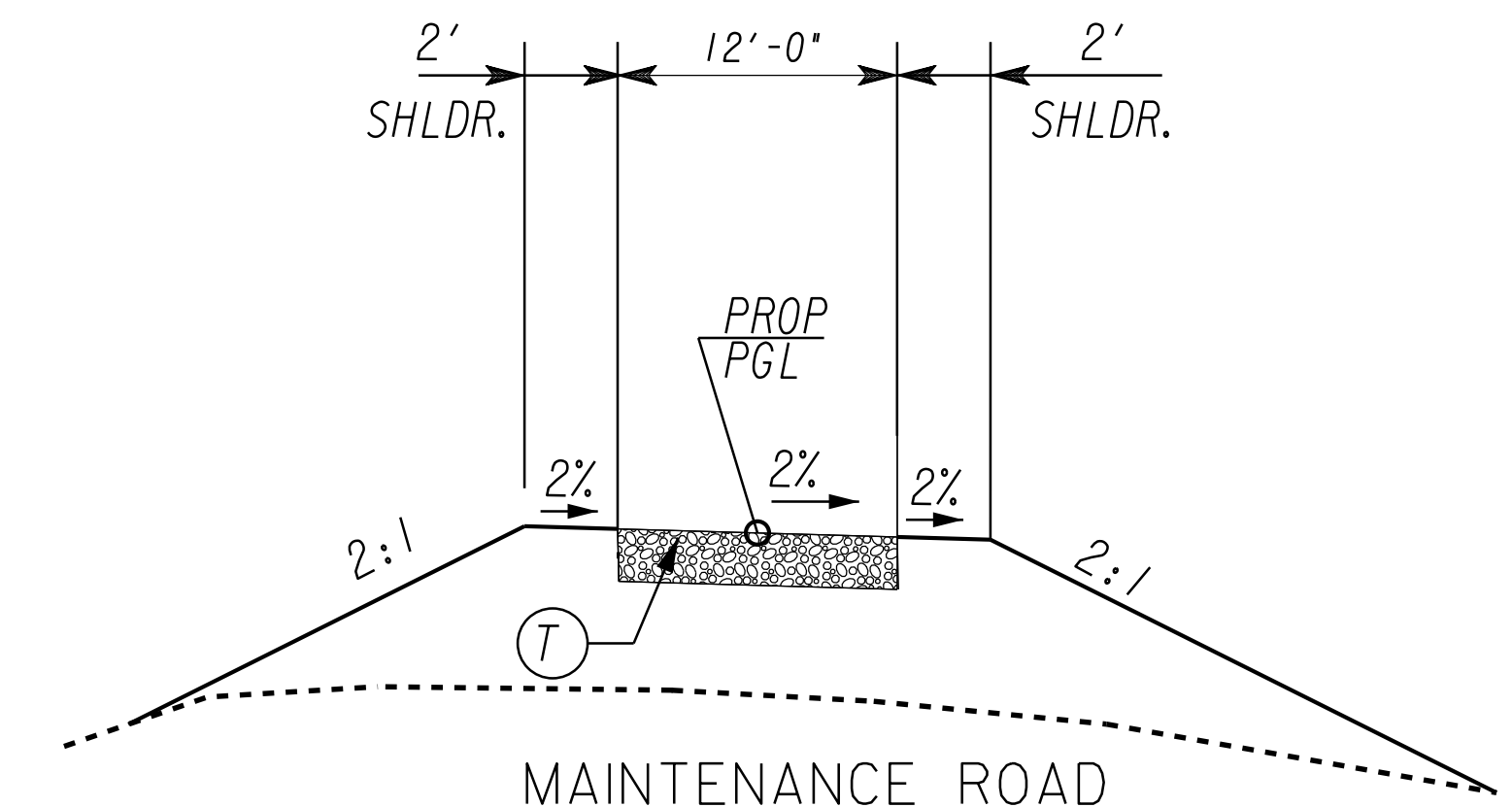
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STATE OF SC STA.381+33.63 TO STA.398+09.88 EB



TYPICAL SECTION NO. 1  
TANGENT SECTION

3RD LANE AND SHOULDER TO SLOPE AT 2.0% ALONG PROPOSED BRIDGES

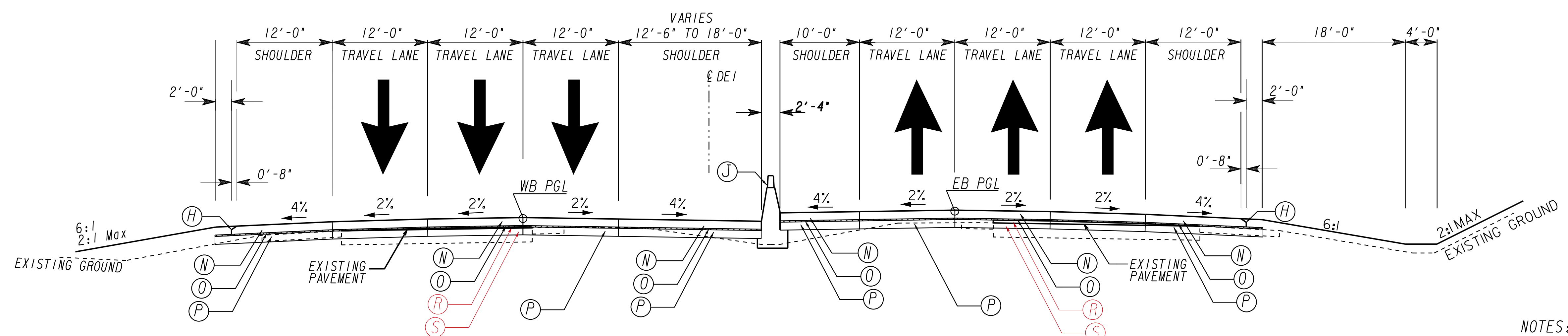
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SECTION EXCEPTION FOR BRIDGE FROM  
STA.366+85.00 TO STA.380+01.00  
STA.351+20.00 TO STA.355+10.00



NOT TO SCALE

COSTING PLANS  
NOT FOR CONSTRUCTION

REVISION DATES		TYPICAL SECTIONS	
		1-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	05-0001	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



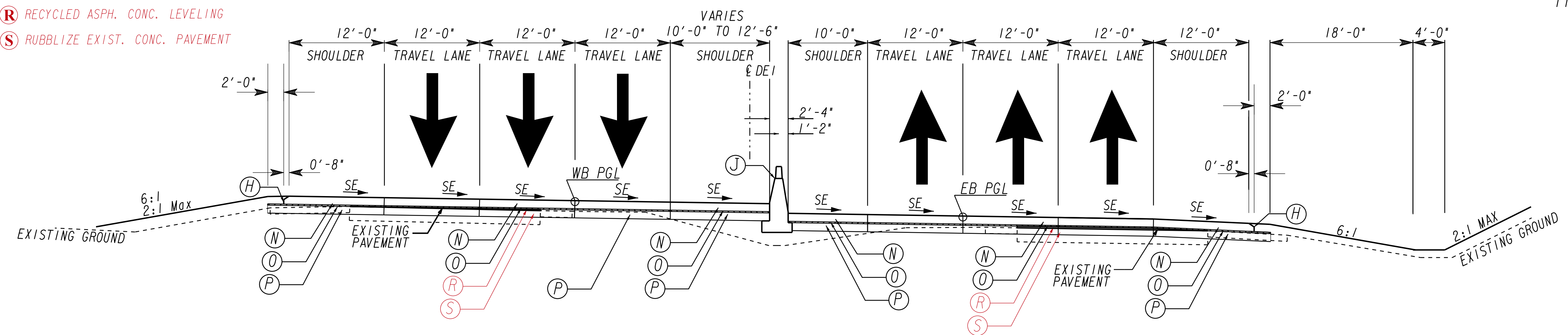
**TYPICAL SECTION LEGEND**

- (H) CONSTRUCTION DETAIL P7 (PAVEMENT EDGE TREATMENT ASPHALT AND CONCRETE PAVEMENT)
- (J) CONCRETE MEDIAN BARRIER, GA MOD. STD 4940 TYPE S-1, S-2, S-3
- (N) 12 INCH PCC PAVEMENT WITH 1.5 INCH DOWELS
- (O) 175 HMA SURFACE TYPE C - INCLUDE LIME
- (P) 10 INCH GR AGGR BASE CRS.
- (R) RECYCLED ASPH. CONC. LEVELING
- (S) RUBBLIZE EXIST. CONC. PAVEMENT

**TYPICAL SECTION NO. 4  
TANGENT SECTION**

STATE OF SC STA. 413+45.63 TO 417+92.75 WB  
STATE OF SC STA. 414+06.03 TO 417+92.75 EB

- NOTES:
1. INSIDE & OUTSIDE SHOULDERS REQUIRE INDENTATION RUMBLE STRIPS. SEE GA DETAIL T-25
  2. SAFETY EDGE TREATMENT REQUIRED ON OUTSIDE SHOULDER WHERE GUARDRAIL OR BARRIER IS NOT USED. SEE GA DETAIL P-7
  3. SHOULDER MAY BE GRADED AWAY FROM ROADWAY TO FACILITATE THE SLOPE TIE TO EXISTING GROUND



**TYPICAL SECTION NO. 3  
SUPER ELEVATED SECTION**

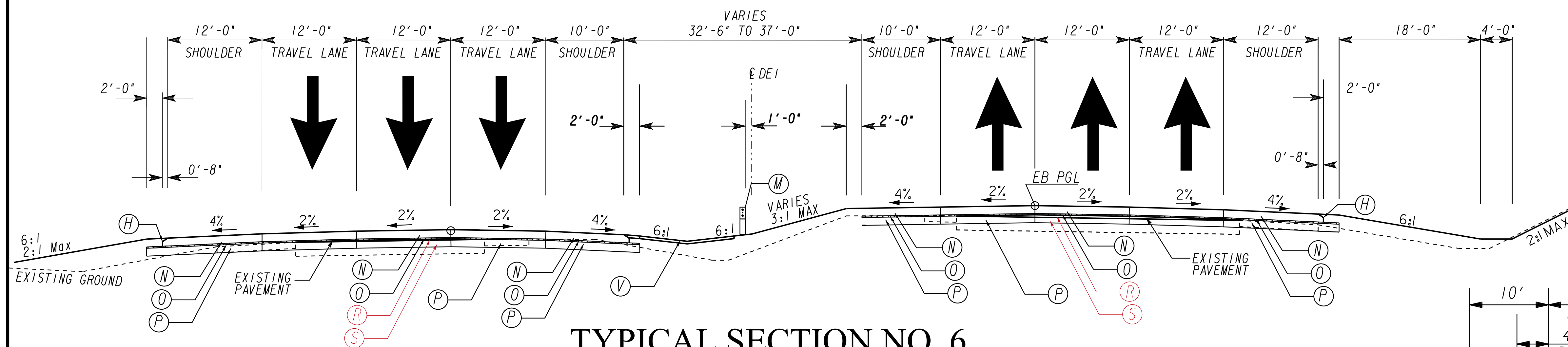
STATE OF SC STA. 396+19.00 TO STA. 413+45.63 WB  
STATE OF SC STA. 398+09.88 TO STA. 414+06.03 EB



NOT TO SCALE

COSTING PLANS  
NOT FOR CONSTRUCTION

REVISION DATES		TYPICAL SECTIONS	
CHECKED:	DATE:	1-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER	
BACKCHECKED:	DATE:	DRAWING No.	
CORRECTED:	DATE:	05-0002	
VERIFIED:	DATE:		



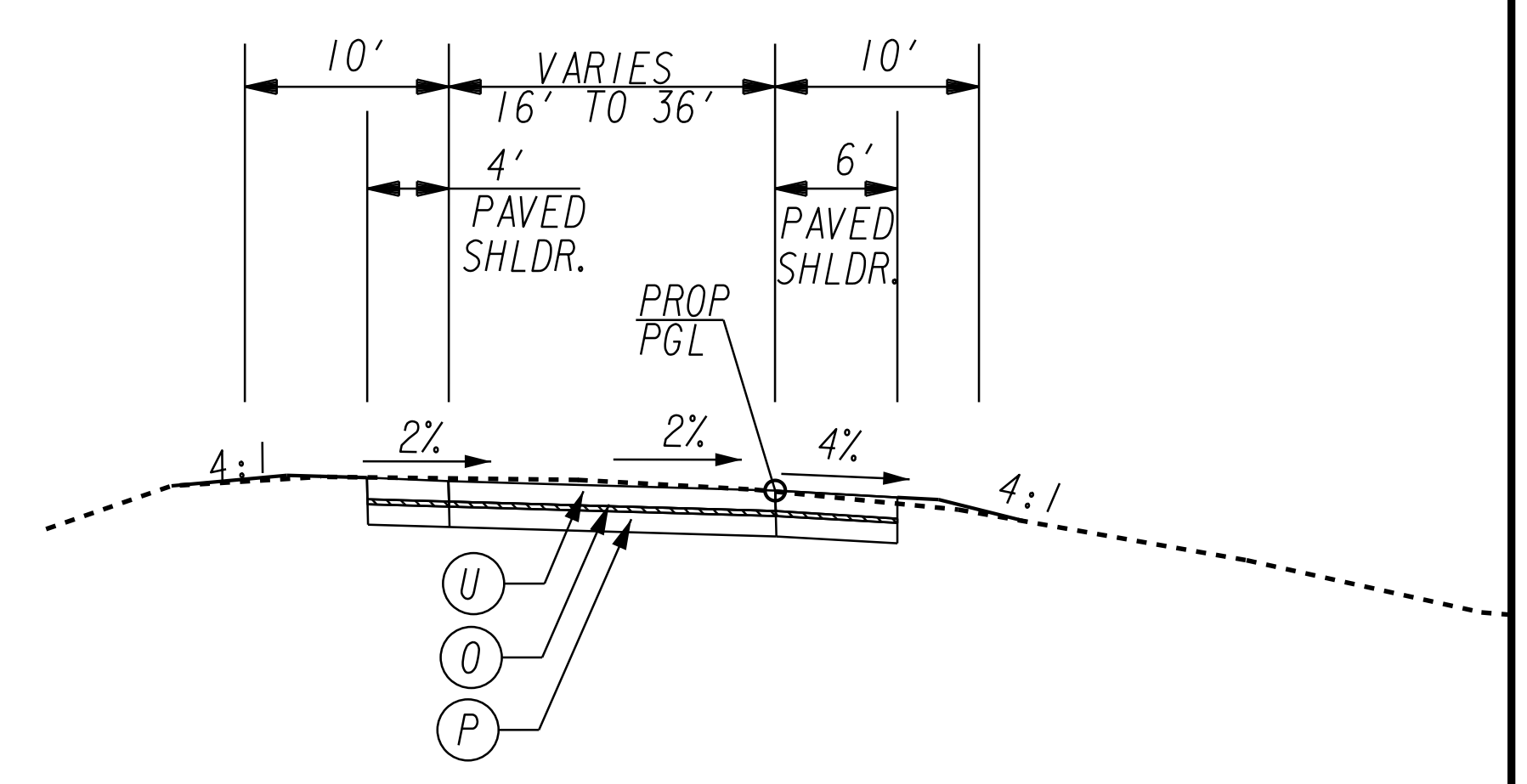
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TANGENT SECTION

**TYPICAL SECTION LEGEND**

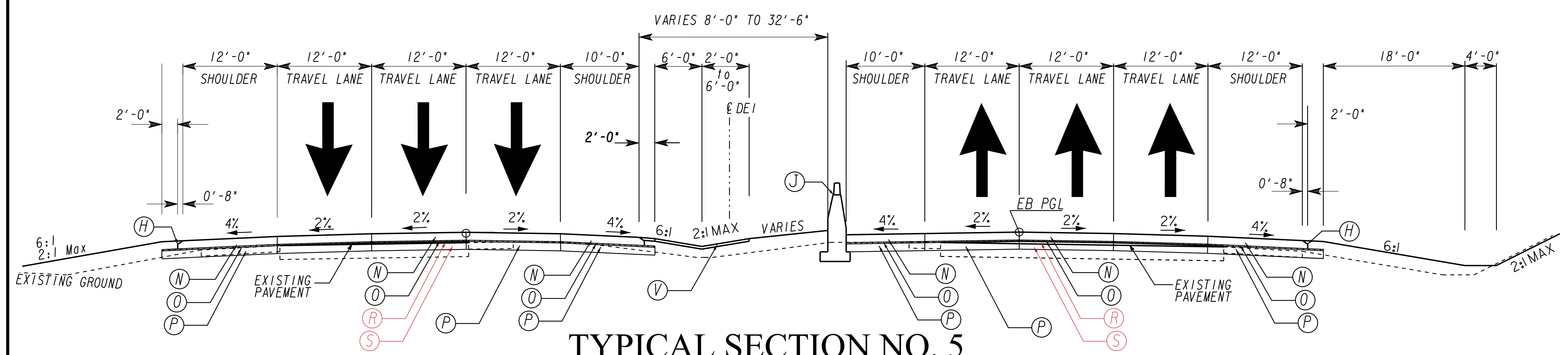
- (H) CONSTRUCTION DETAIL P7 (PAVEMENT EDGE TREATMENT ASPHALT AND CONCRETE PAVEMENT)
- (J) CONCRETE MEDIAN BARRIER, GA MOD. STD 4940 TYPE S-1, S-2, S-3
- (M) CABLE BARRIER
- (N) 12 INCH PCC PAVEMENT WITH 1.5 INCH DOWELS
- (O) 175 HMA SURFACE TYPE C - INCLUDE LIME
- (P) 10 INCH GR AGGR BASE CRS.
- (U) 10 INCH PCC PAVEMENT WITH 1.5 INCH DOWELS
- (V) 4 INCH DITCH PAVING
- (R) RECYCLED ASPH. CONC. LEVELING
- (S) RUBBLIZE EXIST. CONC. PAVEMENT

STATE OF SC STA. 438+00.00 TO STA. 440+44.63 WB  
STATE OF SC STA. 438+00.00 TO STA. 442+22.28 EB

- NOTES:
- INSIDE & OUTSIDE SHOULDERS REQUIRE INDENTATION RUMBLE STRIPS. SEE GA DETAIL T-25
  - SAFETY EDGE TREATMENT REQUIRED ON OUTSIDE SHOULDER WHERE GUARDRAIL OR BARRIER IS NOT USED. SEE GA DETAIL P-7
  - SHOULDER MAY BE GRADED AWAY FROM ROADWAY TO FACILITATE THE SLOPE TIE TO EXISTING GROUND

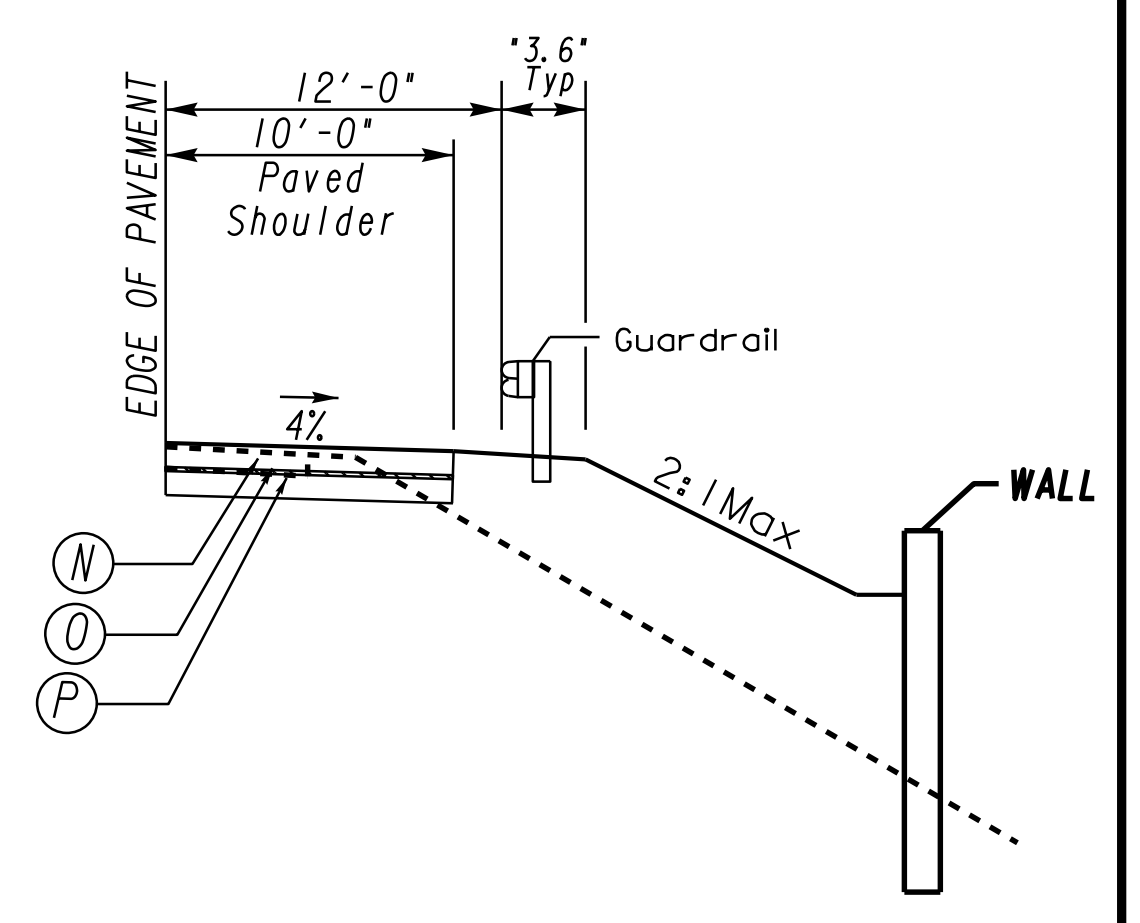


**TYPICAL SECTION 7**  
SYSTEM RAMPS  
(SHOWN IN THE DIRECTION OF TRAVEL)



**TYPICAL SECTION NO. 5**  
TANGENT SECTION

STATE OF SC STA. 417+92.75 TO 438+00.00 WB  
STATE OF SC STA. 417+92.75 TO 438+00.00 EB



**DETAIL FOR WALL USE ON**  
OUTSIDE SHOULDER

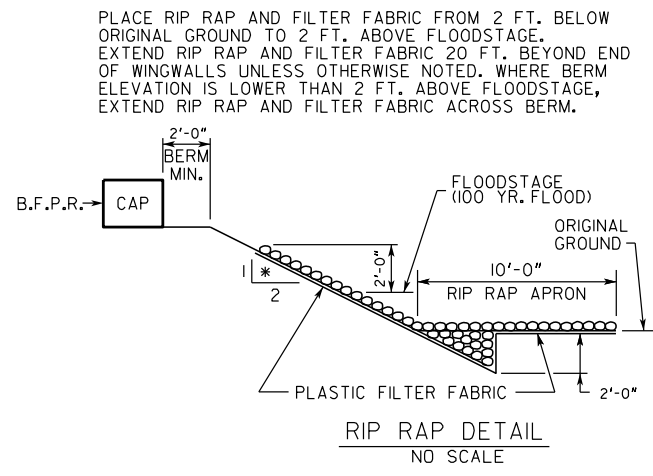
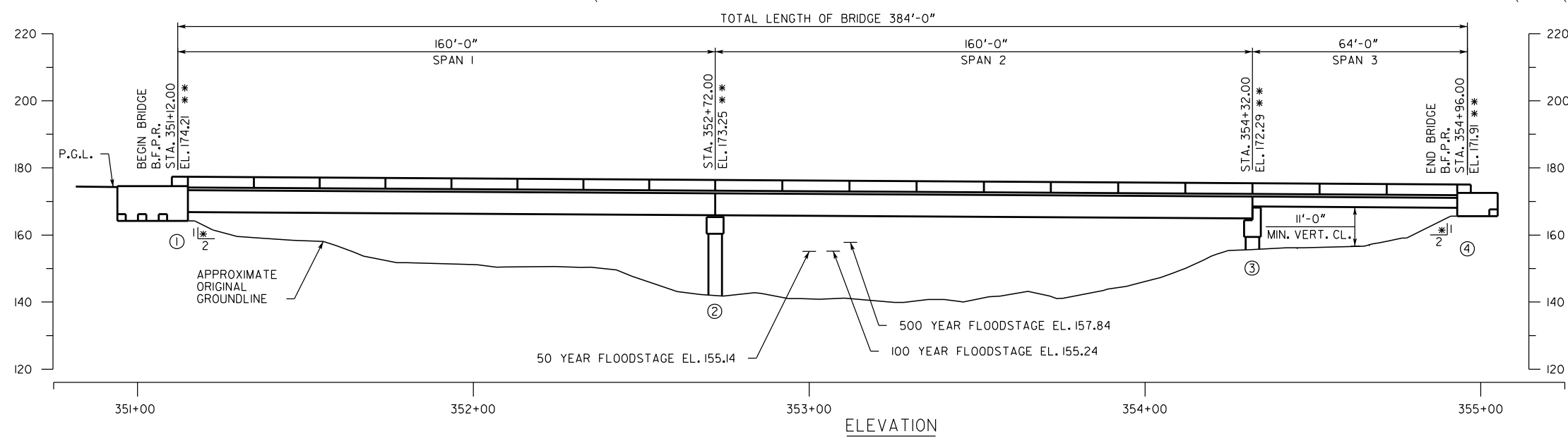
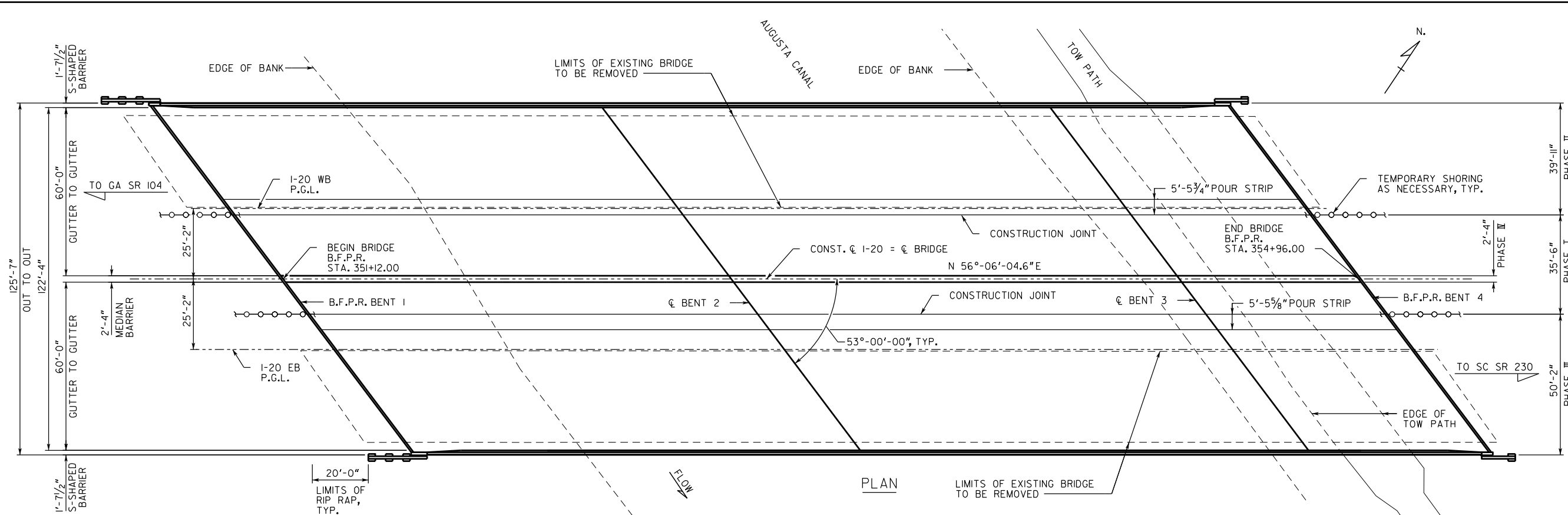


NOT TO SCALE

COSTING PLANS  
NOT FOR CONSTRUCTION

REVISION DATES	

TYPICAL SECTIONS			
1-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER			
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	05-0003	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



RT. EXISTING BRIDGE I.D. NO. 245-00402D-201.07E  
 RT. EXISTING BRIDGE SERIAL NO. 245-0051-0  
 LT. EXISTING BRIDGE I.D. NO. 245-00402D-201.08E  
 LT. EXISTING BRIDGE SERIAL NO. 245-0052-0  
 PROJECT P.I. NO. 210327

PROPOSED BRIDGE CONSISTS OF

- 2 - 160'-0" FLORIDA I-BEAM, 78 IN, PSC BEAM SPANS ----- SPECIAL DESIGN
- 1 - 64'-0" FLORIDA I-BEAM, 36 IN, PSC BEAM SPAN ----- SPECIAL DESIGN
- 2 - PILE END BENTS ----- SPECIAL DESIGN
- 2 - CONCRETE INTERMEDIATE BENTS ----- SPECIAL DESIGN
- 24" TYPE I RIP RAP

DESIGN DATA

SPECIFICATIONS ----- AASHTO LRFD 8TH EDITION, 2017 (DESIGNED FOR SEISMIC PERFORMANCE ZONE 2, SDI = 0.245)  
 DESIGN VEHICLE LIVE LOAD ----- HL-93  
 FUTURE PAVING ALLOWANCE ----- 30 LBS PER SQ FT

NOTES:

1. ALL BENTS ARE PARALLEL.
2. END BENT PILES NOT SHOWN.
3. \* SLOPE NORMAL TO END BENT.
4. \*\* STATIONS ARE ALONG  $\phi$  I-20 AT THE INTERSECTION OF  $\phi$  I-20 AND B.F.P.R. OR CENTERLINE BENT. ELEVATIONS ARE ALONG P.G.L.

TRAFFIC DATA

TRAFFIC ----- ADT = 73,500 (2022)  
 ADT = 93,300 (2042)

DESIGN SPEED ----- 65 MPH

TRUCKS ----- 10.5 %

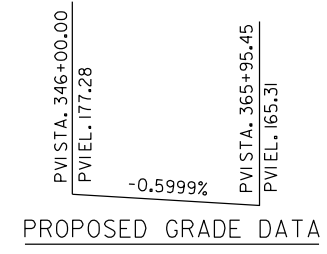
24 HR TRUCKS ----- 14.5 %

DIRECTIONAL ----- 50 %

DRAINAGE DATA

DRAINAGE AREA ----- 17 SQ MILES

FLOOD FREQUENCY	TOTAL DISCHARGE	MEAN VELOCITY	AREA OF OPENING UNDER FLOODSTAGE	BACKWATER
50 YEAR	3,970 CFS	2.07 FPS	1,921 SQ FT	0.02 FT
100 YEAR	4,040 CFS	2.08 FPS	1,943 SQ FT	0.02 FT
500 YEAR	6,000 CFS	2.36 FPS	2,538 SQ FT	0.03 FT



UTILITIES  
 NO UTILITIES ON BRIDGE

BRIDGE NO. 1

GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
 ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES

PRELIMINARY LAYOUT  
 I-20 OVER AUGUSTA CANAL  
 PLAN & ELEVATION

RICHMOND COUNTY IM000-0020-02(117)

SCALE: 1" = 20' (U.N.O.)

SEPTEMBER 2018

DATE	REVISIONS

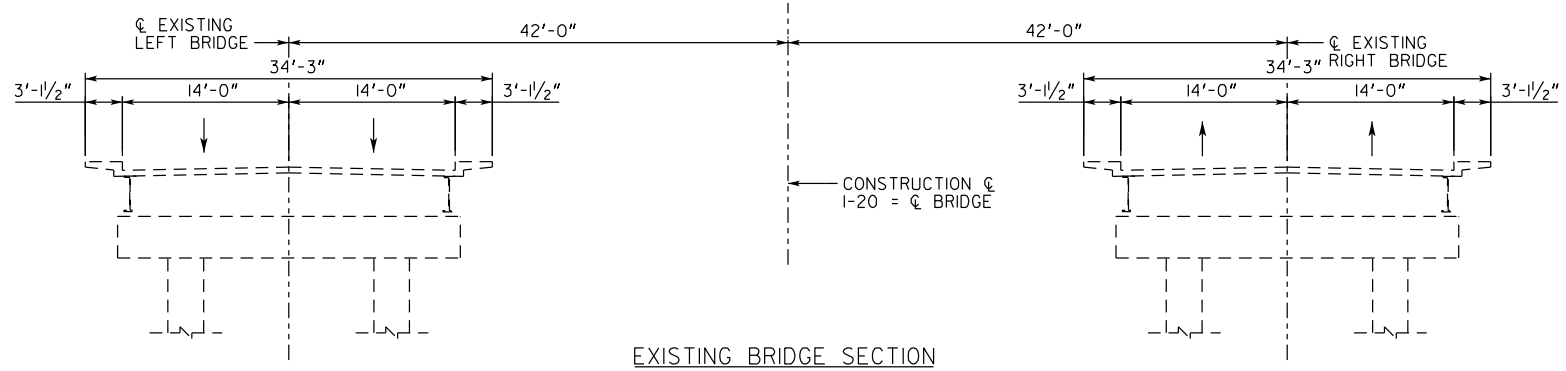
DRAWING NO. 35-0001  
 BRIDGE SHEET 1 OF 3

DESIGNED: PAA  
 DRAWN: JTP

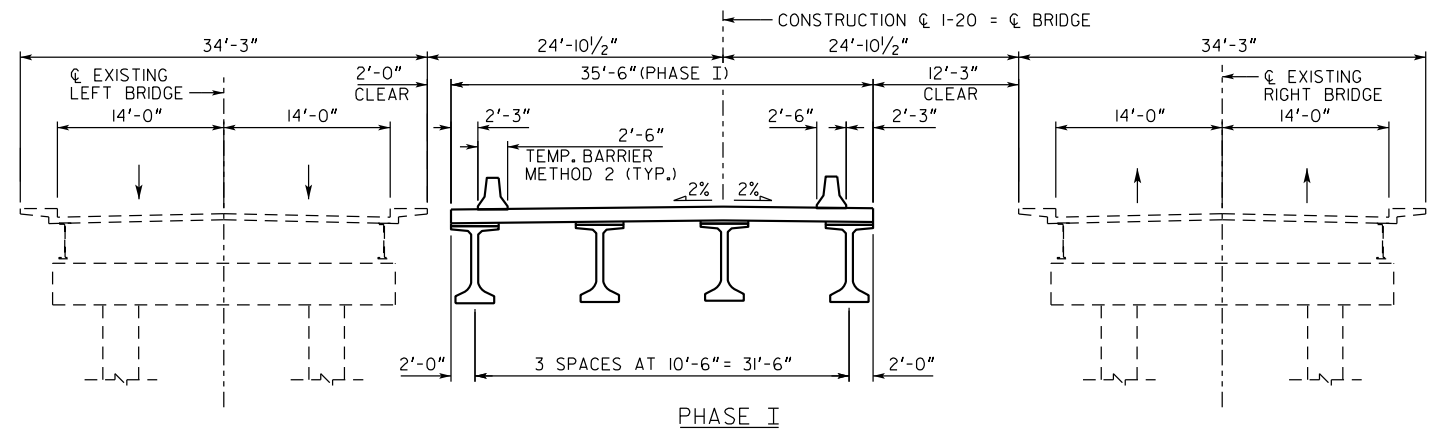
CHECKED: AS  
 DESIGN GROUP:  

REVIEWED:    
 APPROVED:  

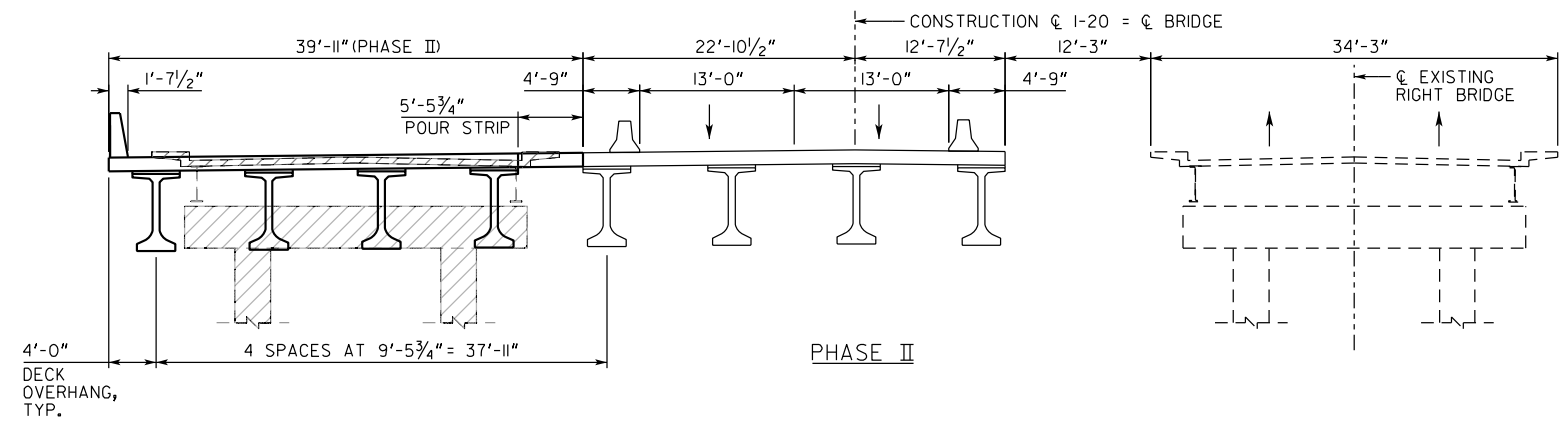
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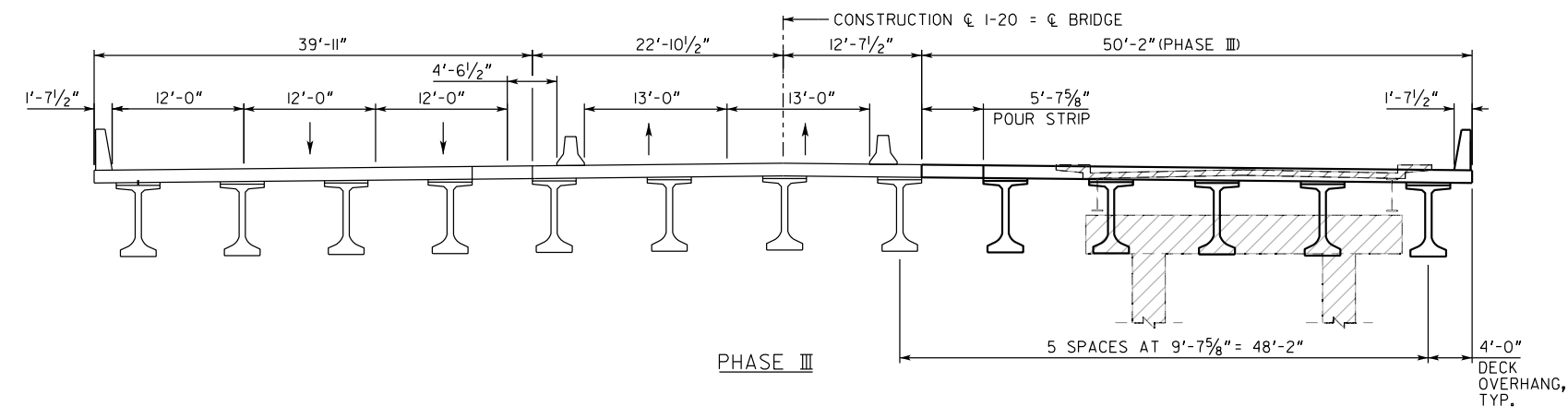
- LEGEND**
- EXISTING STRUCTURE.
  - EXISTING STRUCTURE TO BE REMOVED.
  - NEW CONSTRUCTION.



- PHASE I**
1. MAINTAIN FOUR 12'-0" LANES ON TWO EXISTING BRIDGES.
  2. CONSTRUCT CENTER PART OF THE NEW BRIDGE.
  3. PLACE TEMP. CONCRETE BARRIER, METHOD 2, AS SHOWN.



- PHASE II**
1. ROUTE TWO 12'-0" LANES FROM EXISTING LEFT BRIDGE INTO TWO 11'-0" LANES ONTO THE PHASE I OF THE NEW BRIDGE.
  2. REMOVE EXISTING LEFT BRIDGE.
  3. CONSTRUCT LEFT SIDE OF THE NEW BRIDGE.



- PHASE III**
1. ROUTE TWO 11'-0" LANES FROM PHASE II INTO TWO 12'-0" LANES ONTO PHASE II OF NEW BRIDGE.
  2. ROUTE TWO 12'-0" LANES FROM EXISTING RIGHT BRIDGE INTO TWO 11'-0" LANES ONTO PHASE I OF THE NEW BRIDGE.
  3. REMOVE EXISTING RIGHT BRIDGE.
  4. CONSTRUCT RIGHT SIDE OF THE NEW BRIDGE.



BRIDGE NO. 1	
GEORGIA <b>DEPARTMENT OF TRANSPORTATION</b> ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES	
PRELIMINARY LAYOUT I-20 OVER AUGUSTA CANAL BRIDGE STAGING PLAN RICHMOND COUNTY IM000-0020-02(117)	
SCALE: 1/8" = 1'-0"	SEPTEMBER 2018
DRAWING NO. 35-0002	DESIGNED JTP DRAWN JTP
BRIDGE SHEET 2 OF 3	CHECKED AS DESIGN GROUP
DATE	REVISIONS

DRAWING NO. 35-0002  
BRIDGE SHEET 2 OF 3

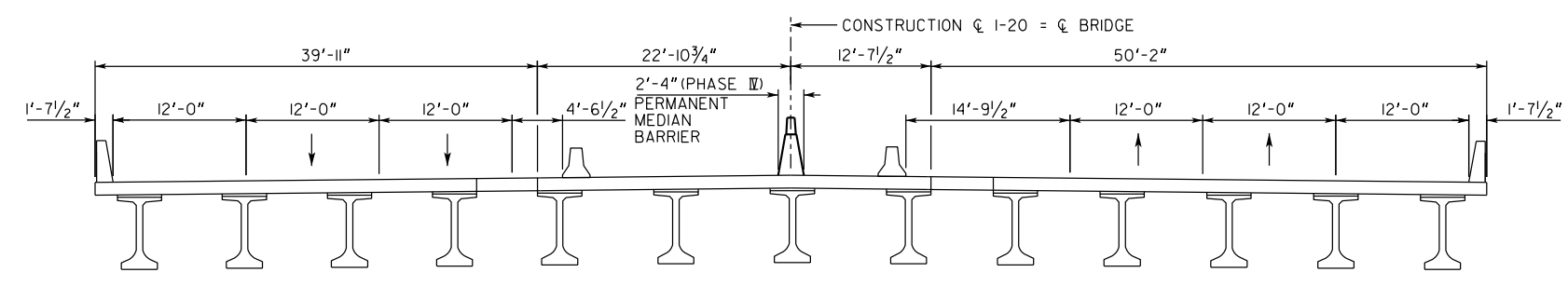
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LEGEND

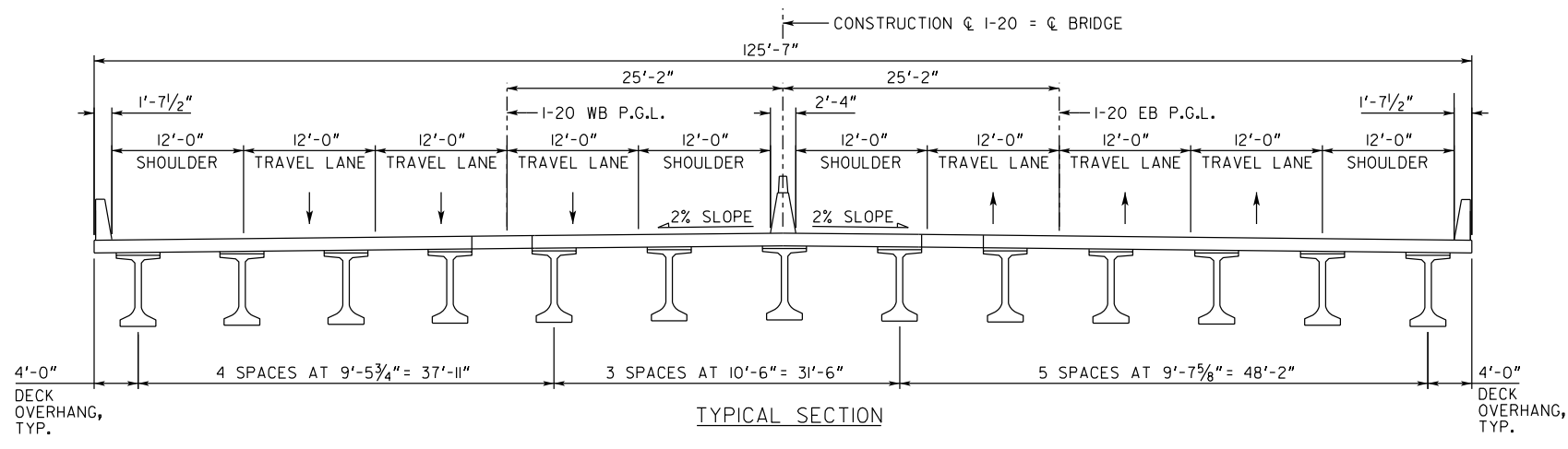
- EXISTING STRUCTURE.
- EXISTING STRUCTURE TO BE REMOVED.
- NEW CONSTRUCTION.

**PHASE IV**  
 1. ROUTE TWO 11'-0" LANES FROM PHASE I INTO TWO 12'-0" LANES ONTO PHASE III OF NEW BRIDGE.  
 2. CONSTRUCT PERMANENT MEDIAN BARRIER AT THE CENTER OF THE NEW BRIDGE.

3. REMOVE TEMPORARY CONCRETE BARRIERS.  
 4. ROUTE TRAFFIC ONTO COMPLETED BRIDGE.



PHASE IV



TYPICAL SECTION



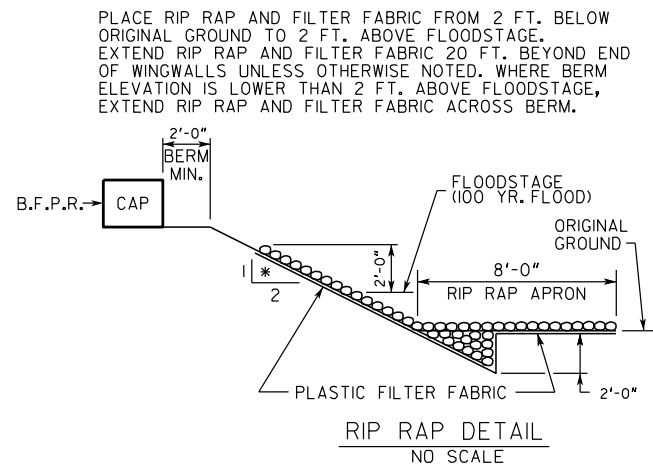
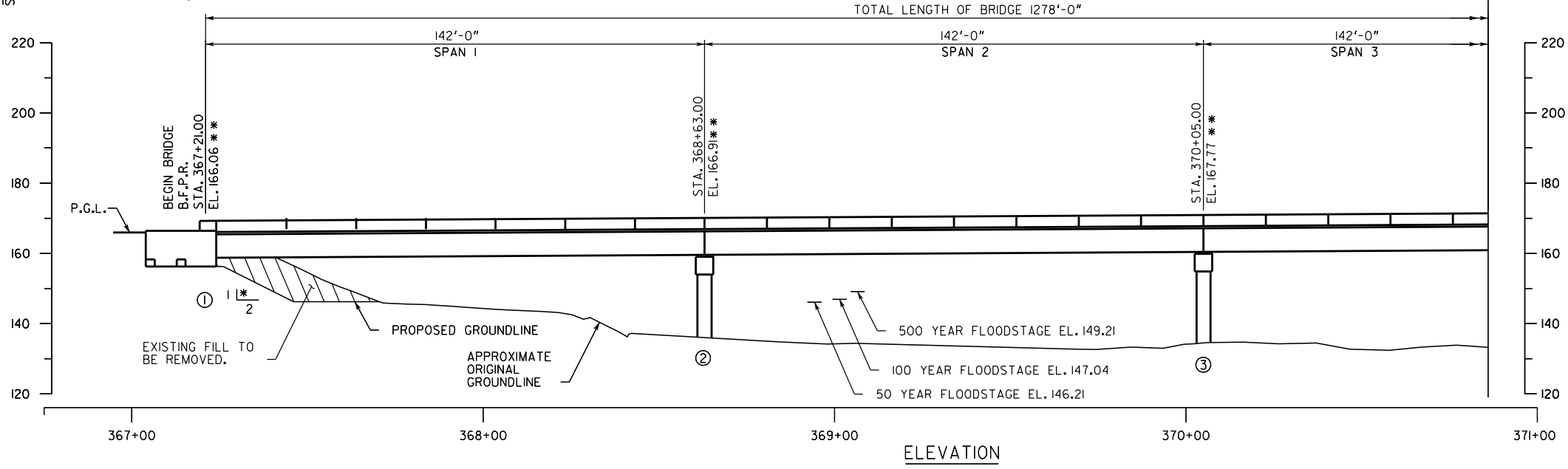
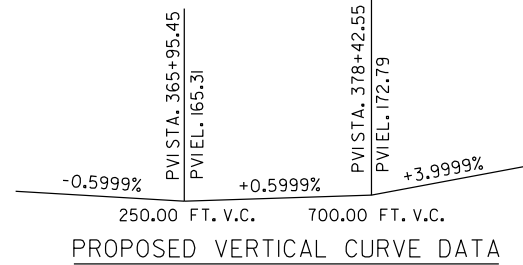
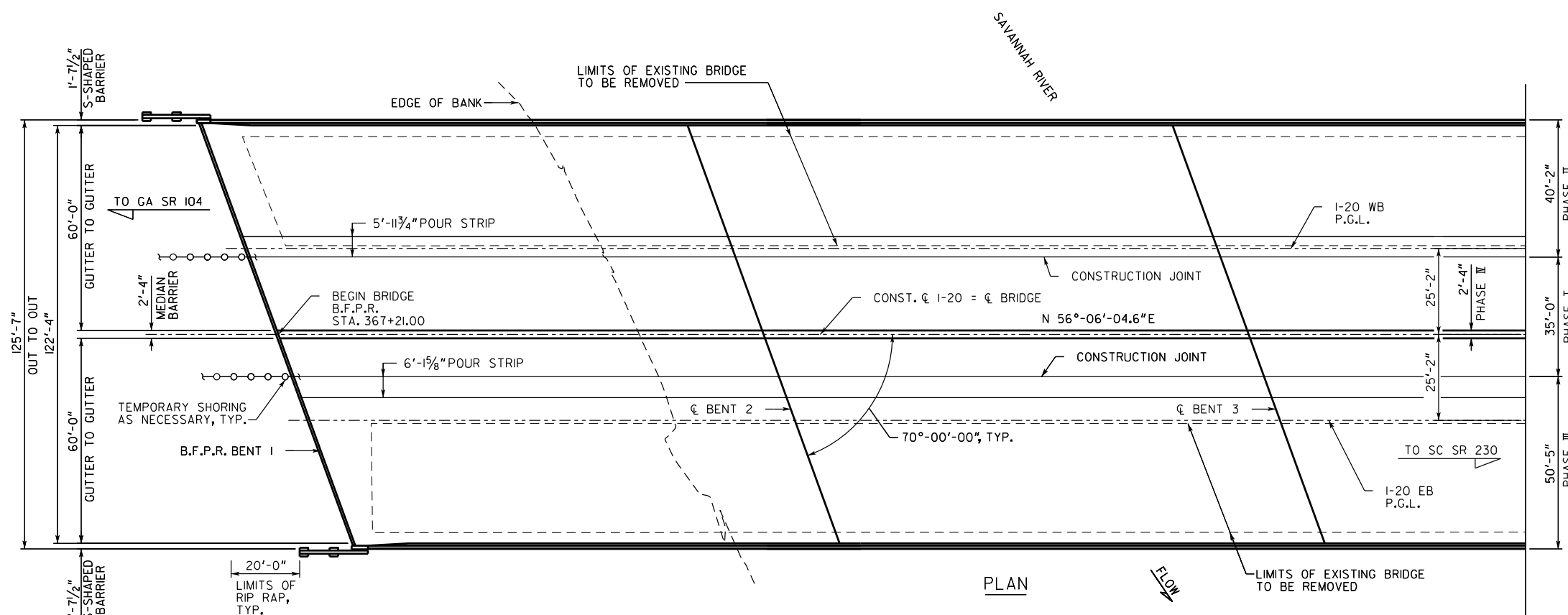
BRIDGE NO. 1

GEORGIA <b>DEPARTMENT OF TRANSPORTATION</b> ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES	
PRELIMINARY LAYOUT I-20 OVER AUGUSTA CANAL BRIDGE STAGING PLAN & TYPICAL SECTION RICHMOND COUNTY IM000-0020-02(117)	
SCALE: 1/8" = 1'-0"	SEPTEMBER 2018
DESIGNED: JTP DRAWN: JTP	CHECKED: AS DESIGN GROUP:
REVIEWED:	APPROVED:

DRAWING NO. 35-0003
BRIDGE SHEET 3 OF 3

9/13/2018 5:17:28 PM

USER:cafej



RT. EXISTING BRIDGE I.D. NO. 245-00402D-201.38E  
 RT. EXISTING BRIDGE SERIAL NO. 245-0053-0  
 LT. EXISTING BRIDGE I.D. NO. 245-00402D-201.39E  
 LT. EXISTING BRIDGE SERIAL NO. 245-0054-0  
 PROJECT P.I. NO. 210327

PROPOSED BRIDGE CONSISTS OF

- 9 - 142'-0" BULB TEE, 74 IN, PSC BEAM SPANS ----- SPECIAL DESIGN
- 2 - PILE END BENTS ----- SPECIAL DESIGN
- 8 - CONCRETE INTERMEDIATE BENTS ----- SPECIAL DESIGN
- 24" TYPE I RIP RAP

DESIGN DATA

SPECIFICATIONS ----- AASHTO LRFD 8TH EDITION, 2017 (DESIGNED FOR SEISMIC PERFORMANCE ZONE 2, SDI = 0.168 )

DESIGN VEHICLE LIVE LOAD ----- HL-93

FUTURE PAVING ALLOWANCE ----- 30 LBS PER SQ FT

NOTES:

- ALL BENTS ARE PARALLEL.
- END BENT PILES NOT SHOWN.
- \* SLOPE NORMAL TO END BENT.
- \*\* STATIONS ARE ALONG C 1-20 AT THE INTERSECTION OF C 1-20 AND B.F.P.R. OR CENTERLINE BENT. ELEVATIONS ARE ALONG P.G.L.

TRAFFIC DATA

TRAFFIC ----- ADT = 73,500 (2022)  
 ADT = 93,300 (2042)

DESIGN SPEED ----- 65 MPH

TRUCKS ----- 10.5 %

24 HR TRUCKS ----- 14.5 %

DIRECTIONAL ----- 50 %

DRAINAGE DATA

DRAINAGE AREA ----- 7,140 SQ MILES

FLOOD FREQUENCY	TOTAL DISCHARGE	MEAN VELOCITY	AREA OF OPENING UNDER FLOODSTAGE	BACKWATER
50 YEAR	146,000 CFS	12.37 FPS	11,800 SQ FT	1.00 FT
100 YEAR	163,000 CFS	12.93 FPS	12,604 SQ FT	1.20 FT
500 YEAR	205,000 CFS	13.86 FPS	14,789 SQ FT	1.50 FT

UTILITIES

NO UTILITIES ON BRIDGE

BRIDGE NO. 2

GEORGIA

**DEPARTMENT OF TRANSPORTATION**

ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES

PRELIMINARY LAYOUT

I-20 OVER SAVANNAH RIVER

PLAN & ELEVATION - 1 OF 3

RICHMOND COUNTY IM000-0020-02(117)

SCALE: 1" = 20' (U.N.O.)

SEPTEMBER 2018

DATE	REVISIONS

DRAWING NO. 35-0004

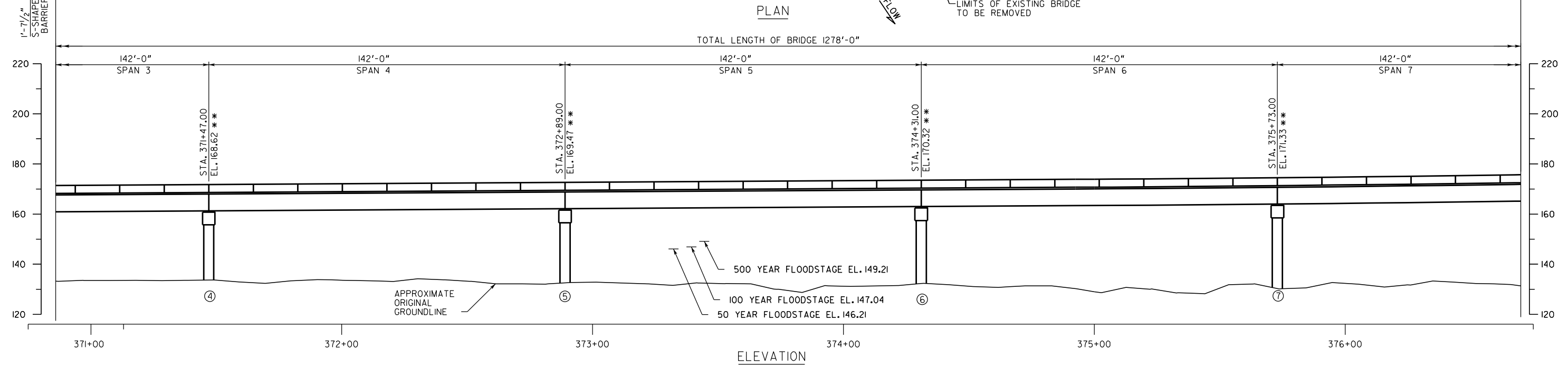
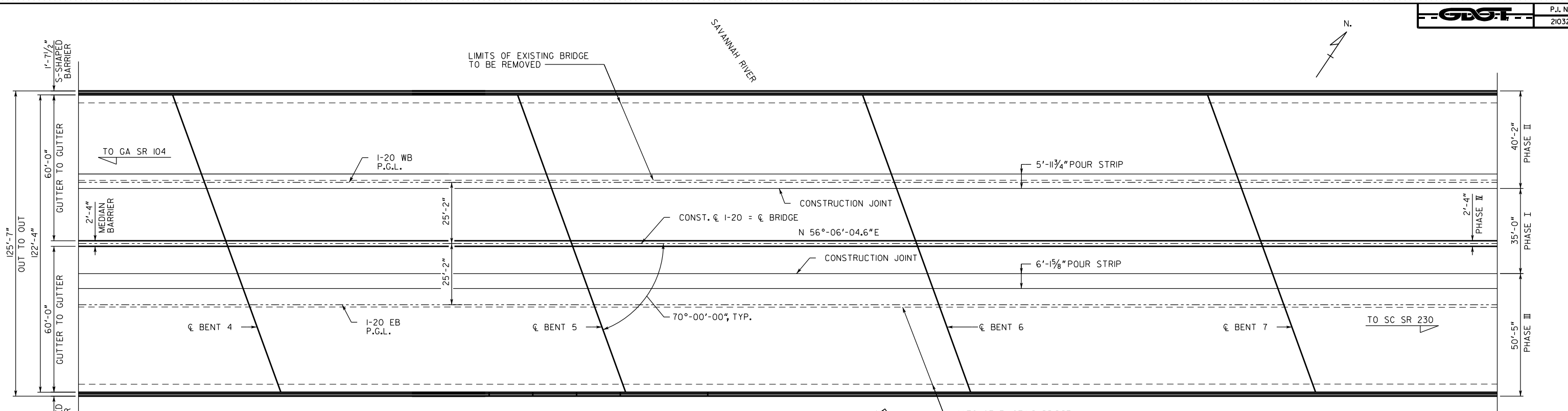
BRIDGE SHEET 1 OF 5

DESIGNED PAA  
 DRAWN JTP

CHECKED AS  
 DESIGN GROUP

REVIEWED  
 APPROVED



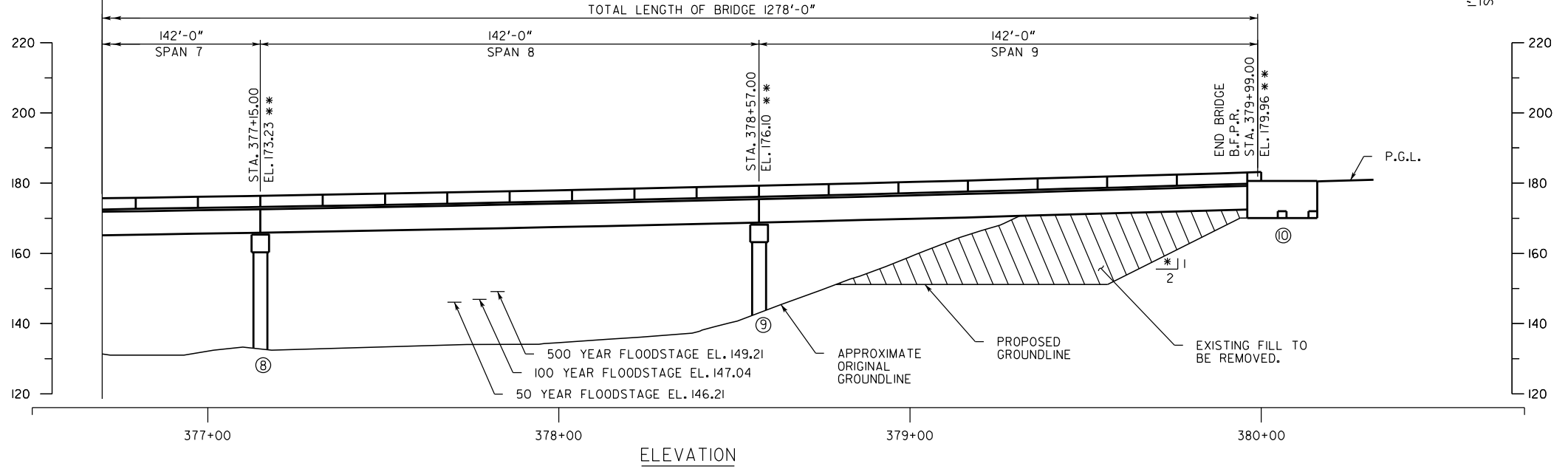
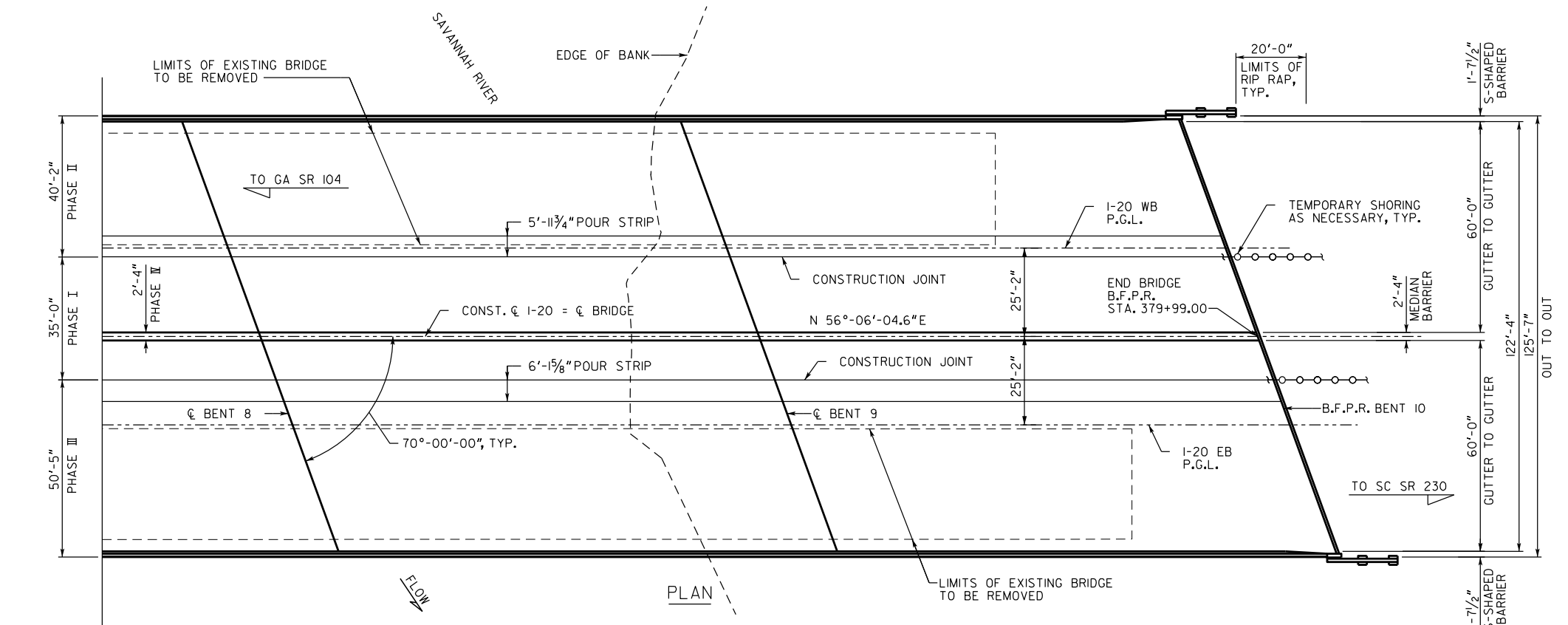


BRIDGE NO. 2


DATE		REVISIONS		BY	
GEORGIA <b>DEPARTMENT OF TRANSPORTATION</b> ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES  PRELIMINARY LAYOUT I-20 OVER SAVANNAH RIVER PLAN & ELEVATION - 2 OF 3 RICHMOND COUNTY IM000-0020-02(117)					
DRAWING NO. 35-0005			SCALE: 1" = 20' (U.N.O.)		
BRIDGE SHEET 2 OF 5			SEPTEMBER 2018		
DESIGNED	PAA	CHECKED	AS	REVIEWED	
DRAWN	JTP	DESIGN GROUP		APPROVED	

DRAWING NO.	35-0005
BRIDGE SHEET	2 OF 5

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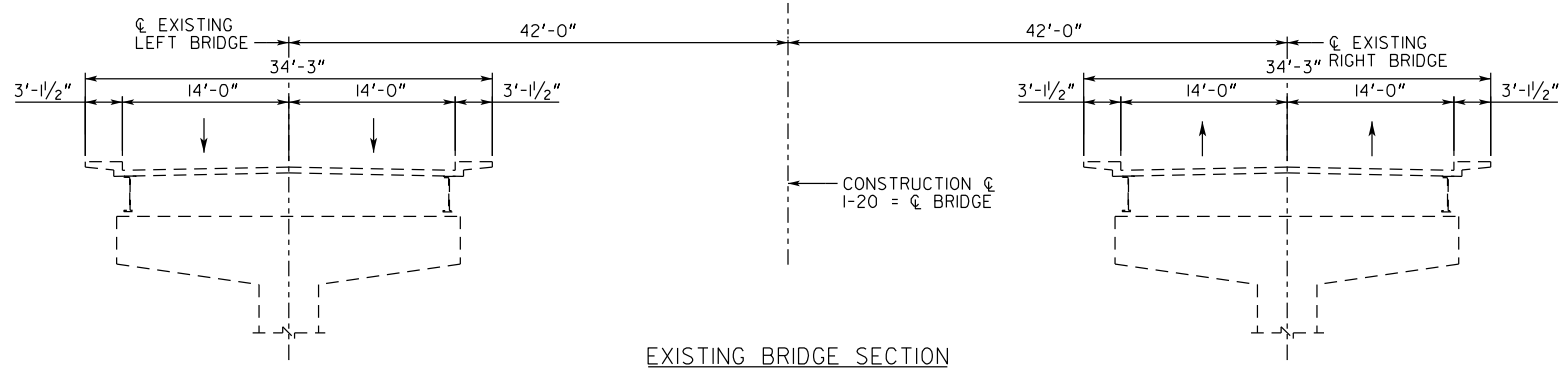


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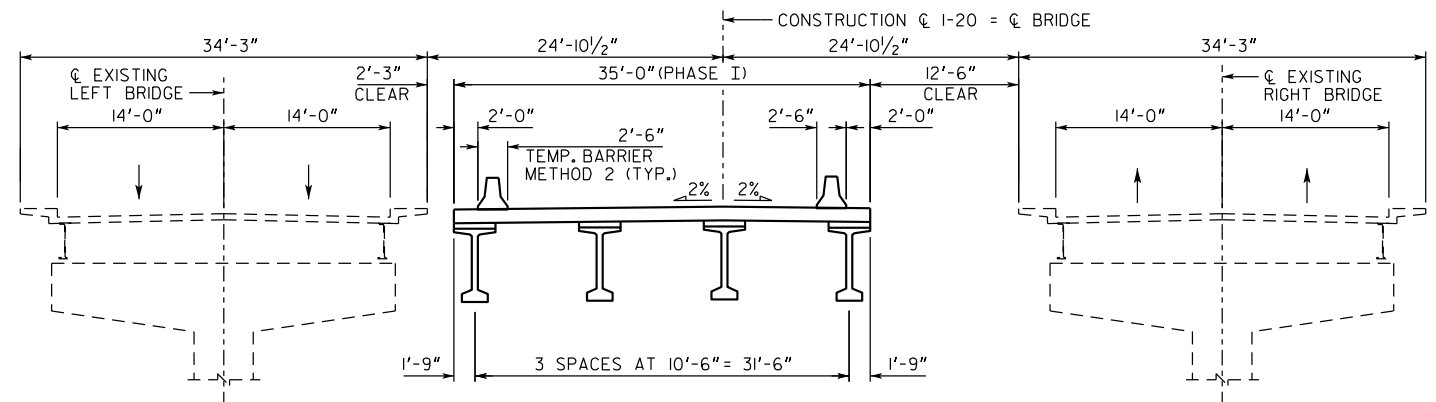
BRIDGE NO. 2

GEORGIA <b>DEPARTMENT OF TRANSPORTATION</b> ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES	
PRELIMINARY LAYOUT I-20 OVER SAVANNAH RIVER PLAN & ELEVATION - 3 OF 3 RICHMOND COUNTY IM000-0020-02(117)	
SCALE: 1" = 20' (U.N.O.)	SEPTEMBER 2018
DRAWING NO. 35-0006 BRIDGE SHEET 3 OF 5	DESIGNED PAA DRAWN JTP CHECKED AS DESIGN GROUP REVIEWED APPROVED



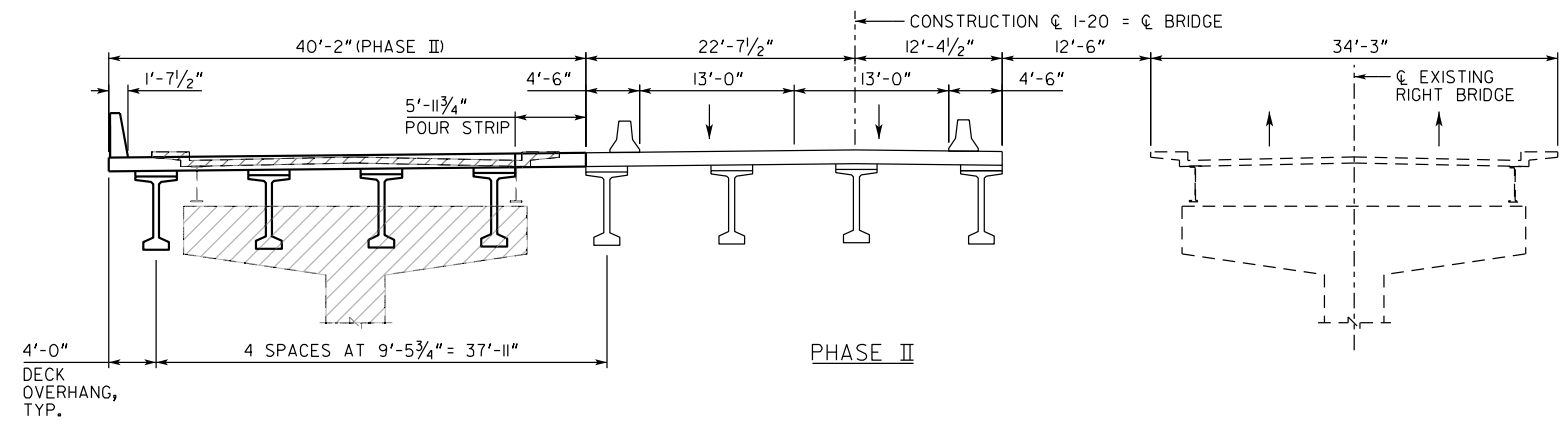
EXISTING BRIDGE SECTION

- LEGEND**
- EXISTING STRUCTURE.
  - EXISTING STRUCTURE TO BE REMOVED.
  - NEW CONSTRUCTION.



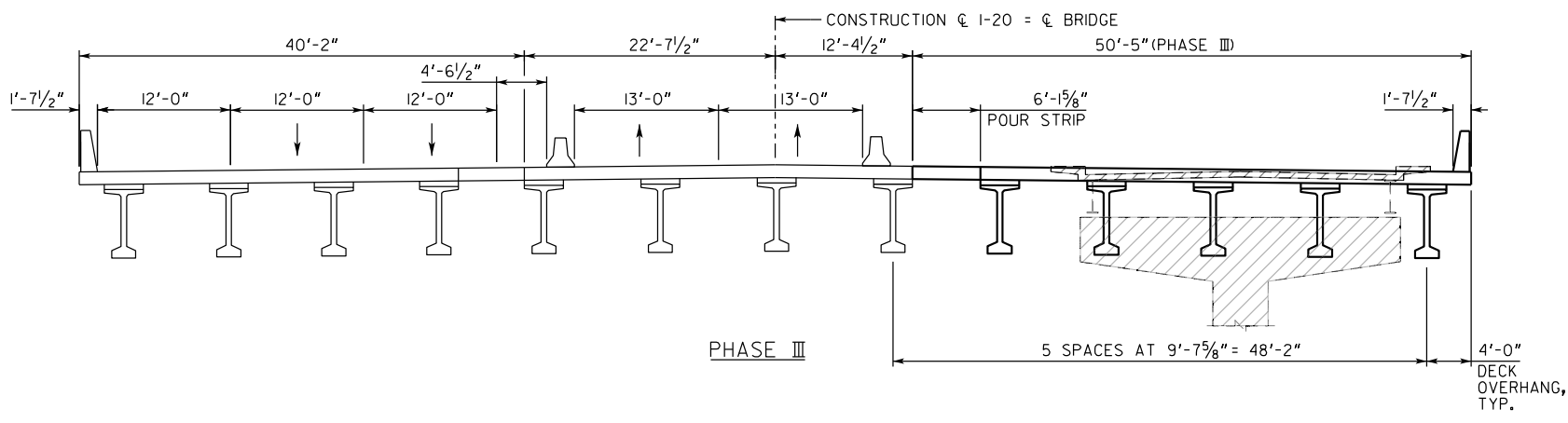
PHASE I

- PHASE I**
1. MAINTAIN FOUR 12'-0" LANES ON TWO EXISTING BRIDGES.
  2. CONSTRUCT CENTER PART OF THE NEW BRIDGE.
  3. PLACE TEMP. CONCRETE BARRIER, METHOD 2, AS SHOWN.



PHASE II

- PHASE II**
1. ROUTE TWO 12'-0" LANES FROM EXISTING LEFT BRIDGE INTO TWO 11'-0" LANES ONTO THE PHASE I OF THE NEW BRIDGE.
  2. REMOVE EXISTING LEFT BRIDGE.
  3. CONSTRUCT LEFT SIDE OF THE NEW BRIDGE.



PHASE III

- PHASE III**
1. ROUTE TWO 11'-0" LANES FROM PHASE I INTO TWO 12'-0" LANES ONTO PHASE II OF NEW BRIDGE.
  2. ROUTE TWO 12'-0" LANES FROM EXISTING RIGHT BRIDGE INTO TWO 11'-0" LANES ONTO PHASE I OF THE NEW BRIDGE.
  3. REMOVE EXISTING RIGHT BRIDGE.
  4. CONSTRUCT RIGHT SIDE OF THE NEW BRIDGE.



BRIDGE NO. 2

GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
 ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES

PRELIMINARY LAYOUT  
 I-20 OVER SAVANNAH RIVER BRIDGE  
 STAGING PLAN  
 RICHMOND COUNTY IM000-0020-02(117)

SCALE: 1/8" = 1'-0" SEPTEMBER 2018

DRAWING NO.  
35-0007  
 BRIDGE SHEET  
4 OF 5

DATE	REVISIONS	BY

DESIGNED: JTP  
 DRAWN: JTP  
 CHECKED: AS  
 DESIGN GROUP:    
 REVIEWED:    
 APPROVED:  

5/17/13 5:01 PM 9/13/2018 USER:cafej





Georgia Department of Transportation

in conjunction with **SCDOT**

RFQ NO. 484-03302018DB

## **DESIGN-BUILD**

**I-20 AT SAVANNAH RIVER BRIDGE  
REPLACEMENTS AND ROADWAY  
WIDENING PROJECT**

P.I. NO. 210327

## **SECTION C.3**

**Closure Durations, Interim Completion,  
Substantial Completion, and  
Final Acceptance Proposal - Form M**



**FORM M**

**Closure Durations, Interim Completion, Substantial Completion, and Final Acceptance Proposal**

Proposer Name: Superior Construction Company Southeast, LLC

The Proposer shall complete the fields below for each portion (segment) of the Work for which the Proposer will commit to an Interim Completion Deadline.

Required fields are identified with an asterisk (\*).

Interim Completion Deadline #1 - Open to Intersection Traffic (duration in Days from NTP 1 to Interim Completion Deadline #1)	660
Interim Completion Deadline #2 - Open to traffic for EB lanes (duration in Days from NTP 1 to Interim Completion Deadline #2)	1103
Interim Completion Deadline #3 - Open to traffic for WB lanes (duration in Days from NTP 1 to Interim Completion Deadline #3)	1103
* Substantial Completion Deadline (duration in Days from NTP 1 to achievement of Substantial Completion)	1103
* Final Acceptance Deadline (duration in Days after Substantial Completion to achievement of Final Acceptance)	48
* Total aggregate closure duration for EB lanes (in hours)	441
* Total aggregate closure duration for WB lanes (in hours)	423
* Closure duration for the single allowed Augusta Canal closure (in Days)	8
* Closure duration for allowed Augusta Canal towpath closure #1 (in Days)	3
* Closure duration for allowed Augusta Canal towpath closure #2 (in Days)	3

Date: 09/21/18

Proposer: Superior Construction Company Southeast, LLC

Signature: 

Title: President



Georgia Department of Transportation

in conjunction with **SCDOT**

RFQ NO. 484-03302018DB

## **DESIGN-BUILD**

**I-20 AT SAVANNAH RIVER BRIDGE  
REPLACEMENTS AND ROADWAY  
WIDENING PROJECT**

P.I. NO. 210327

# **SECTION C.4**

## **No DB Contract Sum Information**





Georgia Department of Transportation

in conjunction with 

RFQ NO. 484-03302018DB

## **DESIGN-BUILD**

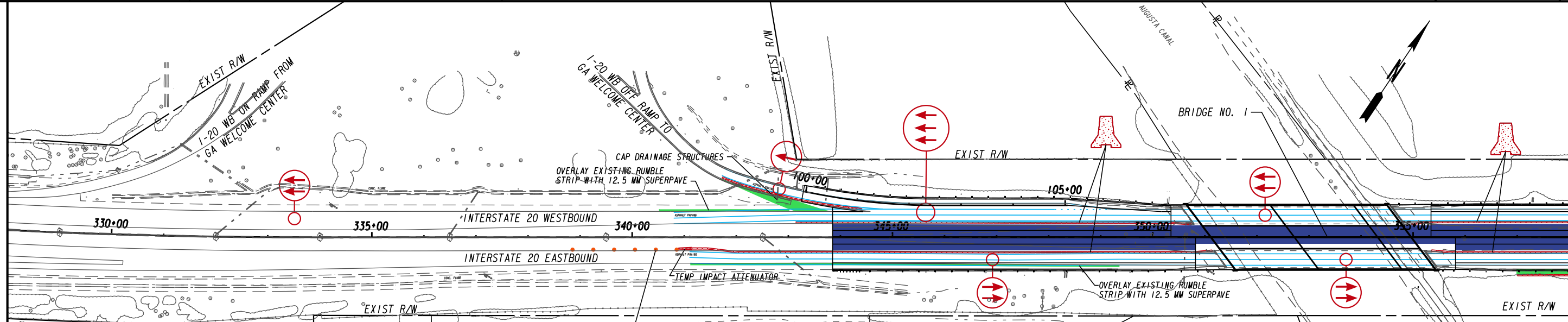
**I-20 AT SAVANNAH RIVER BRIDGE  
REPLACEMENTS AND ROADWAY  
WIDENING PROJECT**

PI. NO. 210327

# **CONCEPTUAL CONSTRUCTION STAGING DRAWINGS**

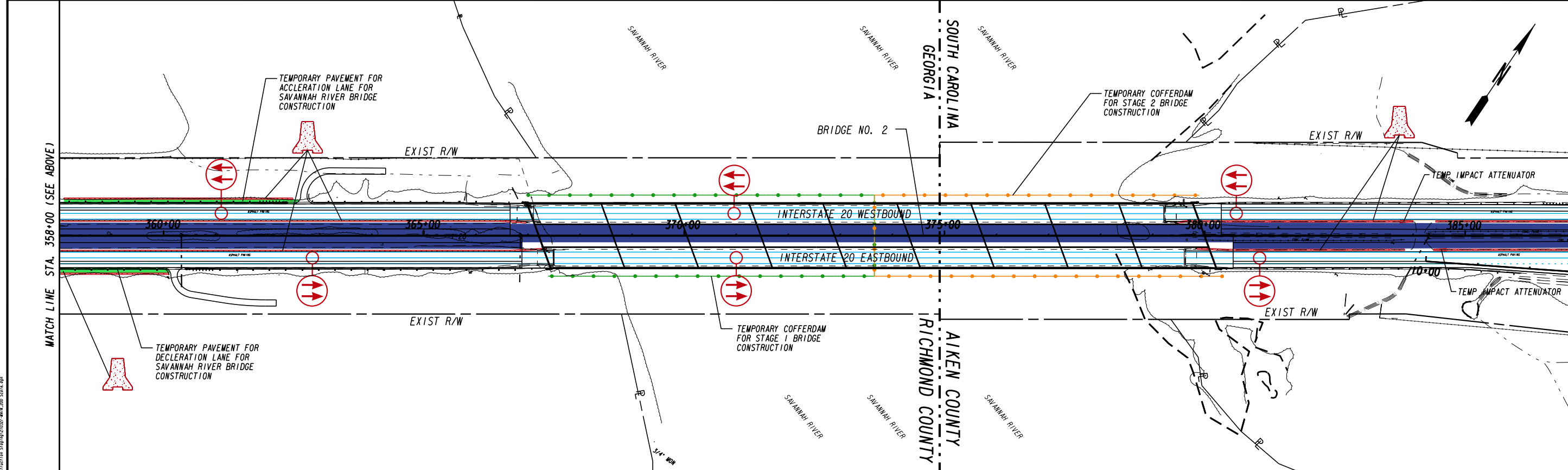






- PHASE I**
1. INSTALL ADVANCE WARNING SIGNS IN ACCORDANCE WITH THE GDOT SPECIAL PROVISION 150 AND THE LATEST EDITION OF THE MUTCD.
  2. OVERLAY EXISTING RUMBLE STRIPS AS REQUIRED, RE-STRIPE 1-20 EASTBOUND & WESTBOUND LANES TO PROVIDE A MINIMUM OF 2-11 LANES IN EACH DIRECTION. PLACE TEMPORARY BARRIER WALL AS SHOWN ON PLANS.
  3. STAGE 1: CONSTRUCT ACCESS FOR BRIDGES NO. 1 AND NO. 2. INSTALL TEMPORARY COFFERDAMS FOR THE WESTERN PORTION OF BRIDGE NO. 2.
  4. COMPLETE CONSTRUCTION FOR THE MIDDLE SEGMENT OF BRIDGE NO. 1 AND THE MIDDLE SEGMENT OF THE WESTERN PORTION OF BRIDGE NO. 2.
  5. STAGE 2: COMPLETE THE MIDDLE SEGMENT OF THE WESTERN PORTION OF BRIDGE NO. 2 AND MOVE TEMPORARY COFFERDAMS TO EASTERN PORTION OF BRIDGE NO. 2 AND COMPLETE CONSTRUCTION OF THE MIDDLE SEGMENT OF BRIDGE NO. 2.
  6. CONSTRUCT INSIDE LANE AND MEDIAN SHOULDER FOR 1-20 EASTBOUND AND WESTBOUND LANES WITHOUT MEDIAN BARRIER THROUGH STA. 396+75. CONSTRUCT INSIDE LANE AND MEDIAN SHOULDER FOR 1-20 WESTBOUND LANE WITHOUT MEDIAN BARRIER THROUGH STA 418+75. CONSTRUCT WESTBOUND SHOULDER FROM STA 418+75 TO END OF PROJECT.
  7. CONSTRUCT SEGMENT OF MARTINTOWN ROAD EASTBOUND OFF RAMP BETWEEN STA 38+70 AND STA 41+08.
  8. CONSTRUCT TEMPORARY PAVEMENT AS SHOWN ON PLANS FOR USE IN LATER PHASES OF THE PROJECT.

MATCH LINE STA. 358+00 (SEE BELOW)



MATCH LINE STA. 387+00 (SEE DWG 19-0002)

PROPERTY AND EXISTING R/W LINE  
REQUIRED R/W LINE  
PERMANENT CONSTRUCTION  
TEMPORARY PAVEMENT  
TEMPORARY CONCRETE BARRIER  
TRAFFIC BARREL DRUM  
TRAFFIC FLOW PATTERN

	— P —
	— R —
	— Blue —
	— Green —
	— Dashed —
	— Orange Circle —
	— Arrow —

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



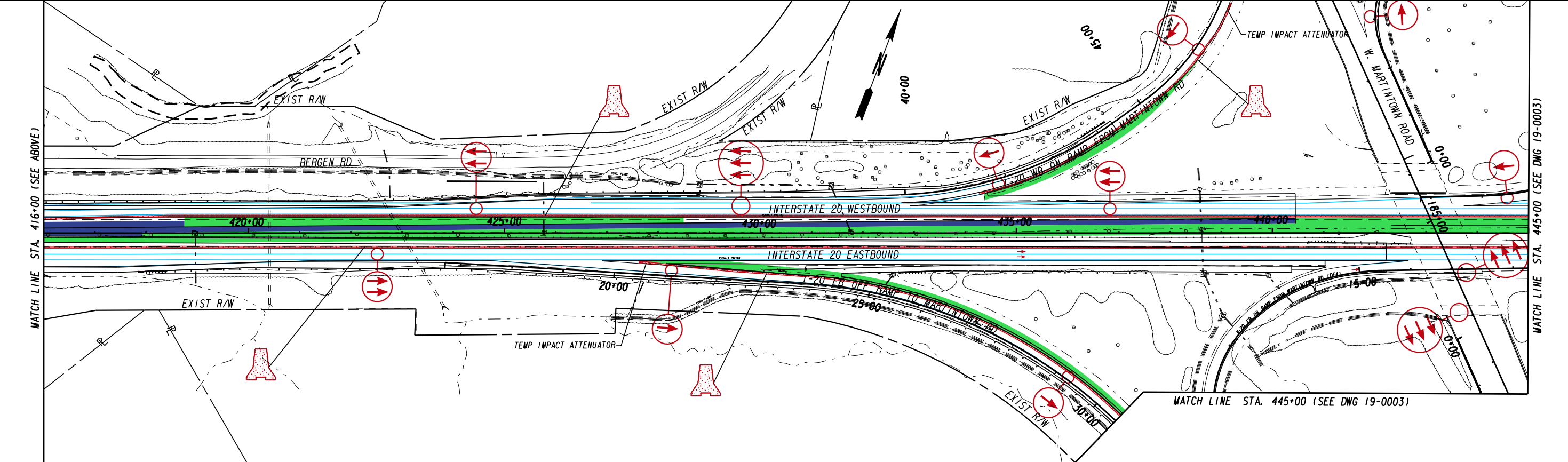
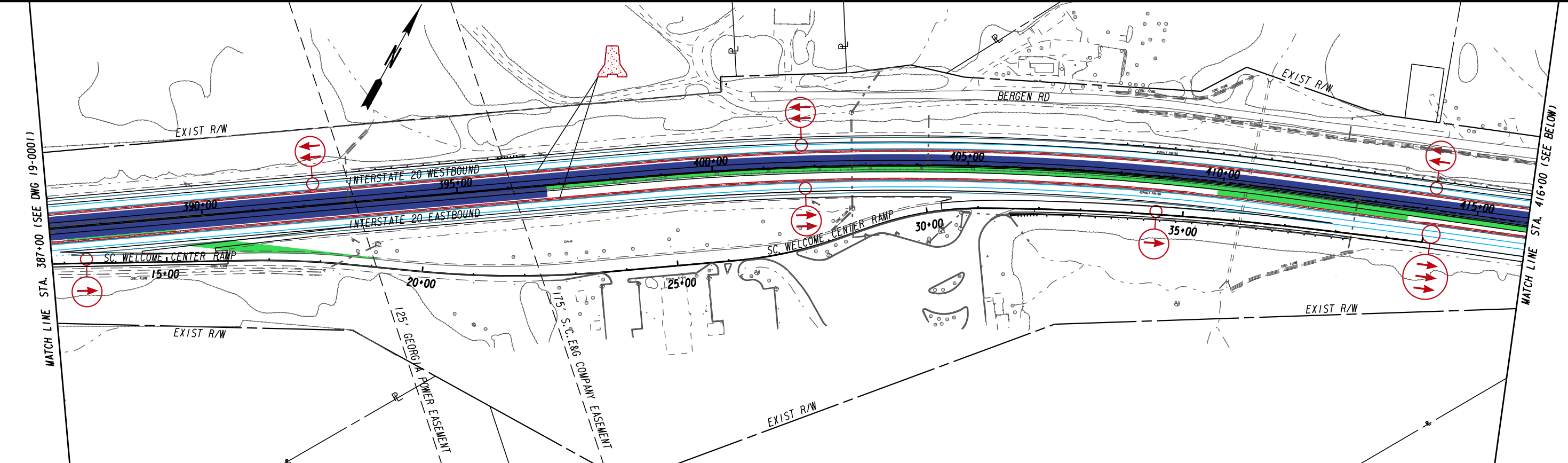
**SUPERIOR CONSTRUCTION** **WSP**  
STV Incorporated  
SCALE IN FEET  
0 100 200 400

REVISION DATES	

**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS  
PHASE I**

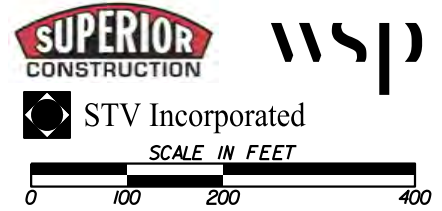
1-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



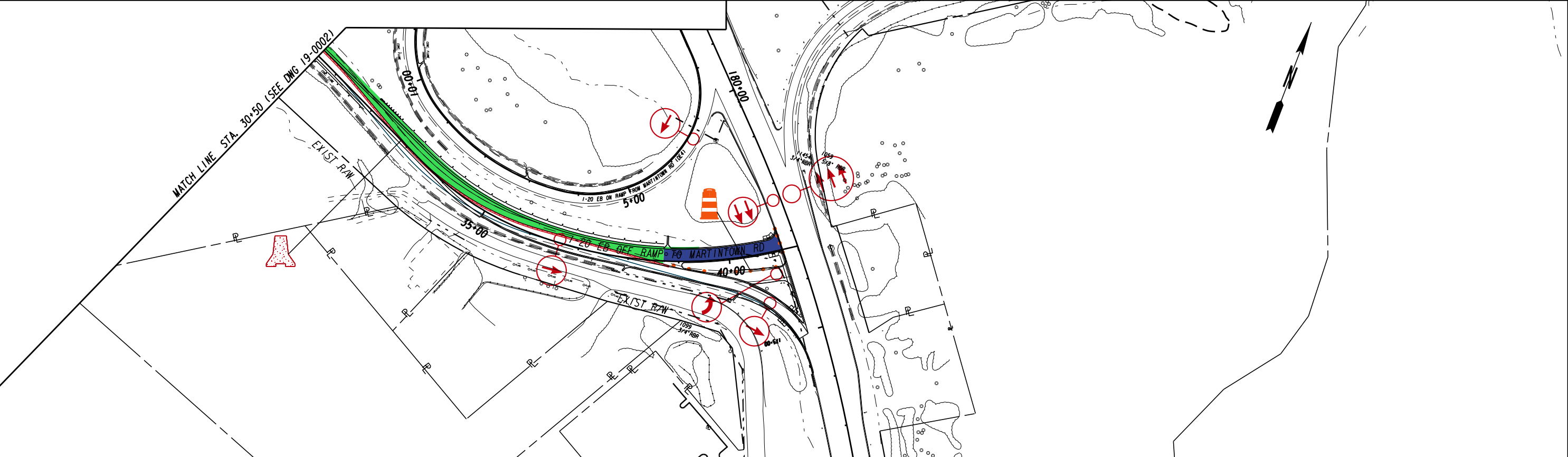
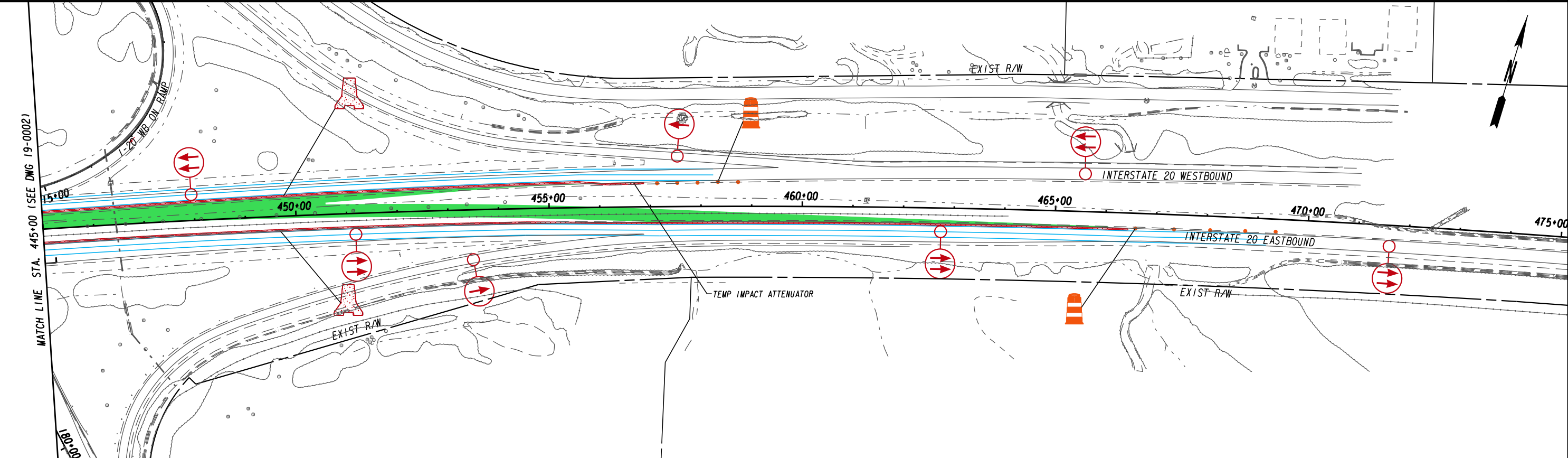
PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



REVISION DATES	

<b>CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS PHASE I</b>		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



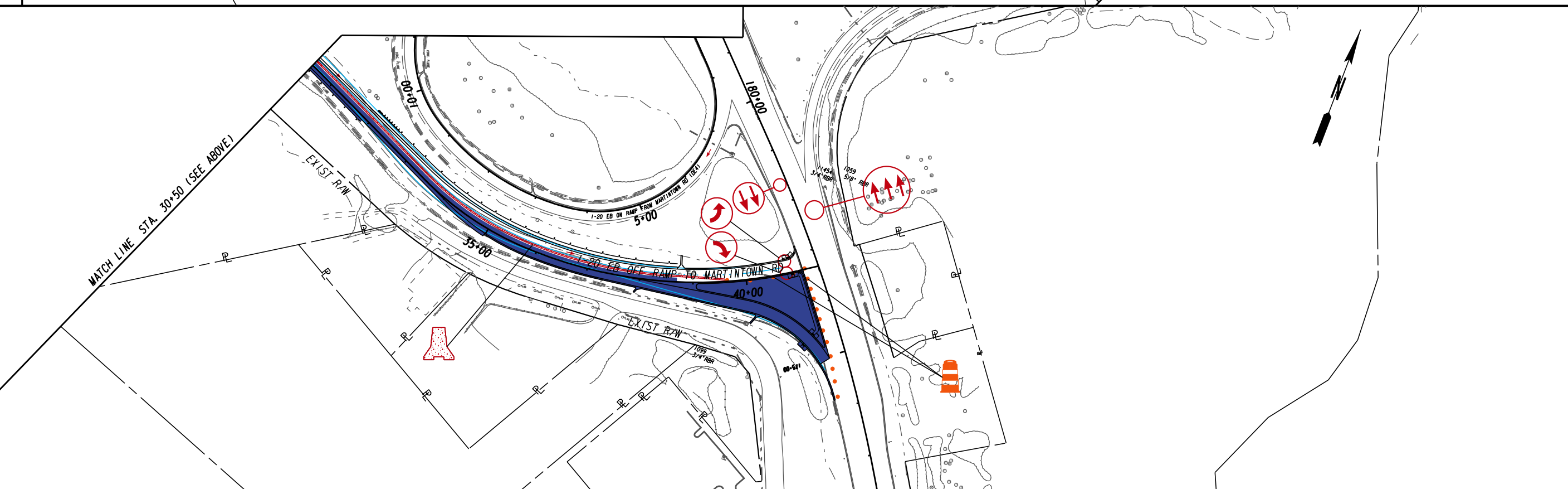
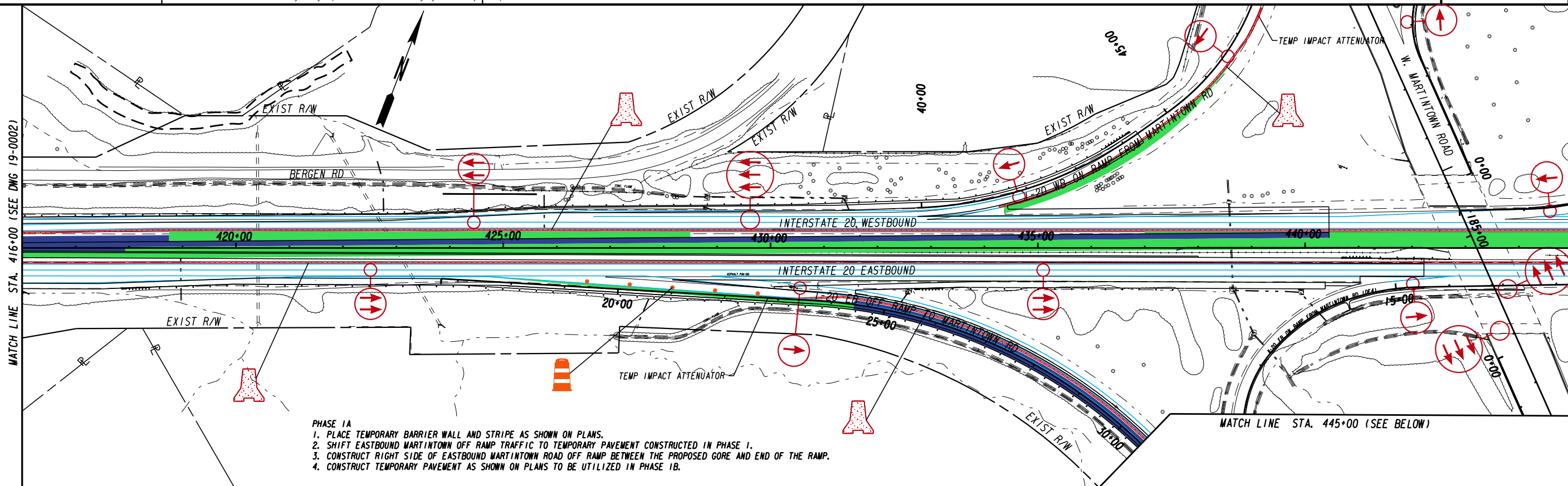
**SUPERIOR CONSTRUCTION** **WSP**

STV Incorporated

SCALE IN FEET

REVISION DATES	

<b>CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS PHASE I</b>		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



**SUPERIOR CONSTRUCTION** **WSP**

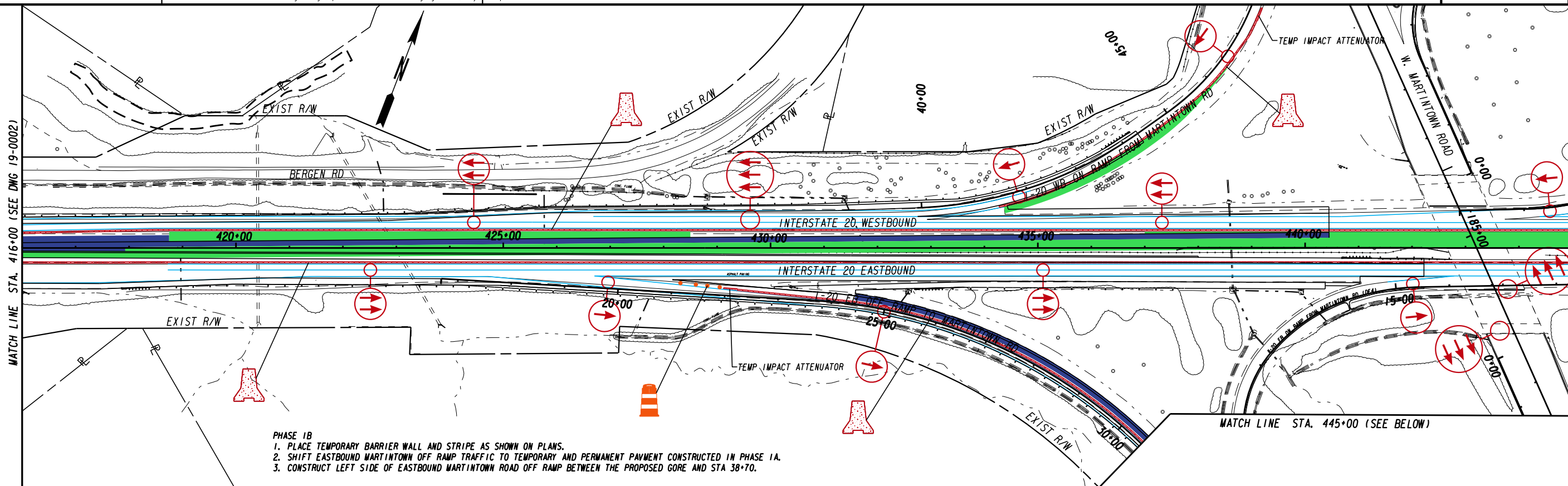
STV Incorporated  
SCALE IN FEET

REVISION DATES	

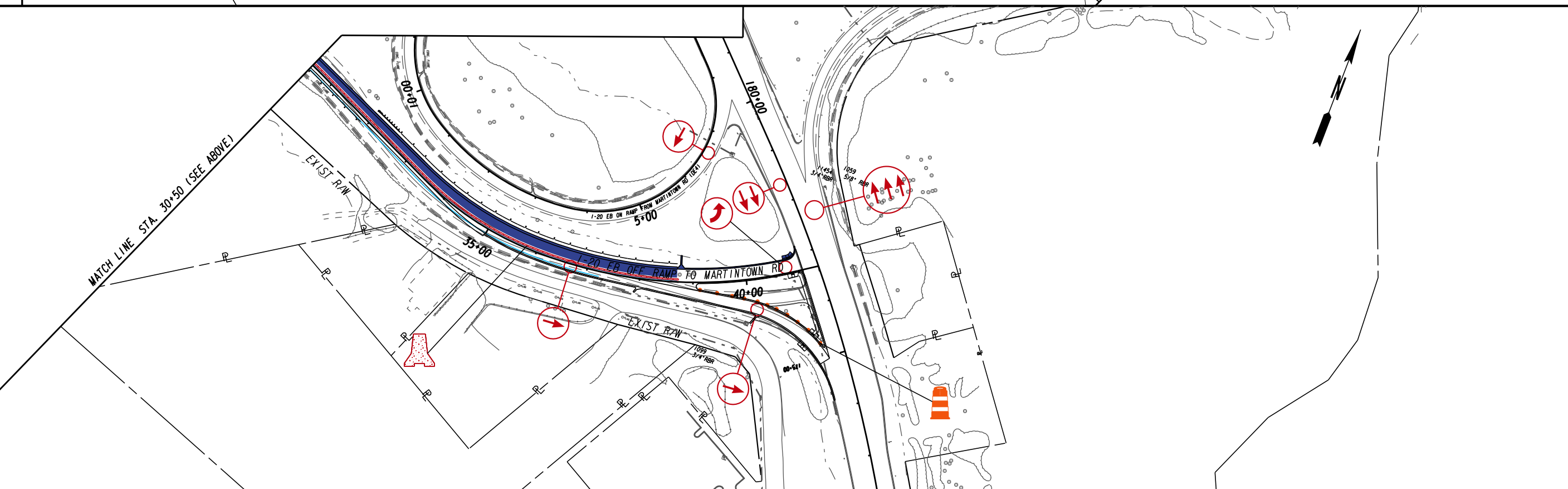
**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS**  
**PHASE 1A**

I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0004
CORRECTED:	DATE:	
VERIFIED:	DATE:	



- PHASE 1B
1. PLACE TEMPORARY BARRIER WALL AND STRIPE AS SHOWN ON PLANS.
  2. SHIFT EASTBOUND MARTINTOWN OFF RAMP TRAFFIC TO TEMPORARY AND PERMANENT PAVMENT CONSTRUCTED IN PHASE 1A.
  3. CONSTRUCT LEFT SIDE OF EASTBOUND MARTINTOWN ROAD OFF RAMP BETWEEN THE PROPOSED GORE AND STA 38+70.



PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



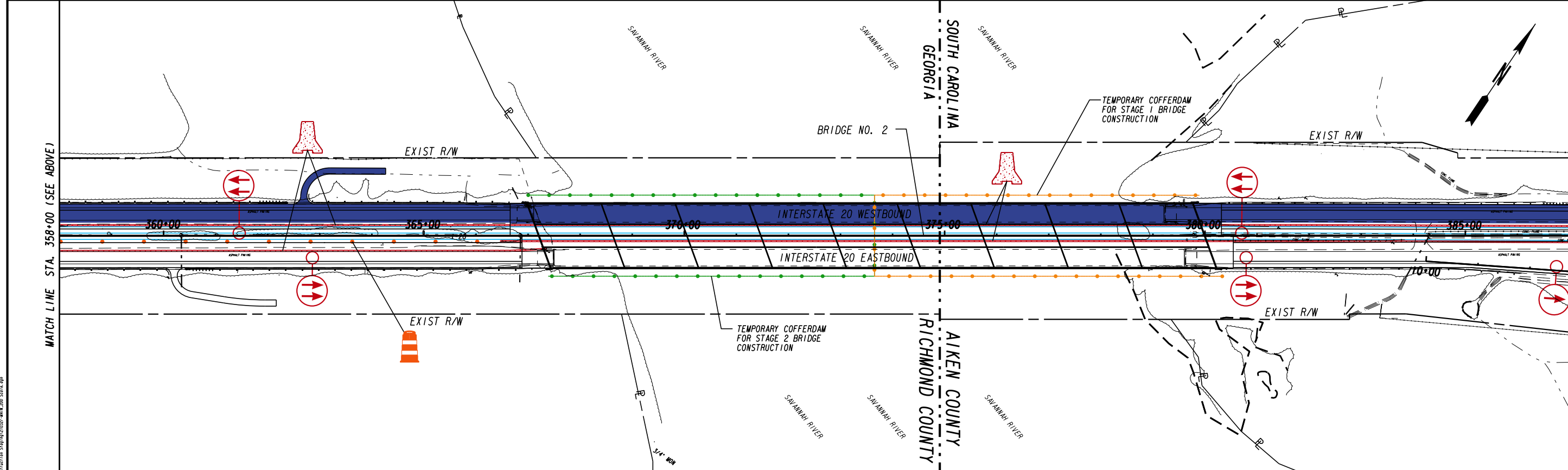
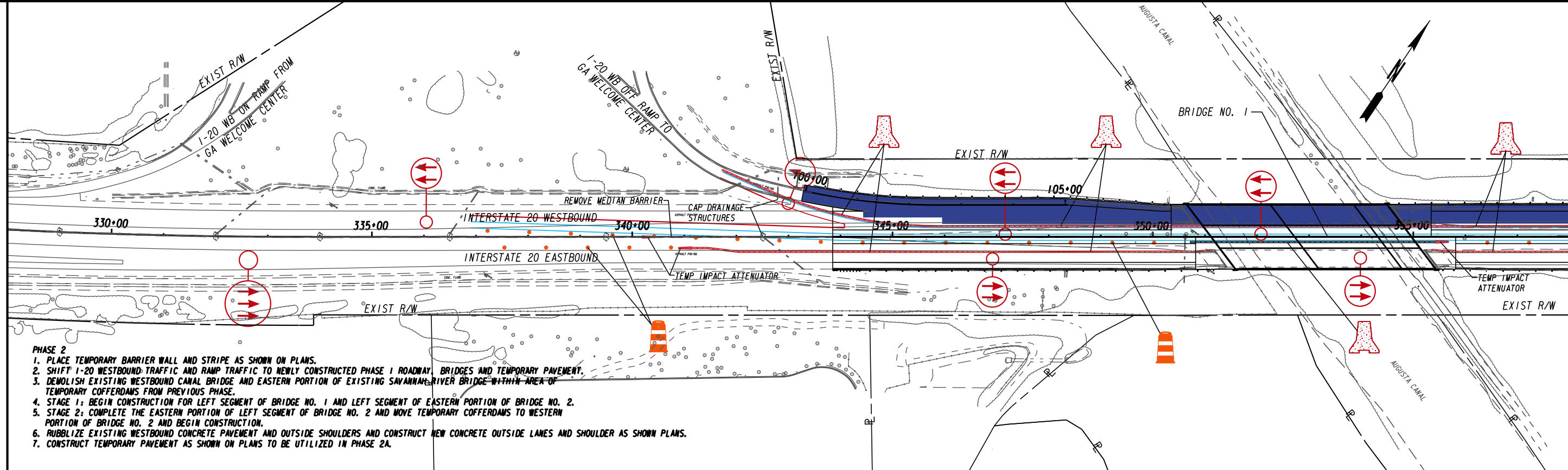
**SUPERIOR CONSTRUCTION** **WSP**

STV Incorporated

SCALE IN FEET

REVISION DATES	

<b>CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS</b>		
<b>PHASE 1B</b>		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0005
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PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION

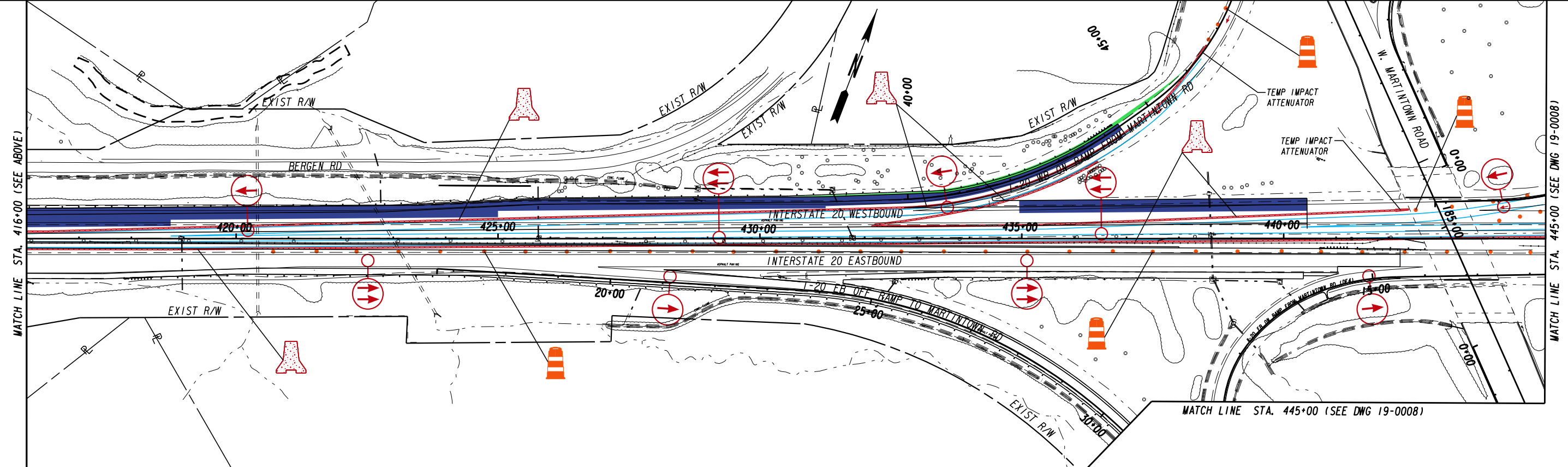
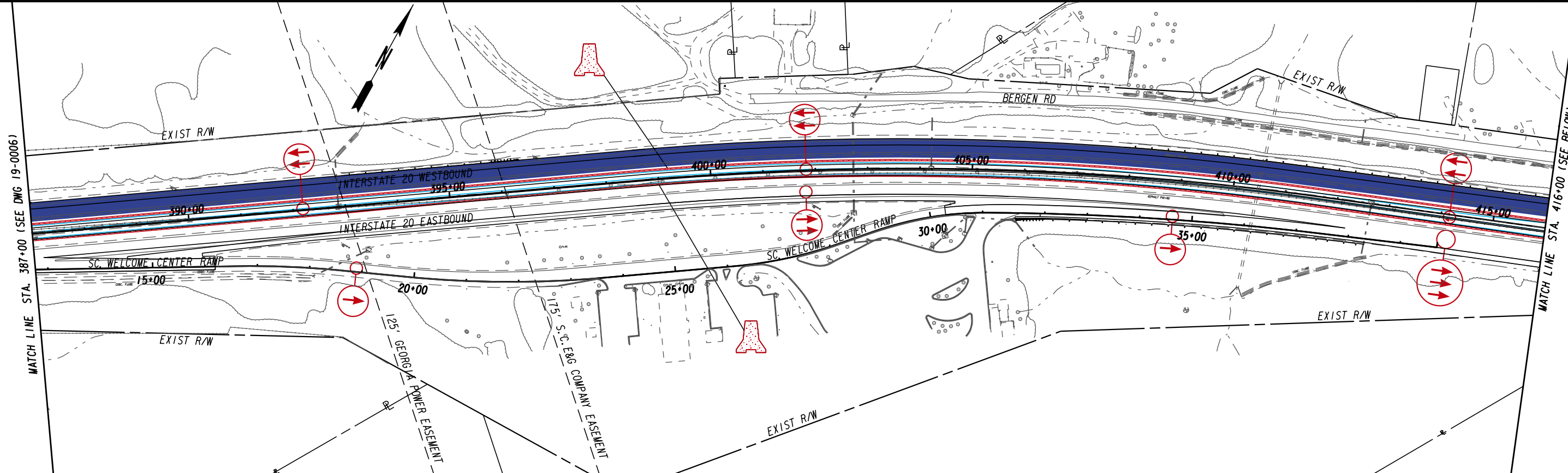


**SUPERIOR CONSTRUCTION** **WSP**

STV Incorporated  
SCALE IN FEET

REVISION DATES	

<b>CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS</b>		
<b>PHASE 2</b>		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0006
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 PERMANENT CONSTRUCTION  
 TEMPORARY PAVEMENT  
 TEMPORARY CONCRETE BARRIER  
 TRAFFIC BARREL DRUM  
 TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
 NOT FOR CONSTRUCTION



**SUPERIOR CONSTRUCTION** **WSP**  
**STV Incorporated**  
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REVISION DATES	

**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS  
 PHASE 2**

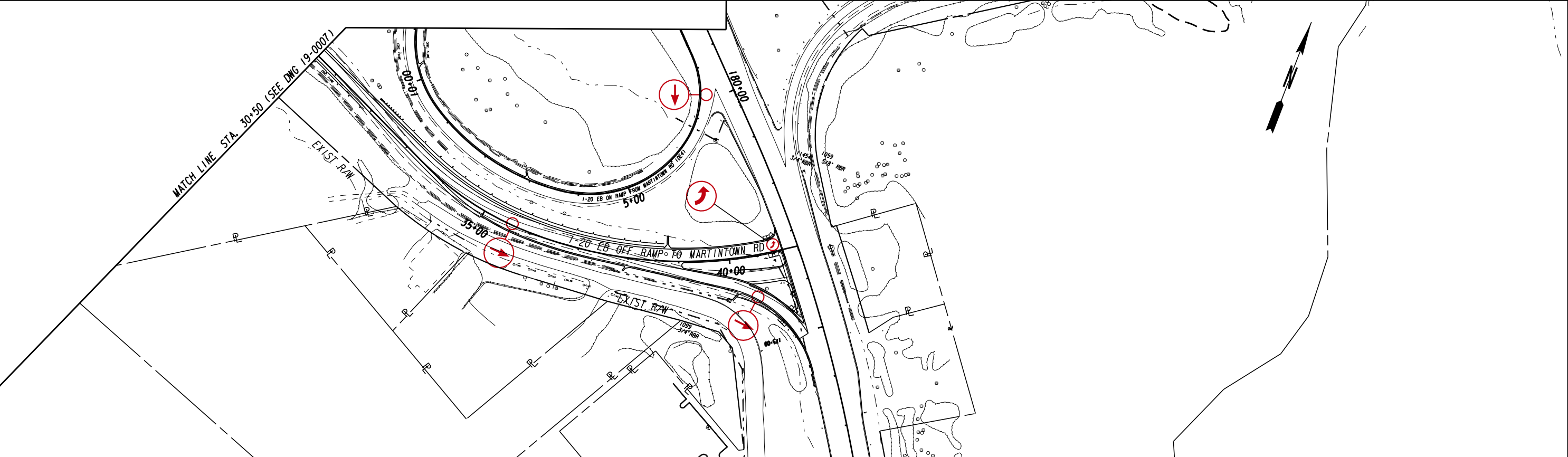
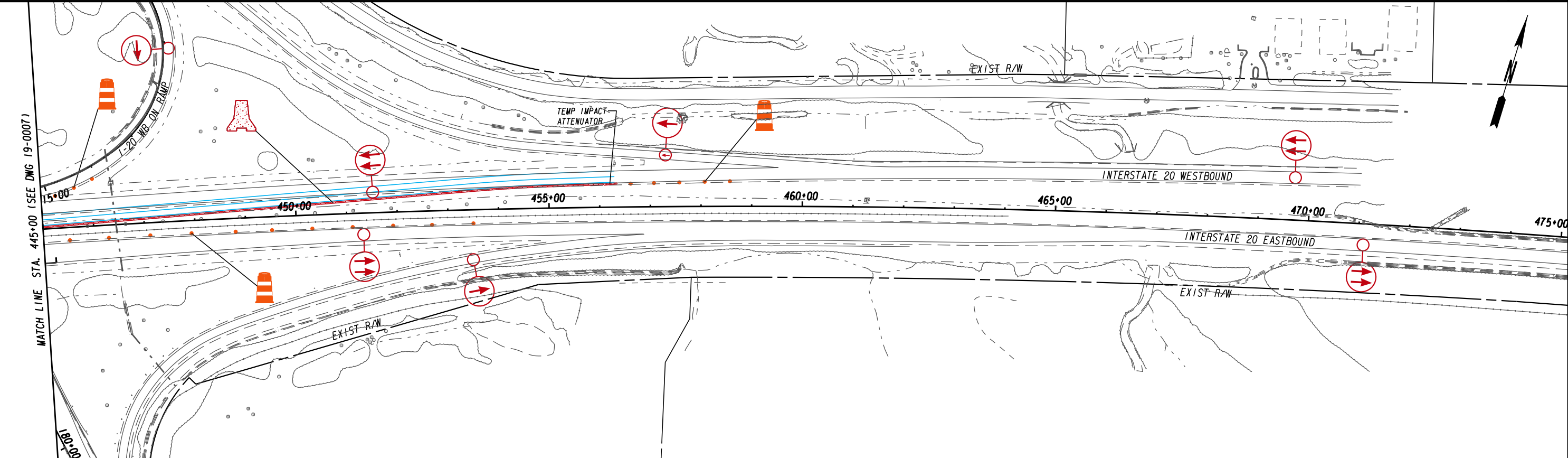
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PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



**SUPERIOR CONSTRUCTION** **WSP**

**STV Incorporated**

SCALE IN FEET

REVISION DATES	

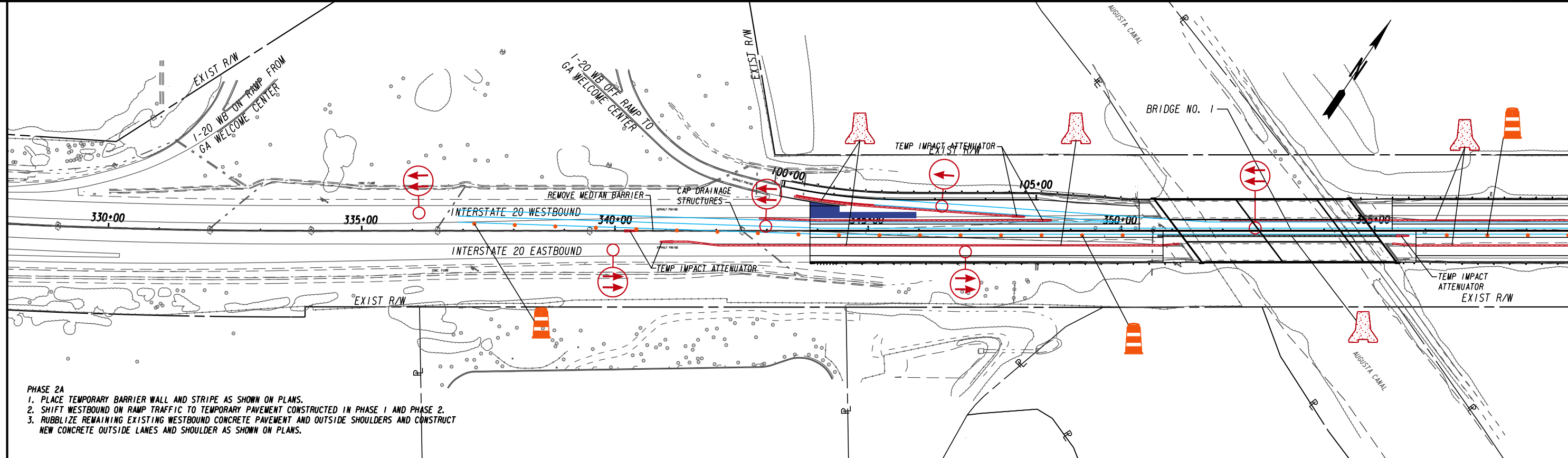
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PHASE 2**

1-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

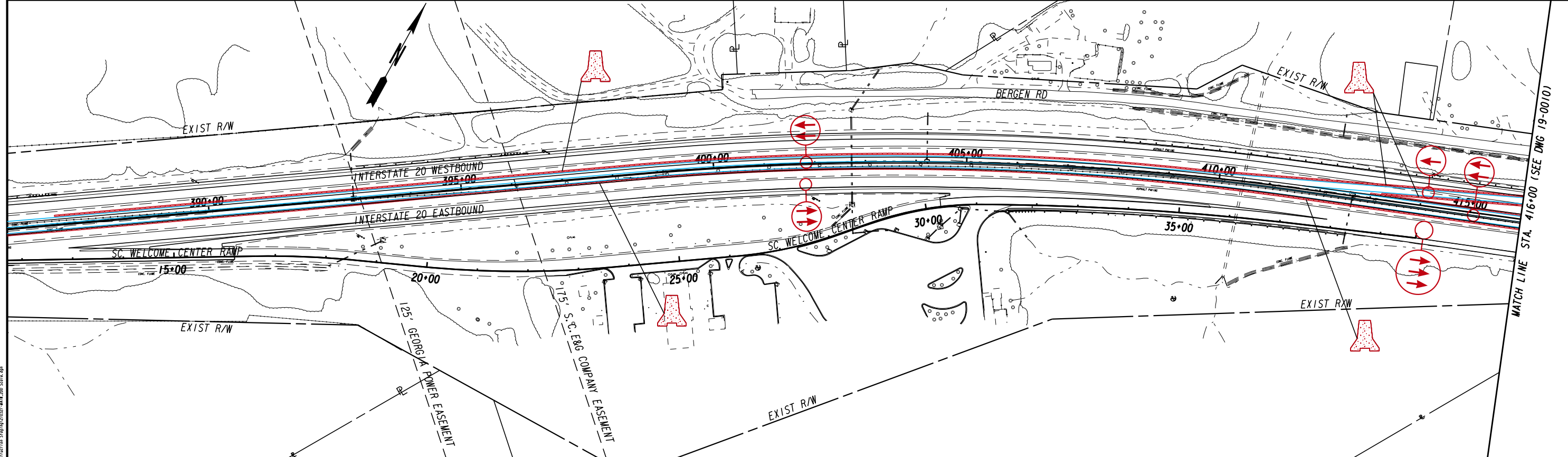
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- PHASE 2A**
1. PLACE TEMPORARY BARRIER WALL AND STRIPE AS SHOWN ON PLANS.
  2. SHIFT WESTBOUND ON RAMP TRAFFIC TO TEMPORARY PAVEMENT CONSTRUCTED IN PHASE 1 AND PHASE 2.
  3. RUBBLIZE REMAINING EXISTING WESTBOUND CONCRETE PAVEMENT AND OUTSIDE SHOULDERS AND CONSTRUCT NEW CONCRETE OUTSIDE LANES AND SHOULDER AS SHOWN ON PLANS.



PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



**SUPERIOR CONSTRUCTION** **WSP**

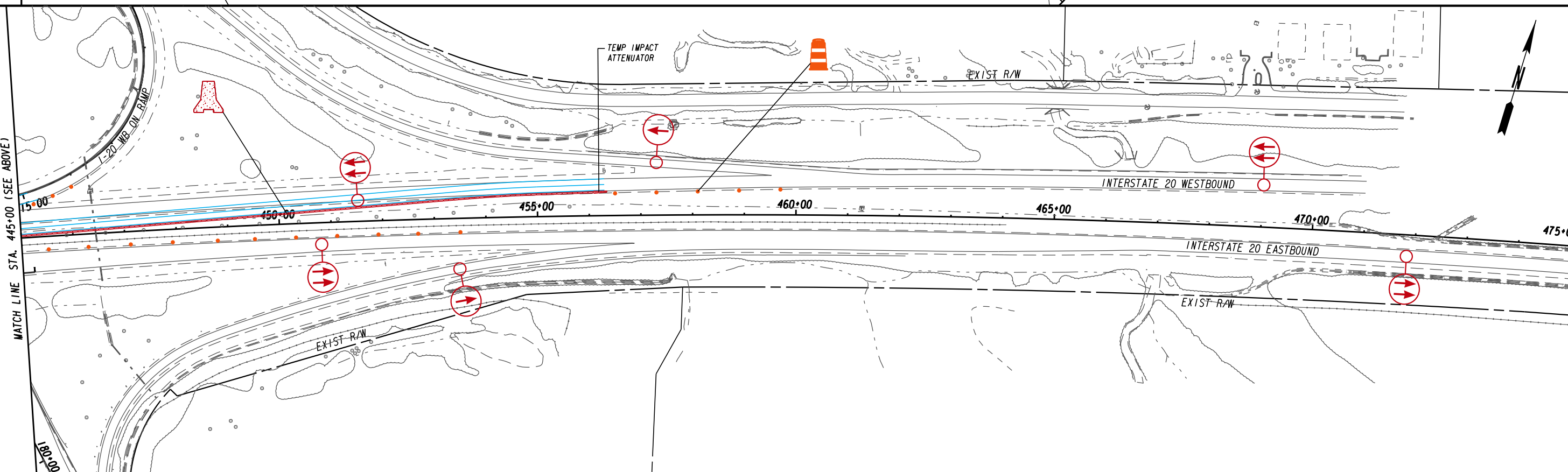
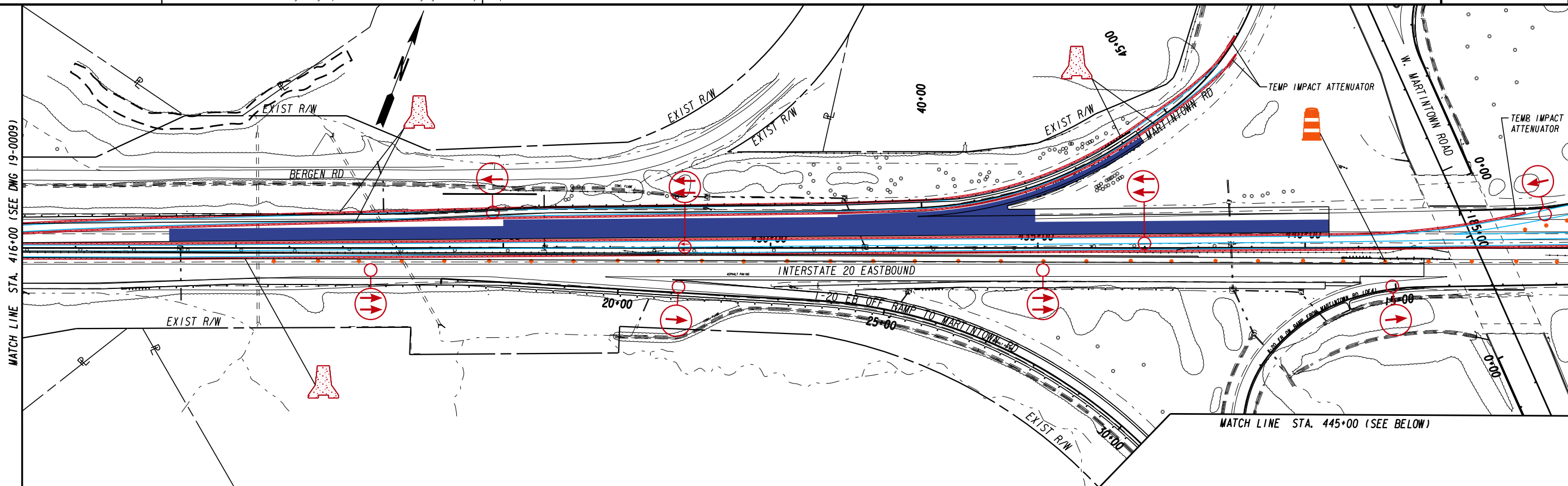
STV Incorporated  
SCALE IN FEET

REVISION DATES	

**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS**  
**PHASE 2A**

I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0009
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 PERMANENT CONSTRUCTION  
 TEMPORARY PAVEMENT  
 TEMPORARY CONCRETE BARRIER  
 TRAFFIC BARREL DRUM  
 TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
 NOT FOR CONSTRUCTION

South Carolina Department of Transportation

STV Incorporated

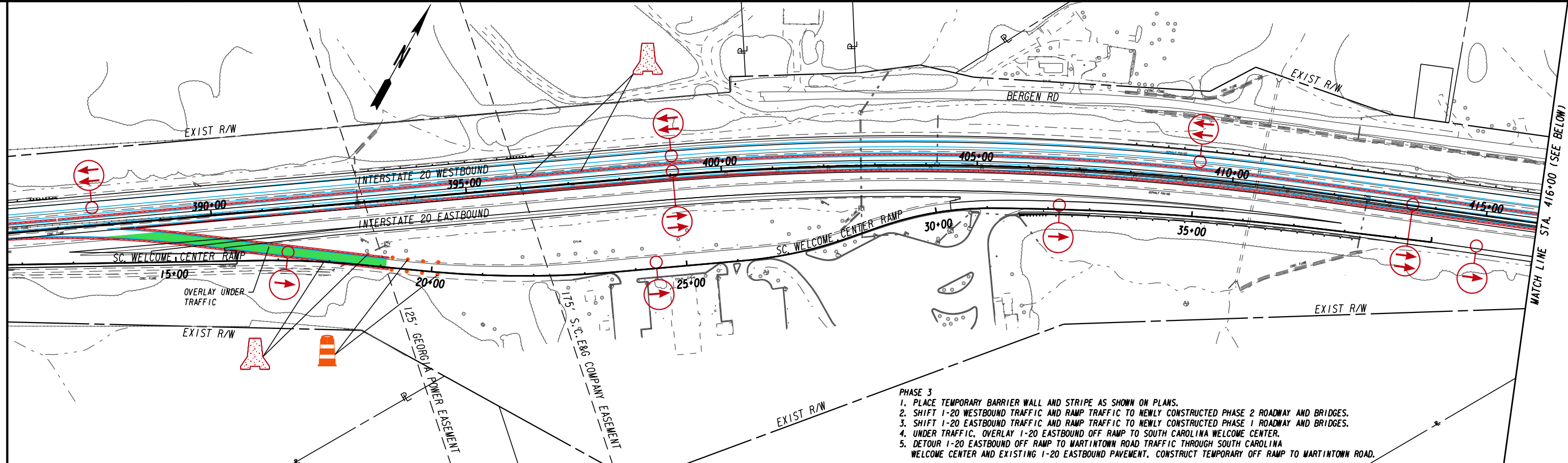
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REVISION DATES	

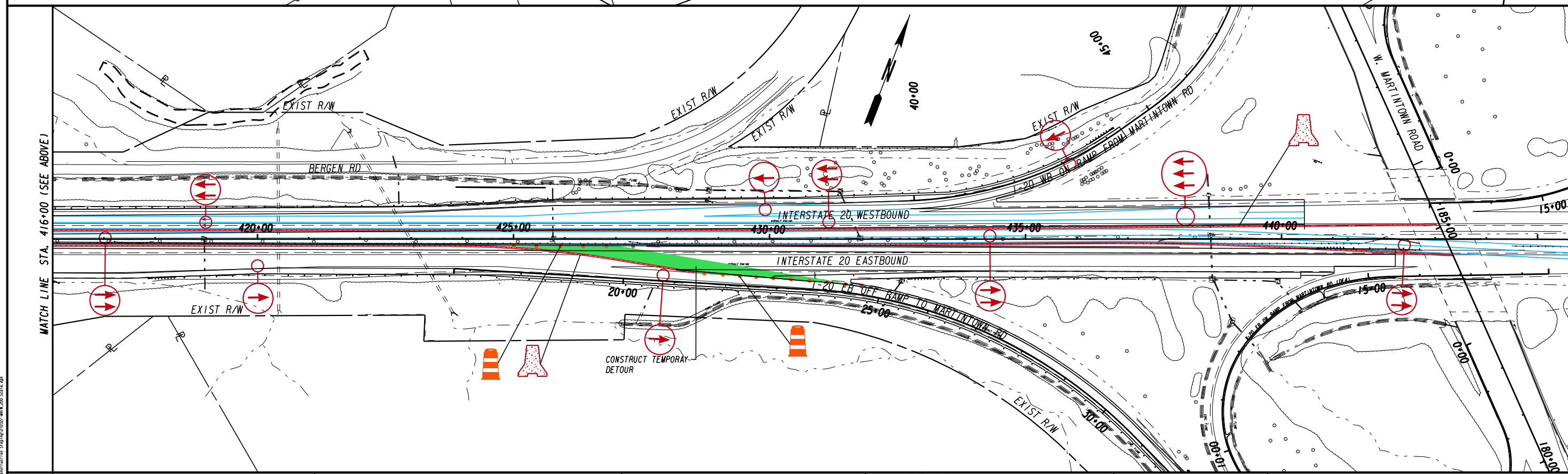
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 PHASE 2A**

I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

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BACKCHECKED:	DATE:	19-0010
CORRECTED:	DATE:	
VERIFIED:	DATE:	



- PHASE 3**
1. PLACE TEMPORARY BARRIER WALL AND STRIPE AS SHOWN ON PLANS.
  2. SHIFT I-20 WESTBOUND TRAFFIC AND RAMP TRAFFIC TO NEWLY CONSTRUCTED PHASE 2 ROADWAY AND BRIDGES.
  3. SHIFT I-20 EASTBOUND TRAFFIC AND RAMP TRAFFIC TO NEWLY CONSTRUCTED PHASE 1 ROADWAY AND BRIDGES.
  4. UNDER TRAFFIC, OVERLAY I-20 EASTBOUND OFF RAMP TO SOUTH CAROLINA WELCOME CENTER.
  5. DETOUR I-20 EASTBOUND OFF RAMP TO MARTINTOWN ROAD THROUGH SOUTH CAROLINA WELCOME CENTER AND EXISTING I-20 EASTBOUND PAVEMENT, CONSTRUCT TEMPORARY OFF RAMP TO MARTINTOWN ROAD.



PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 PERMANENT CONSTRUCTION  
 TEMPORARY PAVEMENT  
 TEMPORARY CONCRETE BARRIER  
 TRAFFIC BARREL DRUM  
 TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
 NOT FOR CONSTRUCTION

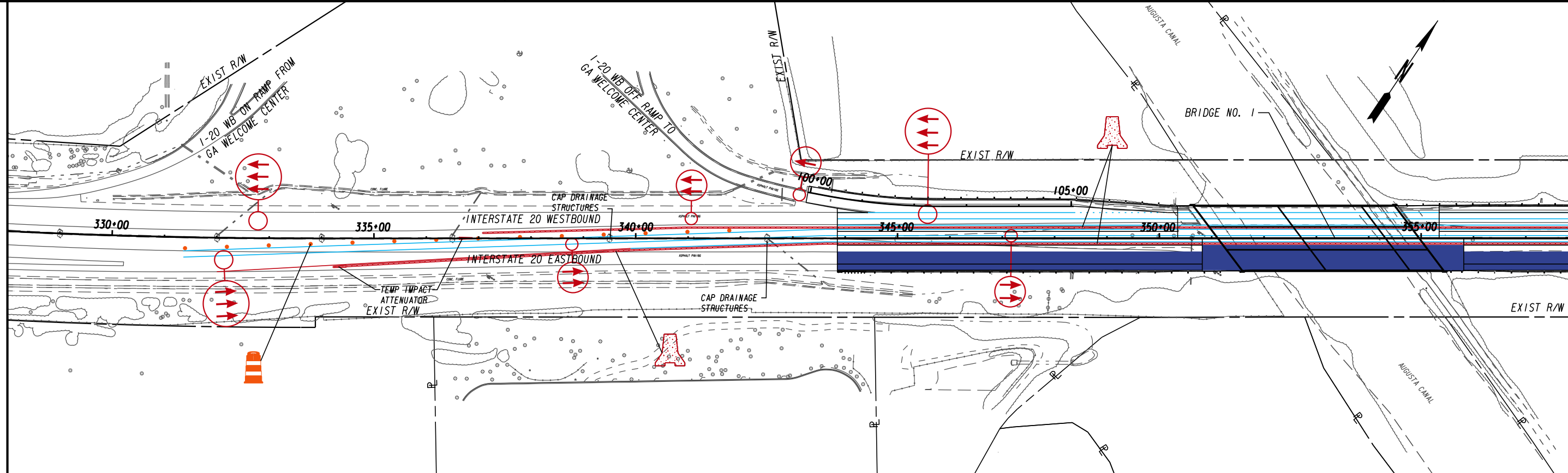
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**SCDOT**  
 South Carolina Department of Transportation

**SUPERIOR CONSTRUCTION**  
**WSP**  
 STV Incorporated  
 SCALE IN FEET  
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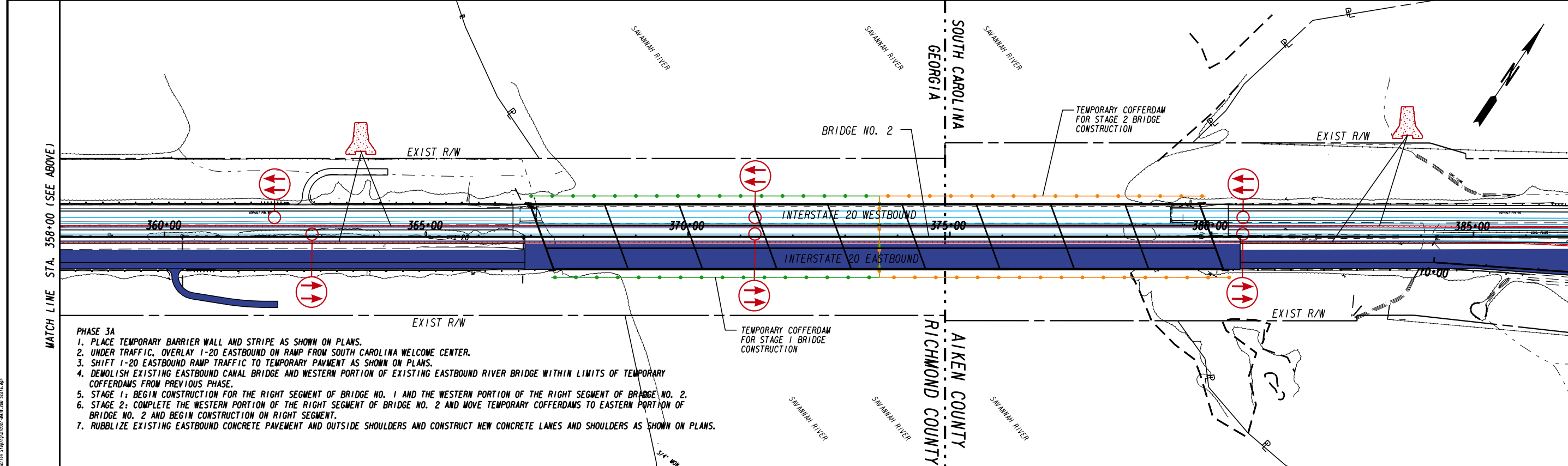
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**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS**  
**PHASE 3**  
 I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0011
CORRECTED:	DATE:	
VERIFIED:	DATE:	



MATCH LINE STA. 358+00 (SEE BELOW)



MATCH LINE STA. 387+00 (SEE DWG 19-0013)

- PHASE 3A**
1. PLACE TEMPORARY BARRIER WALL AND STRIPE AS SHOWN ON PLANS.
  2. UNDER TRAFFIC, OVERLAY I-20 EASTBOUND ON RAMP FROM SOUTH CAROLINA WELCOME CENTER.
  3. SHIFT I-20 EASTBOUND RAMP TRAFFIC TO TEMPORARY PAVEMENT AS SHOWN ON PLANS.
  4. DEMOLISH EXISTING EASTBOUND CANAL BRIDGE AND WESTERN PORTION OF EXISTING EASTBOUND RIVER BRIDGE WITHIN LIMITS OF TEMPORARY COFFERDAMS FROM PREVIOUS PHASE.
  5. STAGE 1: BEGIN CONSTRUCTION FOR THE RIGHT SEGMENT OF BRIDGE NO. 1 AND THE WESTERN PORTION OF THE RIGHT SEGMENT OF BRIDGE NO. 2.
  6. STAGE 2: COMPLETE THE WESTERN PORTION OF THE RIGHT SEGMENT OF BRIDGE NO. 2 AND MOVE TEMPORARY COFFERDAMS TO EASTERN PORTION OF BRIDGE NO. 2 AND BEGIN CONSTRUCTION ON RIGHT SEGMENT.
  7. RUBBLIZE EXISTING EASTBOUND CONCRETE PAVEMENT AND OUTSIDE SHOULDERS AND CONSTRUCT NEW CONCRETE LANES AND SHOULDERS AS SHOWN ON PLANS.

PROPERTY AND EXISTING R/W LINE  
REQUIRED R/W LINE  
PERMANENT CONSTRUCTION  
TEMPORARY PAVEMENT  
TEMPORARY CONCRETE BARRIER  
TRAFFIC BARREL DRUM  
TRAFFIC FLOW PATTERN

	PROPERTY AND EXISTING R/W LINE
	REQUIRED R/W LINE
	PERMANENT CONSTRUCTION
	TEMPORARY PAVEMENT
	TEMPORARY CONCRETE BARRIER
	TRAFFIC BARREL DRUM
	TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



**SUPERIOR CONSTRUCTION** **WSP**

STV Incorporated  
SCALE IN FEET

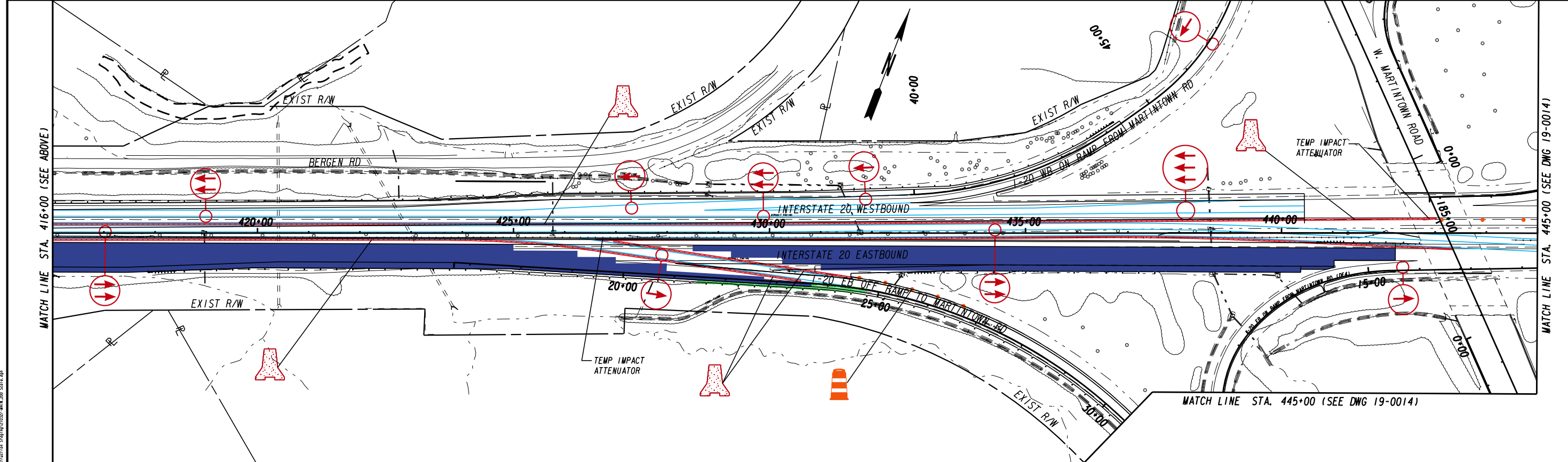
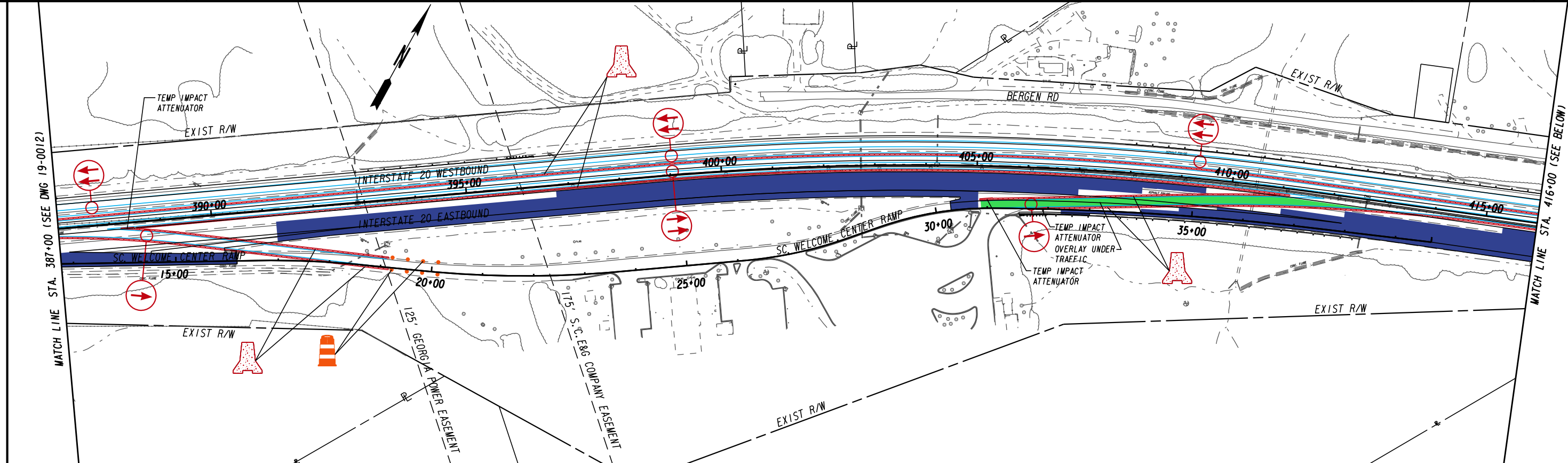
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**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS  
PHASE 3A**

I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

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PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION

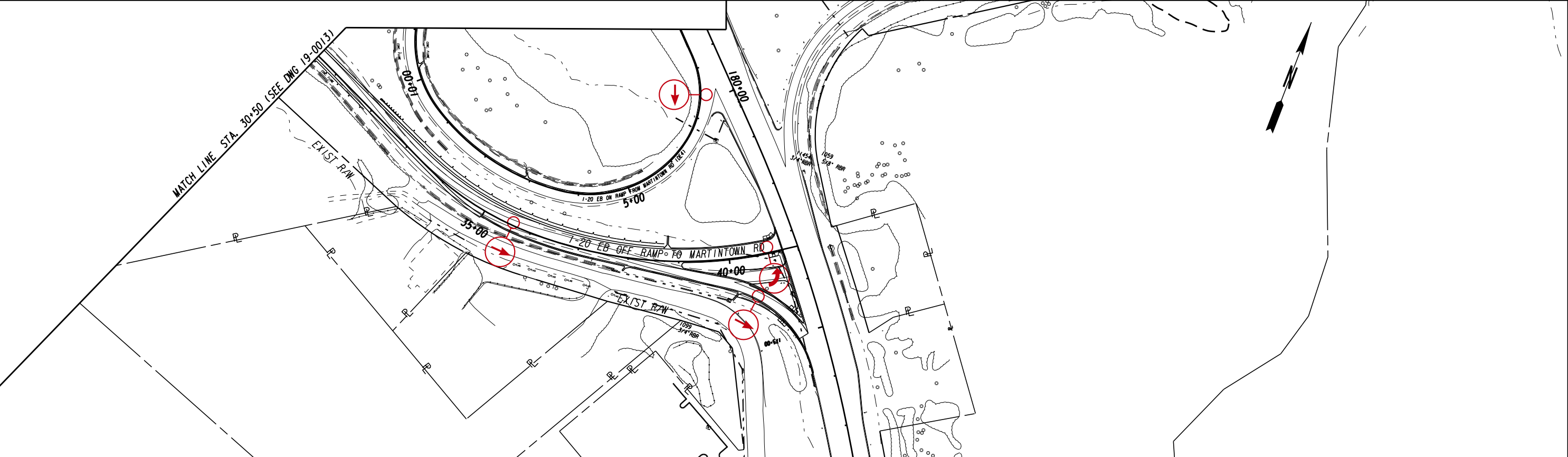
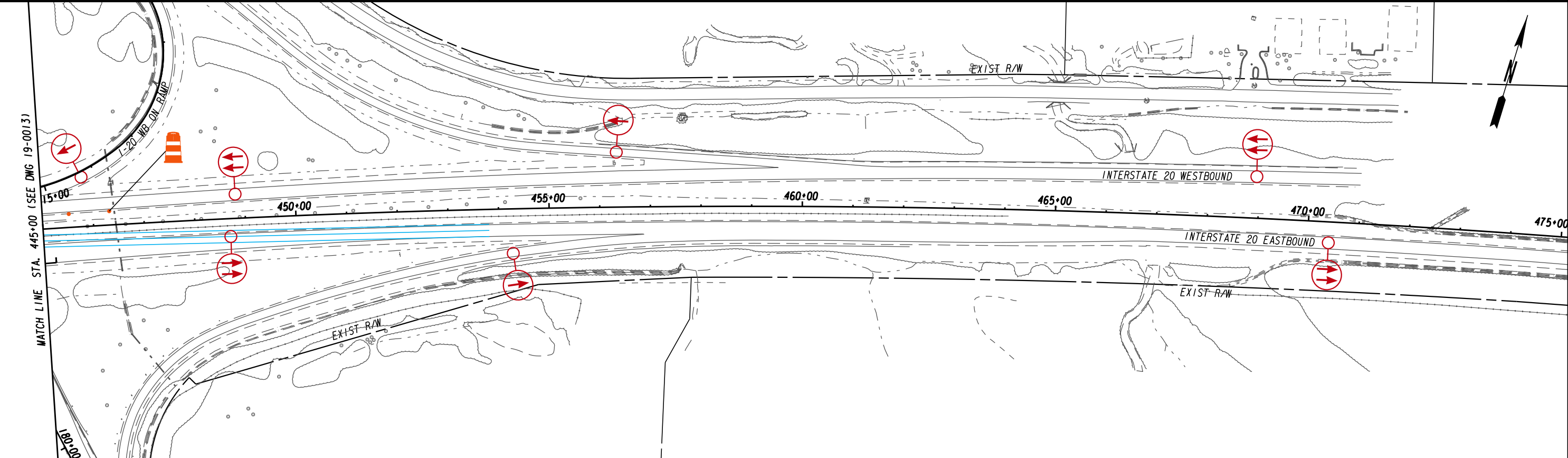


**SUPERIOR CONSTRUCTION** **WSP**

STV Incorporated  
SCALE IN FEET

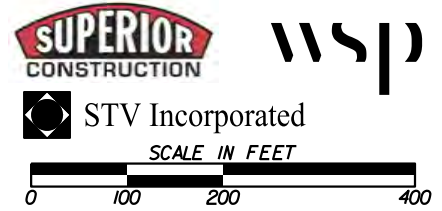
REVISION DATES	

<b>CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS</b>		
<b>PHASE 3A</b>		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
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BACKCHECKED:	DATE:	19-0013
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VERIFIED:	DATE:	



PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

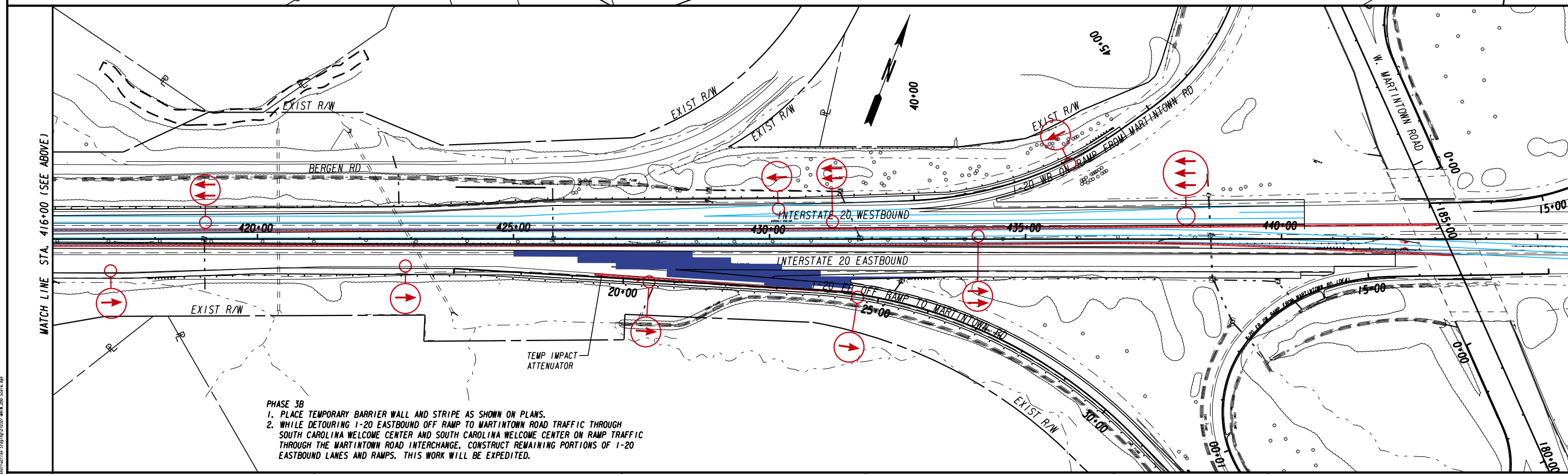
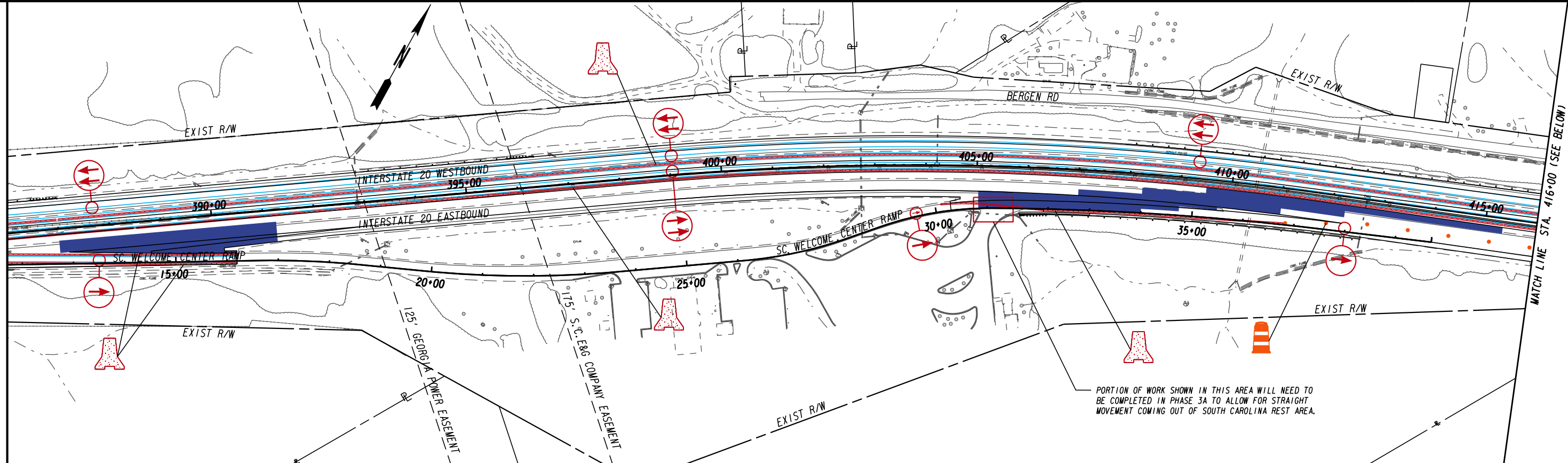
TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



REVISION DATES	

<b>CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS PHASE 3A</b>		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
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BACKCHECKED:	DATE:	19-0014
CORRECTED:	DATE:	
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**PHASE 3B**  
 1. PLACE TEMPORARY BARRIER WALL AND STRIPE AS SHOWN ON PLANS.  
 2. WHILE DETOURING I-20 EASTBOUND OFF RAMP TO MARTINTOWN ROAD TRAFFIC THROUGH SOUTH CAROLINA WELCOME CENTER AND SOUTH CAROLINA WELCOME CENTER ON RAMP TRAFFIC THROUGH THE MARTINTOWN ROAD INTERCHANGE, CONSTRUCT REMAINING PORTIONS OF I-20 EASTBOUND LANES AND RAMPS. THIS WORK WILL BE EXPEDITED.

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 PERMANENT CONSTRUCTION  
 TEMPORARY PAVEMENT  
 TEMPORARY CONCRETE BARRIER  
 TRAFFIC BARREL DRUM  
 TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
 NOT FOR CONSTRUCTION

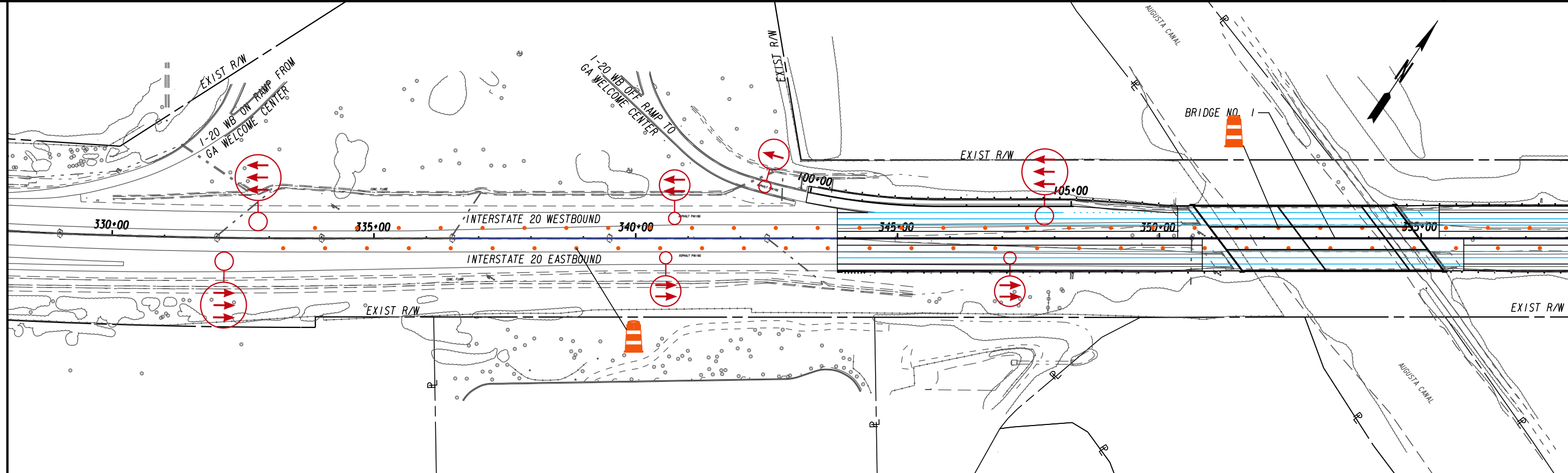
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**SCDOT**  
 South Carolina Department of Transportation

**SUPERIOR CONSTRUCTION**  
**WSP**  
**STV Incorporated**  
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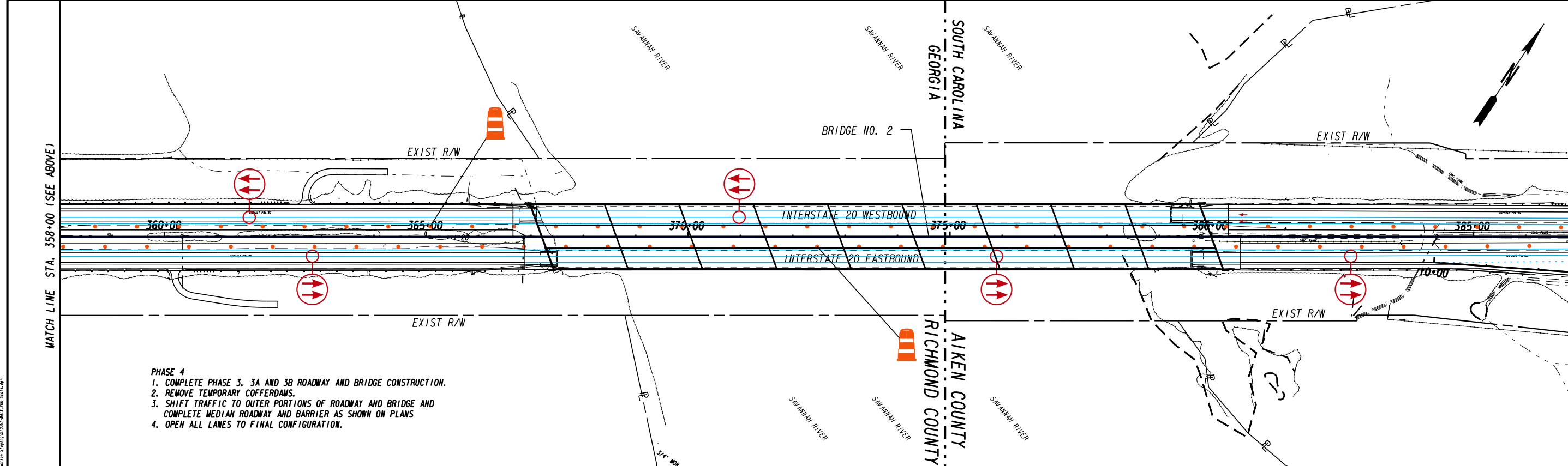
REVISION DATES	

**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS**  
**PHASE 3B**  
 I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

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BACKCHECKED:	DATE:	19-0015
CORRECTED:	DATE:	
VERIFIED:	DATE:	



MATCH LINE STA. 358+00 (SEE BELOW)



MATCH LINE STA. 387+00 (SEE DWG 19-0017)

- PHASE 4**
1. COMPLETE PHASE 3, 3A AND 3B ROADWAY AND BRIDGE CONSTRUCTION.
  2. REMOVE TEMPORARY COFFERDAMS.
  3. SHIFT TRAFFIC TO OUTER PORTIONS OF ROADWAY AND BRIDGE AND COMPLETE MEDIAN ROADWAY AND BARRIER AS SHOWN ON PLANS
  4. OPEN ALL LANES TO FINAL CONFIGURATION.

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 PERMANENT CONSTRUCTION  
 TEMPORARY PAVEMENT  
 TEMPORARY CONCRETE BARRIER  
 TRAFFIC BARREL DRUM  
 TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION

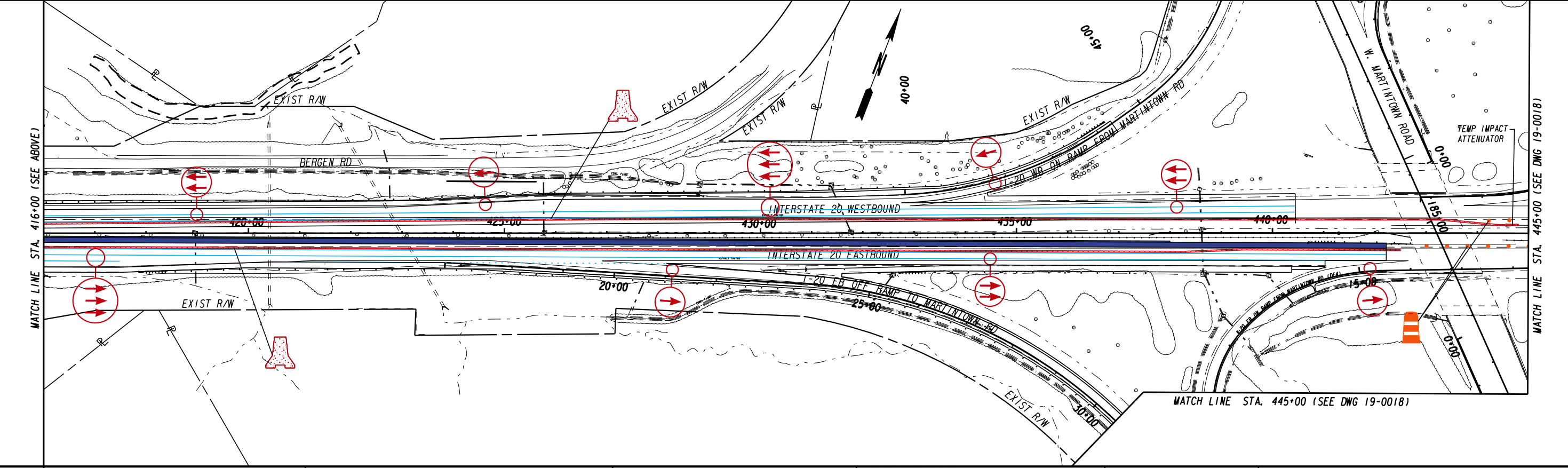
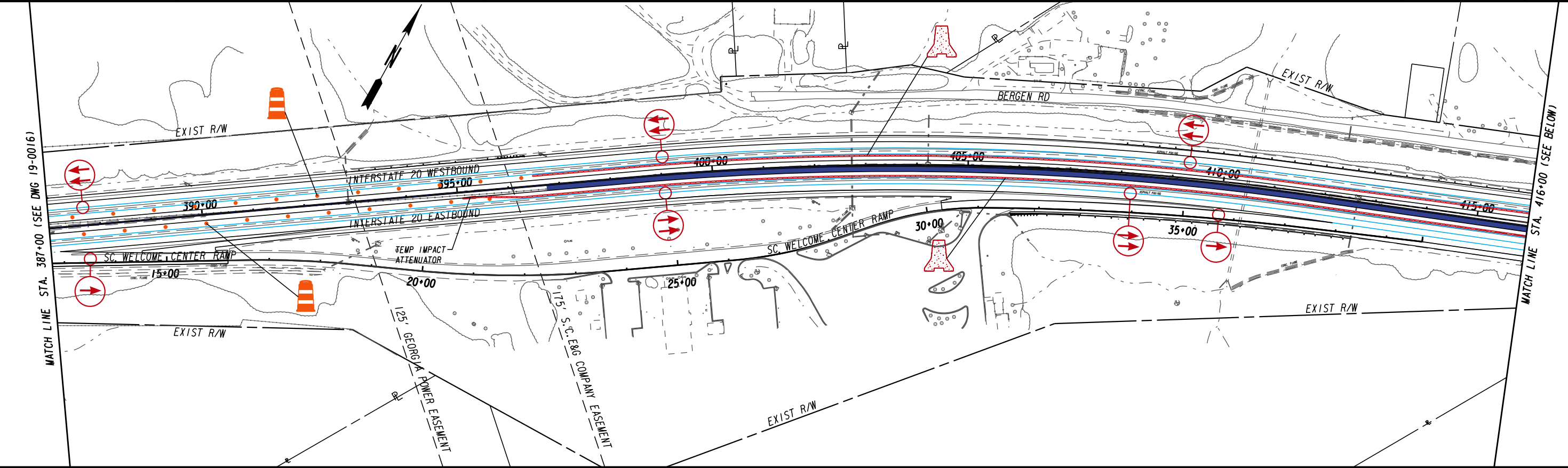
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**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS  
PHASE 4**

I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

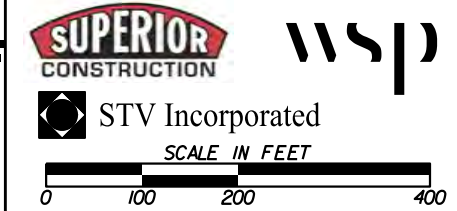
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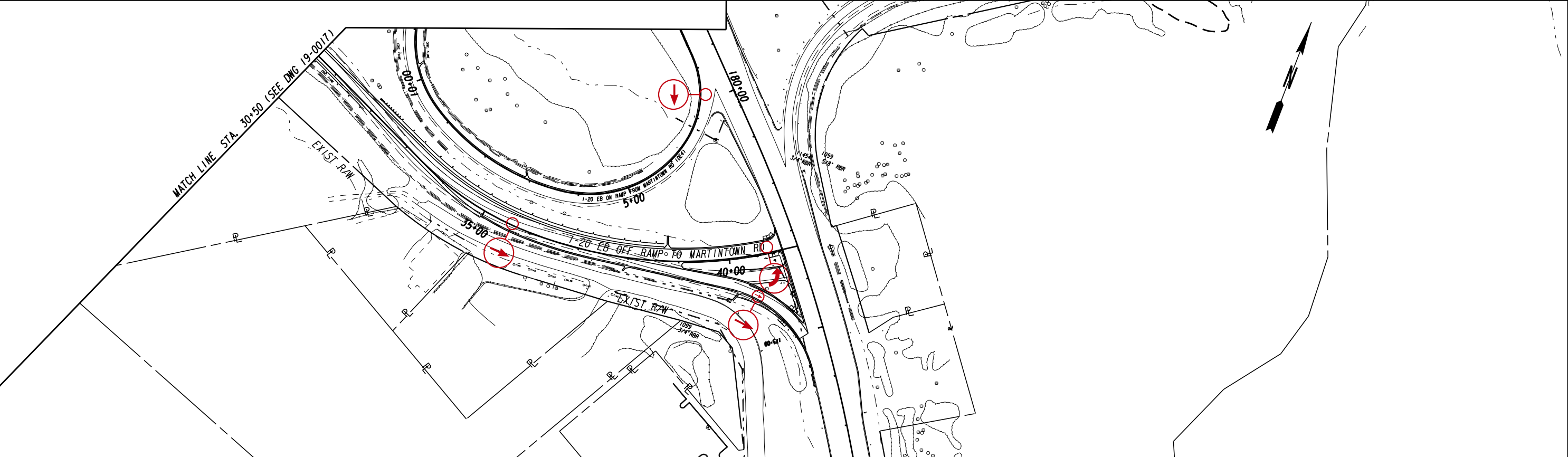
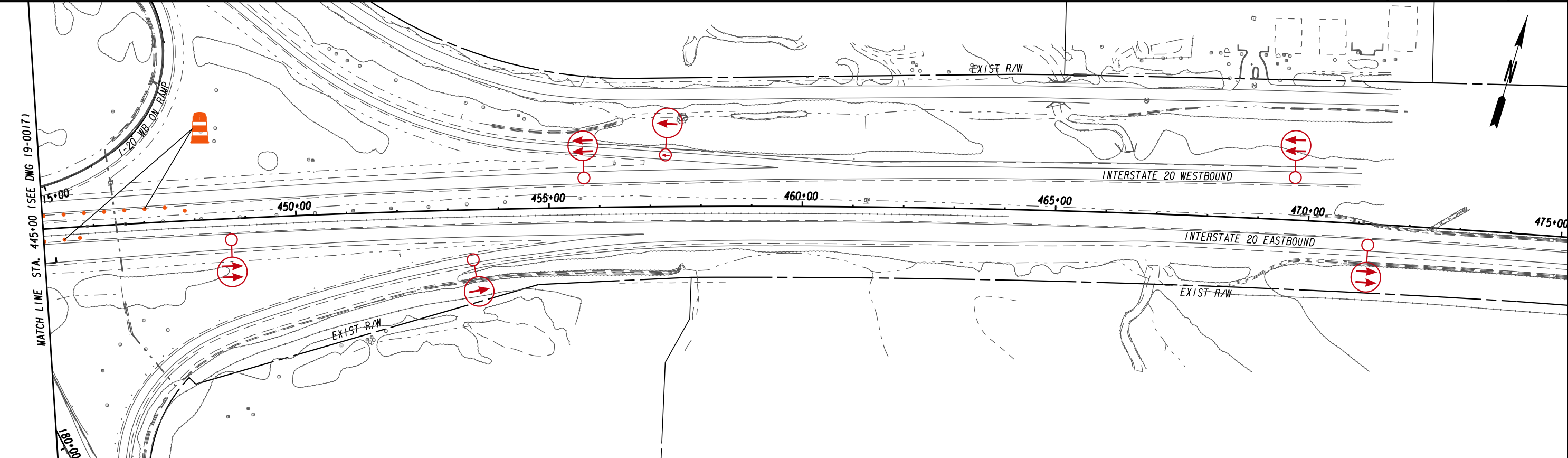
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 REQUIRED R/W LINE  
 PERMANENT CONSTRUCTION  
 TEMPORARY PAVEMENT  
 TEMPORARY CONCRETE BARRIER  
 TRAFFIC BARREL DRUM  
 TRAFFIC FLOW PATTERN

TECHNICAL PROPOSAL  
 NOT FOR CONSTRUCTION



REVISION DATES	

CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS PHASE 4		
I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	19-0017
CORRECTED:	DATE:	
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PROPERTY AND EXISTING R/W LINE	
REQUIRED R/W LINE	
PERMANENT CONSTRUCTION	
TEMPORARY PAVEMENT	
TEMPORARY CONCRETE BARRIER	
TRAFFIC BARREL DRUM	
TRAFFIC FLOW PATTERN	

TECHNICAL PROPOSAL  
NOT FOR CONSTRUCTION



**SUPERIOR CONSTRUCTION** **WSP**

**STV Incorporated**

SCALE IN FEET

REVISION DATES	

**CONCEPTUAL CONSTRUCTION STAGING DIAGRAMS**  
**PHASE 4**

I-20 BRIDGE REPLACEMENT AT SAVANNAH RIVER

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Georgia Department of Transportation

in conjunction with **SCDOT**

RFQ NO. 484-03302018DB

## **DESIGN-BUILD**

**I-20 AT SAVANNAH RIVER BRIDGE  
REPLACEMENTS AND ROADWAY  
WIDENING PROJECT**

P.I. NO. 210327

# **PROJECT SCHEDULE**



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2019												2020												2021												2022
						D	J	F	M	A	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J	J	A	S	O
<b>I-20 at Savannah River Design-Build (Proposal Schedule PI No. 210327)</b>																																										
<b>Project Milestones</b>																																										
PM.1010	Notice to Proceed 1 - Commence Preliminary Design	0	17-Dec-18	09-Feb-22	176																																					
PM.1040	Substantial Completion Deadline (Must be completed by 12/31/21)	1103	17-Dec-18	23-Dec-21	0																																					
PM.1000	Contract Execution	0	17-Dec-18		127																																					
PM.1050	Final Acceptance Deadline	1151	17-Dec-18	09-Feb-22	0																																					
<b>Design</b>																																										
210327 DSN.1100	Project Survey and SUE Investigation	60	17-Dec-18	14-Feb-19	127																																					
210327 DSN.1110	Prepare Geotechnical Field Data	45	17-Dec-18	30-Jan-19	132																																					
210327 DSN.1270	Submit Geotechnical Field Data	1	31-Jan-19	31-Jan-19	132																																					
210327 DSN.1280	Review Geotechnical Field Data	30	01-Feb-19	02-Mar-19	132																																					
<b>Package A - Georgia Roadway</b>																																										
<b>60% Design Submittals</b>																																										
210327 DSN.1150	Prepare 60% Drainage Plans - Georgia	120	17-Dec-18	15-Apr-19	398																																					
210327 DSN.1180	Prepare 60% ITS Plans - Georgia	120	17-Dec-18	15-Apr-19	196																																					
210327 DSN.1210	Prepare 60% Signing, Pvement Marking & Signalization Plans - Georgia	120	17-Dec-18	15-Apr-19	176																																					
210327 DSN.1240	Prepare 60% Traffic Control Plans - Georgia	120	17-Dec-18	15-Apr-19	208																																					
210327 DSN.1120	Prepare 60% Grading/Roadway Plans - Georgia	120	01-Feb-19	31-May-19	162																																					
210327 DSN.1160	Submit 60% Drainage Plans - Georgia	1	16-Apr-19	16-Apr-19	398																																					
210327 DSN.1190	Submit 60% ITS Plans - Georgia	1	16-Apr-19	16-Apr-19	196																																					
210327 DSN.1220	Submit 60% Signing, Pavement Marking & Signalization Plans - Georgia	1	16-Apr-19	16-Apr-19	176																																					
210327 DSN.1250	Submit 60% Traffic Control Plans - Georgia	1	16-Apr-19	16-Apr-19	208																																					
210327 DSN.1170	Review 60% Drainage Plans - Georgia	30	17-Apr-19	16-May-19	398																																					
210327 DSN.1200	Review 60% ITS Plans - Georgia	30	17-Apr-19	16-May-19	196																																					
210327 DSN.1230	Review 60% Signing, Pavement Marking & Signalization Plans - Georgia	30	17-Apr-19	16-May-19	176																																					
210327 DSN.1260	Review 60% Traffic Control Plans - Georgia	14	17-Apr-19	30-Apr-19	208																																					
210327 DSN.1130	Submit 60% Grading/Roadway Plans - Georgia	1	01-Jun-19	01-Jun-19	162																																					
210327 DSN.1140	Review 60% Grading/Roadway Plans - Georgia	14	02-Jun-19	15-Jun-19	162																																					
<b>Final Design Submittals</b>																																										
210327 DSN.1620	Prepare Final Traffic Control Plans - Georgia	120	01-May-19	28-Aug-19	208																																					
210327 DSN.1600	Prepare Final ITS Plans - Georgia	120	17-May-19	13-Sep-19	196																																					
210327 DSN.1610	Prepare Final Signing, Pvement Marking & Signalization Plans - Georgia	120	17-May-19	13-Sep-19	176																																					
210327 DSN.1710	Prepare Final Drainage Plans - Georgia	120	17-May-19	13-Sep-19	398																																					
210327 DSN.1590	Prepare Final Grading/Roadway Plans - Georgia	120	16-Jun-19	13-Oct-19	162																																					
210327 DSN.1700	Submit Final Traffic Control Plans - Georgia	1	29-Aug-19	29-Aug-19	208																																					
210327 DSN.1660	Review Final Traffic Control Plans - Georgia	14	30-Aug-19	12-Sep-19	208																																					
210327 DSN.1680	Submit Final ITS Plans - Georgia	1	14-Sep-19	14-Sep-19	196																																					
210327 DSN.1690	Submit Final Signing, Pavement Marking & Signalization Plans - Georgia	1	14-Sep-19	14-Sep-19	176																																					
210327 DSN.1720	Submit Final Drainage Plans - Georgia	1	14-Sep-19	14-Sep-19	398																																					
210327 DSN.1640	Review Final ITS Plans - Georgia	30	15-Sep-19	14-Oct-19	196																																					
210327 DSN.1650	Review Final Signing, Pavement Marking & Signalization Plans - Georgia	30	15-Sep-19	14-Oct-19	176																																					
210327 DSN.1730	Review Final Drainage Plans - Georgia	30	15-Sep-19	14-Oct-19	398																																					
210327 DSN.1670	Submit Final Grading/Roadway Plans - Georgia	1	14-Oct-19	14-Oct-19	162																																					
210327 DSN.1630	Review Final Grading/Roadway Plans - Georgia	14	15-Oct-19	28-Oct-19	162																																					
<b>Package B - South Carolina Roadway</b>																																										
<b>60% Design Submittal</b>																																										
210327 DSN.1290	Prepare 60% Drainage Plans - South Carolina	120	17-Dec-18	15-Apr-19	398																																					
210327 DSN.1310	Prepare 60% ITS Plans - South Carolina	120	17-Dec-18	15-Apr-19	196																																					
210327 DSN.1320	Prepare 60% Signing, Pvement Marking & Signalization Plans - South Carolin:	120	17-Dec-18	15-Apr-19	176																																					

■ Actual Level of Effort   
 ■ Remaining Work   
 ■ Critical Remaining Work   
 ◆ Baseline Milestone

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2019												2020												2021												2022
						J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
210327 DSN.1330	Prepare 60% Traffic Control Plans - South Carolina	120	17-Dec-18	15-Apr-19	208	[Gantt bar from Dec 17, 2018 to Apr 15, 2019]																																				
210327 DSN.1300	Prepare 60% Grading/Roadway Plans - South Carolina	120	03-Mar-19	30-Jun-19	132	[Gantt bar from Mar 03, 2019 to Jun 30, 2019]																																				
210327 DSN.1390	Submit 60% Drainage Plans - South Carolina	1	16-Apr-19	16-Apr-19	398	[Vertical line at Apr 16, 2019]																																				
210327 DSN.1410	Submit 60% ITS Plans - South Carolina	1	16-Apr-19	16-Apr-19	196	[Vertical line at Apr 16, 2019]																																				
210327 DSN.1420	Submit 60% Signing, Pavement Marking & Signalization Plans - South Carolin	1	16-Apr-19	16-Apr-19	176	[Vertical line at Apr 16, 2019]																																				
210327 DSN.1430	Submit 60% Traffic Control Plans - South Carolina	1	16-Apr-19	16-Apr-19	208	[Vertical line at Apr 16, 2019]																																				
210327 DSN.1340	Review 60% Drainage Plans - South Carolina	30	17-Apr-19	16-May-19	398	[Gantt bar from Apr 17, 2019 to May 16, 2019]																																				
210327 DSN.1360	Review 60% ITS Plans - South Carolina	30	17-Apr-19	16-May-19	196	[Gantt bar from Apr 17, 2019 to May 16, 2019]																																				
210327 DSN.1370	Review 60% Signing, Pavement Marking & Signalization Plans - South Carolin	30	17-Apr-19	16-May-19	176	[Gantt bar from Apr 17, 2019 to May 16, 2019]																																				
210327 DSN.1380	Review 60% Traffic Control Plans - South Carolina	14	17-Apr-19	30-Apr-19	208	[Gantt bar from Apr 17, 2019 to Apr 30, 2019]																																				
210327 DSN.1400	Submit 60% Grading/Roadway Plans - South Carolina	1	01-Jul-19	01-Jul-19	132	[Vertical line at Jul 01, 2019]																																				
210327 DSN.1350	Review 60% Grading/Roadway Plans - South Carolina	14	02-Jul-19	15-Jul-19	132	[Gantt bar from Jul 02, 2019 to Jul 15, 2019]																																				
<b>Final Design Submittal</b>		<b>211</b>	<b>01-May-19</b>	<b>27-Nov-19</b>	<b>354</b>	[Gantt bar from May 01, 2019 to Nov 27, 2019]																																				
210327 DSN.1480	Prepare Final Traffic Control Plans - South Carolina	120	01-May-19	28-Aug-19	208	[Gantt bar from May 01, 2019 to Aug 28, 2019]																																				
210327 DSN.1460	Prepare Final ITS Plans - South Carolina	120	17-May-19	13-Sep-19	196	[Gantt bar from May 17, 2019 to Sep 13, 2019]																																				
210327 DSN.1470	Prepare Final Signing, Pvement Marking & Signalization Plans - South Carolin	120	17-May-19	13-Sep-19	176	[Gantt bar from May 17, 2019 to Sep 13, 2019]																																				
210327 DSN.1540	Prepare Final Drainage Plans - South Carolina	120	17-May-19	13-Sep-19	398	[Gantt bar from May 17, 2019 to Sep 13, 2019]																																				
210327 DSN.1450	Prepare Final Grading/Roadway Plans - South Carolina	120	16-Jul-19	12-Nov-19	132	[Gantt bar from Jul 16, 2019 to Nov 12, 2019]																																				
210327 DSN.1580	Submit Final Traffic Control Plans - South Carolina	1	29-Aug-19	29-Aug-19	208	[Vertical line at Aug 29, 2019]																																				
210327 DSN.1530	Review Final Traffic Control Plans - South Carolina	14	30-Aug-19	12-Sep-19	208	[Gantt bar from Aug 30, 2019 to Sep 12, 2019]																																				
210327 DSN.1560	Submit Final ITS Plans - South Carolina	1	14-Sep-19	14-Sep-19	196	[Vertical line at Sep 14, 2019]																																				
210327 DSN.1570	Submit Final Signing, Pavement Marking & Signalization Plans - South Carolin	1	14-Sep-19	14-Sep-19	176	[Vertical line at Sep 14, 2019]																																				
210327 DSN.1740	Submit Final Drainage Plans - South Carolina	1	14-Sep-19	14-Sep-19	398	[Vertical line at Sep 14, 2019]																																				
210327 DSN.1510	Review Final ITS Plans - South Carolina	30	15-Sep-19	14-Oct-19	196	[Gantt bar from Sep 15, 2019 to Oct 14, 2019]																																				
210327 DSN.1520	Review Final Signing, Pavement Marking & Signalization Plans - South Carolin	30	15-Sep-19	14-Oct-19	176	[Gantt bar from Sep 15, 2019 to Oct 14, 2019]																																				
210327 DSN.1840	Review Final Drainage Plans - South Carolina	30	15-Sep-19	14-Oct-19	398	[Gantt bar from Sep 15, 2019 to Oct 14, 2019]																																				
210327 DSN.1550	Submit Final Grading/Roadway Plans - South Carolina	1	13-Nov-19	13-Nov-19	132	[Vertical line at Nov 13, 2019]																																				
210327 DSN.1500	Review Final Grading/Roadway Plans - South Carolina	14	14-Nov-19	27-Nov-19	132	[Gantt bar from Nov 14, 2019 to Nov 27, 2019]																																				
<b>Package C - Augusta Canal Bridge</b>		<b>243</b>	<b>15-Feb-19</b>	<b>15-Oct-19</b>	<b>204</b>	[Gantt bar from Feb 15, 2019 to Oct 15, 2019]																																				
<b>60% Design Submittal</b>		<b>152</b>	<b>15-Feb-19</b>	<b>16-Jul-19</b>	<b>204</b>	[Gantt bar from Feb 15, 2019 to Jul 16, 2019]																																				
210327 DSN.1850	Prepare Canal Bridge Drainage & Hydrology Report	60	15-Feb-19	15-Apr-19	127	[Gantt bar from Feb 15, 2019 to Apr 15, 2019]																																				
210327 DSN.1860	Submit Canal Bridge Drainage & Hydrology Report	1	16-Apr-19	16-Apr-19	127	[Vertical line at Apr 16, 2019]																																				
210327 DSN.1870	Review Canal Bridge Drainage & Hydrology Report	30	17-Apr-19	16-May-19	127	[Gantt bar from Apr 17, 2019 to May 16, 2019]																																				
210327 DSN.1750	Prepare 60% Bridge Superstructure Plans -Augusta Canal	30	17-May-19	15-Jun-19	127	[Gantt bar from May 17, 2019 to Jun 15, 2019]																																				
210327 DSN.1780	Prepare 60% Bridge Foundation Plans -Augusta Canal	30	17-May-19	15-Jun-19	127	[Gantt bar from May 17, 2019 to Jun 15, 2019]																																				
210327 DSN.1810	Prepare 60% Bridge Substructure Plans -Augusta Canal	30	17-May-19	15-Jun-19	127	[Gantt bar from May 17, 2019 to Jun 15, 2019]																																				
210327 DSN.1760	Submit 60% Bridge Foundation Plans -Augusta Canal	1	16-Jun-19	16-Jun-19	197	[Vertical line at Jun 16, 2019]																																				
210327 DSN.1800	Submit 60% Bridge Substructure Plans -Augusta Canal	1	16-Jun-19	16-Jun-19	204	[Vertical line at Jun 16, 2019]																																				
210327 DSN.1830	Submit 60% Bridge Superstructure Plans -Augusta Canal	1	16-Jun-19	16-Jun-19	158	[Vertical line at Jun 16, 2019]																																				
210327 DSN.1770	Review 60% Bridge Substructure Plans -Augusta Canal	30	17-Jun-19	16-Jul-19	204	[Gantt bar from Jun 17, 2019 to Jul 16, 2019]																																				
210327 DSN.1790	Review 60% Bridge Foundation Plans -Augusta Canal	30	17-Jun-19	16-Jul-19	197	[Gantt bar from Jun 17, 2019 to Jul 16, 2019]																																				
210327 DSN.1820	Review 60% Bridge Superstructure Plans -Augusta Canal	30	17-Jun-19	16-Jul-19	158	[Gantt bar from Jun 17, 2019 to Jul 16, 2019]																																				
<b>Final Design Submittal</b>		<b>91</b>	<b>17-Jul-19</b>	<b>15-Oct-19</b>	<b>204</b>	[Gantt bar from Jul 17, 2019 to Oct 15, 2019]																																				
210327 DSN.1950	Prepare Final Bridge Superstructure Plans -Augusta Canal	60	17-Jul-19	14-Sep-19	158	[Gantt bar from Jul 17, 2019 to Sep 14, 2019]																																				
210327 DSN.1930	Prepare Final Bridge Foundation Plans -Augusta Canal	60	17-Jul-19	14-Sep-19	197	[Gantt bar from Jul 17, 2019 to Sep 14, 2019]																																				
210327 DSN.1940	Prepare Final Bridge Substructure Plans -Augusta Canal	60	17-Jul-19	14-Sep-19	204	[Gantt bar from Jul 17, 2019 to Sep 14, 2019]																																				
210327 DSN.1990	Submit Final Bridge Foundation Plans -Augusta Canal	1	15-Sep-19	15-Sep-19	197	[Vertical line at Sep 15, 2019]																																				
210327 DSN.2000	Submit Final Bridge Substructure Plans -Augusta Canal	1	15-Sep-19	15-Sep-19	204	[Vertical line at Sep 15, 2019]																																				
210327 DSN.2010	Submit Final Bridge Superstructure Plans -Augusta Canal	1	15-Sep-19	15-Sep-19	158	[Vertical line at Sep 15, 2019]																																				
210327 DSN.1970	Review Final Bridge Substructure Plans -Augusta Canal	30	16-Sep-19	15-Oct-19	204	[Gantt bar from Sep 16, 2019 to Oct 15, 2019]																																				



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2019												2020												2021												2022
						J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
<b>SCDHEC Navigable Permit</b>		185	17-May-19	17-Nov-19	142																																					
DPE.1300	Prepare/Submit SCDHEC Permit	45	17-May-19	30-Jun-19	142																																					
DPE.1310	Agency Review & Approval of SCDHEC Permit	140	01-Jul-19	17-Nov-19	142																																					
<b>Submittals</b>		362	17-Dec-18	13-Dec-19	789																																					
CS.1080	Prepare/Submit Schedule of Values	60	17-Dec-18	14-Feb-19	1061																																					
CS.1020	Prepare/Submit Construction Phasing Plan	60	17-Dec-18	14-Feb-19	1061																																					
CS.1030	Prepare/Submit Submittal Schedule	60	17-Dec-18	14-Feb-19	987																																					
CS.1100	GDOT Review Schedule of Values	30	15-Feb-19	16-Mar-19	1061																																					
CS.1060	GDOT Review Construction Phasing Plan	30	15-Feb-19	16-Mar-19	1061																																					
CS.1070	GDOT Review Submittal Schedule	30	15-Feb-19	16-Mar-19	1061																																					
<b>Management Plans</b>		164	17-Dec-18	29-May-19	987																																					
CS.MP1070	Prepare/Submit Public Information and Communications Plan	45	17-Dec-18	30-Jan-19	1092																																					
CS.MP1080	Prepare/Submit GDOT-DB Team Communications Plan	30	17-Dec-18	15-Jan-19	1091																																					
CS.MP1140	GDOT Review GDOT-DB Team Communications Plan	30	16-Jan-19	14-Feb-19	1091																																					
CS.MP1130	GDOT Review Public Information and Communications Plan	14	31-Jan-19	13-Feb-19	1092																																					
CS.MP1020	Prepare/Submit Design Quality Management Plan	30	15-Feb-19	16-Mar-19	1031																																					
CS.MP1030	Prepare/Submit Construction Quality Management Plan	30	15-Feb-19	16-Mar-19	1031																																					
CS.MP1040	Prepare/Submit Quality Management Plan	30	15-Feb-19	16-Mar-19	987																																					
CS.MP1000	Prepare/Submit Safety Plan	30	17-Mar-19	15-Apr-19	987																																					
CS.MP1150	GDOT Review Design Quality Management Plan	30	17-Mar-19	15-Apr-19	1031																																					
CS.MP1090	GDOT Review Quality Management Plan	30	17-Mar-19	15-Apr-19	1031																																					
CS.MP1110	GDOT Review Construction Quality Management Plan	30	17-Mar-19	15-Apr-19	1031																																					
CS.MP1010	GDOT Review Safety Plan	30	16-Apr-19	15-May-19	1001																																					
CS.MP1060	Prepare/Submit Demolition Plan	30	16-Apr-19	15-May-19	987																																					
CS.MP1120	GDOT Review Demolition Plan	14	16-May-19	29-May-19	987																																					
<b>Shop Drawings</b>		60	15-Oct-19	13-Dec-19	412																																					
CS.SD.1200	Prepare/Submit Drainage Shop Drawings	60	15-Oct-19	13-Dec-19	398																																					
CS.SD.1210	Prepare/Submit ITS Shop Drawings	60	15-Oct-19	13-Dec-19	196																																					
CS.SD.1220	Prepare/Submit Signalization & Lighting Shop Drawings	60	15-Oct-19	13-Dec-19	412																																					
CS.SD.1240	Prepare/Submit Beam Shop Drawings	30	16-Oct-19	14-Nov-19	158																																					
CS.SD.1250	Prepare/Submit SIP Shop Drawings	30	16-Oct-19	14-Nov-19	183																																					
<b>Procurement</b>		119	15-Nov-19	12-Mar-20	412																																					
Procure.1500	Procure Precast Beams	60	15-Nov-19	13-Jan-20	158																																					
Procure.1520	Procure SIP	90	15-Nov-19	12-Feb-20	183																																					
Procure.1510	Procure Drainage Devices	90	14-Dec-19	12-Mar-20	398																																					
Procure.1530	Procure Signalization & Lighting	90	14-Dec-19	12-Mar-20	412																																					
Procure.1540	Procure ITS	75	14-Dec-19	26-Feb-20	196																																					
<b>Construction</b>		746	02-Dec-19	17-Dec-21	54																																					
<b>Phase 1A Construction</b>		116	02-Dec-19	19-May-20	98																																					
<b>Roadway</b>		105	02-Dec-19	04-May-20	109																																					
Ph1a.Rdw2000	Install MOT Phase 1	5	02-Dec-19	09-Dec-19	87																																					
Ph1a.Rdw2010	Remove/Modify Existing Roadway (Shoulders) - Phase 1a Georgia	15	09-Dec-19	03-Jan-20	109																																					
Ph1a.Rdw2020	Install GAB/Rubblize Base - Phase 1a Georgia	20	03-Jan-20	31-Jan-20	109																																					
Ph1a.Rdw2030	Install Asphalt - Phase 1a Georgia	15	31-Jan-20	21-Feb-20	109																																					
Ph1a.Rdw2040	Install PCC - Phase 1a Georgia	30	21-Feb-20	03-Apr-20	109																																					
Ph1a.Rdw2090	Relocate/Modify ITS - Phase 1a Georgia	20	26-Feb-20	25-Mar-20	136																																					
Ph1a.Rdw2050	Remove Existing Roadway within Transitions - Phase 1a Georgia	5	03-Apr-20	13-Apr-20	109																																					
Ph1a.Rdw2060	Install GAB within Transitions - Phase 1a Georgia	5	13-Apr-20	20-Apr-20	109																																					
Ph1a.Rdw2070	Install Asphalt within Transitions - Phase 1a Georgia	5	20-Apr-20	27-Apr-20	109																																					

█ Actual Level of Effort   
 █ Remaining Work   
 ◆ Baseline Milestone  
█ Actual Work   
 █ Critical Remaining Work













Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2019												2020												2021												2022	
						P	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
						Gantt Chart (Actual Level of Effort, Remaining Work, Critical Remaining Work, Baseline Milestone)																																					
<b>Savannah River Bridge</b>						72	12-May-21	24-Aug-21	79																																		
Ph3a.Bdg.4500	Install Temporary Access Lane and Roadway at West Abutment	5	12-May-21	19-May-21	0																																						
Ph3a.Bdg.4560	Demo Existing WB Bridge Spans 1-3 - Phase 3a Savannah River	10	19-May-21	03-Jun-21	0																																						
Ph3a.Bdg.4570	Demo Existing WB Bridge Spans 4-7 - Phase 3a Savannah River	10	03-Jun-21	17-Jun-21	6																																						
Ph3a.Bdg.4230	Install Foundation Pier 1 - Phase 3a Savannah River	3	03-Jun-21	08-Jun-21	0																																						
Ph3a.Bdg.4240	Install Footer Pier 2 - Phase 3a Savannah River	2	08-Jun-21	10-Jun-21	8																																						
Ph3a.Bdg.4110	Install Abutment/Backwall Pier 1 - Phase 3a Savannah River	7	08-Jun-21	17-Jun-21	0																																						
Ph3a.Bdg.4250	Install Footer Pier 3 - Phase 3a Savannah River	2	10-Jun-21	14-Jun-21	11																																						
Ph3a.Bdg.4180	Install Columns Pier 2 - Phase 3a Savannah River	2	10-Jun-21	14-Jun-21	8																																						
Ph3a.Bdg.4260	Install Footer Pier 4 - Phase 3a Savannah River	2	14-Jun-21	16-Jun-21	14																																						
Ph3a.Bdg.4190	Install Columns Pier 3 - Phase 3a Savannah River	2	14-Jun-21	16-Jun-21	11																																						
Ph3a.Bdg.4200	Install Columns Pier 4 - Phase 3a Savannah River	2	16-Jun-21	18-Jun-21	14																																						
Ph3a.Bdg.4580	Demo Existing WB Bridge Spans 8-10 - Phase 3a Savannah River	10	17-Jun-21	01-Jul-21	6																																						
Ph3a.Bdg.4310	Install Pier Cap Pier 1 - Phase 3a Savannah River	5	17-Jun-21	24-Jun-21	0																																						
Ph3a.Bdg.4320	Install Pier Cap Pier 2 - Phase 3a Savannah River	5	24-Jun-21	01-Jul-21	0																																						
Ph3a.Bdg.4270	Install Footer Pier 5 - Phase 3a Savannah River	2	01-Jul-21	06-Jul-21	6																																						
Ph3a.Bdg.4330	Install Pier Cap Pier 3 - Phase 3a Savannah River	5	01-Jul-21	09-Jul-21	0																																						
Ph3a.Bdg.4120	Install Beams Span 1 - Phase 3a Savannah River	2	01-Jul-21	06-Jul-21	9																																						
Ph3a.Bdg.4210	Install Columns Pier 5 - Phase 3a Savannah River	2	06-Jul-21	08-Jul-21	6																																						
Ph3a.Bdg.4430	Install SIP Span 1 - Phase 3a Savannah River	5	06-Jul-21	13-Jul-21	79																																						
Ph3a.Bdg.4340	Install Pier Cap Pier 4 - Phase 3a Savannah River	5	09-Jul-21	16-Jul-21	0																																						
Ph3a.Bdg.4130	Install Beams Span 2 - Phase 3a Savannah River	2	09-Jul-21	13-Jul-21	6																																						
Ph3a.Bdg.4440	Install SIP Span 2 - Phase 3a Savannah River	5	13-Jul-21	20-Jul-21	79																																						
Ph3a.Bdg.4370	Install Rebar Span 1 - Phase 3a Savannah River	5	13-Jul-21	20-Jul-21	79																																						
Ph3a.Bdg.4350	Install Pier Cap Pier 5 - Phase 3a Savannah River	5	16-Jul-21	23-Jul-21	0																																						
Ph3a.Bdg.4140	Install Beams Span 3 - Phase 3a Savannah River	2	16-Jul-21	20-Jul-21	3																																						
Ph3a.Bdg.4450	Install SIP Span 3 - Phase 3a Savannah River	5	20-Jul-21	27-Jul-21	79																																						
Ph3a.Bdg.4380	Install Rebar Span 2 - Phase 3a Savannah River	5	20-Jul-21	27-Jul-21	79																																						
Ph3a.Bdg.4520	Place Concrete Deck Span 1 - Phase 3a Savannah River	5	20-Jul-21	27-Jul-21	79																																						
Ph3a.Bdg.4150	Install Beams Span 4 - Phase 3a Savannah River	2	23-Jul-21	27-Jul-21	0																																						
Ph3a.Bdg.4460	Install SIP Span 4 - Phase 3a Savannah River	5	27-Jul-21	03-Aug-21	79																																						
Ph3a.Bdg.4390	Install Rebar Span 3 - Phase 3a Savannah River	5	27-Jul-21	03-Aug-21	79																																						
Ph3a.Bdg.4530	Place Concrete Deck Span 2 - Phase 3a Savannah River	5	27-Jul-21	03-Aug-21	79																																						
Ph3a.Bdg.4400	Install Rebar Span 4 - Phase 3a Savannah River	5	03-Aug-21	10-Aug-21	79																																						
Ph3a.Bdg.4540	Place Concrete Deck Span 3 - Phase 3a Savannah River	5	03-Aug-21	10-Aug-21	79																																						
Ph3a.Bdg.4600	Place Concrete Deck Span 4 - Phase 3a Savannah River	5	10-Aug-21	17-Aug-21	79																																						
Ph3a.Bdg.4300	Install Outside Barrier Wall - Phase 3a Savannah River	5	17-Aug-21	24-Aug-21	79																																						
<b>Augusta Canal Bridge</b>						120	12-May-21	01-Nov-21	66																																		
Ph3a.Can.Bdg.8880	Demo Existing WB Bridge Spans 1-2 - Phase 3 Augusta Canal	5	12-May-21	19-May-21	66																																						
Ph3a.Can.Bdg.8890	Demo Existing WB Bridge Spans 3-4 - Phase 3 Augusta Canal	5	19-May-21	26-May-21	171																																						
Ph3a.Can.Bdg.8900	Install Foundations Pier 1 - Phase 3 Augusta Canal	10	19-May-21	03-Jun-21	66																																						
Ph3a.Can.Bdg.8930	Demo Existing WB Bridge Span 5 - Phase 3 Augusta Canal	5	26-May-21	03-Jun-21	171																																						
Ph3a.Can.Bdg.8910	Install Foundations Pier 2 - Phase 3 Augusta Canal	10	03-Jun-21	17-Jun-21	66																																						
Ph3a.Can.Bdg.8920	Install Foundations Pier 3 - Phase 3 Augusta Canal	10	17-Jun-21	01-Jul-21	66																																						
Ph3a.Can.Bdg.8940	Install Foundations Pier 4 - Phase 3 Augusta Canal	10	01-Jul-21	16-Jul-21	66																																						
Ph3a.Can.Bdg.8960	Install Footer Pier 1 - Phase 3 Augusta Canal	5	16-Jul-21	23-Jul-21	66																																						
Ph3a.Can.Bdg.8970	Install Footer Pier 2 - Phase 3 Augusta Canal	5	23-Jul-21	30-Jul-21	66																																						
Ph3a.Can.Bdg.8980	Install Footer Pier 3 - Phase 3 Augusta Canal	5	30-Jul-21	06-Aug-21	66																																						
Ph3a.Can.Bdg.8990	Install Footer Pier 4 - Phase 3 Augusta Canal	5	06-Aug-21	13-Aug-21	66																																						
Ph3a.Can.Bdg.9010	Install Abutment Pier 1 - Phase 3 Augusta Canal	7	13-Aug-21	24-Aug-21	66																																						

█ Actual Level of Effort   
 █ Remaining Work   
 █ Critical Remaining Work   
 ◆ Baseline Milestone





