



Preliminary Utility Report



SC 41 Bridge Over The Wando River



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Project Overview

Roadway

Currently, S.C. Route 41 is a two-lane roadway with earthen shoulders and roadside ditches extending in a north-south direction. The project corridor terrain is flat with the surface runoff drainage flowing to the Wando River via roadside ditches. The existing land use along the project boundaries is a mixture of residential, commercial, industrial, and woodlands. The posted speed limit for the existing S.C. Route 41 bridge is 35 miles per hour. The speed increases to 55 mph at the southern end of the project as you enter into Charleston County.

Bridge

The bridge over the Wando River was constructed in 1939 with a 168 feet through truss swing span over the channel and 40 feet concrete approach spans supported on steel beams. The bridge is 1690 feet long. The bridge was designed using a live load of HS-15 and has a 22-foot wide roadway with a 10-inch curb on both sides of the roadway. Timber fenders protect the piers adjacent to the channel. The existing horizontal clearance when the span is open is 62 feet. The existing vertical clearance is 6 feet above mean high water.

The swing span is opened by appointment only with a call to the SCDOT Berkeley County Maintenance office. In 2003, the bridge was opened 11 times mainly for contractors to move spud barges upstream to construct docks along the Wando River above the bridge.

Intersection Design

The intersection of Road S-6-33, Clements Ferry Road, with S.C. Route 41 will undergo significant realignment as part of this project. Figure 1-1 shows how the two roads are currently aligned. An evaluation of the crash reports indicates that several crashes have occurred in the vicinity of the intersection. To improve the safety of the intersection, it is proposed that Clements Ferry Road be realigned to intersect the new S.C. Route 41 alignment at approximately 90 degrees. Motorist traveling along Clements Ferry towards Mount Pleasant are currently controlled by a yield sign but in the future would be controlled by either a stop sign or a traffic signal. The final geometric layout for the proposed intersection will meet SCDOT design standards.

Constructability

The existing S.C. Route 41 will remain open at all times during construction. It is anticipated that there will not be any major constructability issues associated with this project. MSE walls will be used to minimize the roadway footprint. Embankment slopes may need to be supported by sheet pile walls or vertical gabion baskets during construction due to the difference in elevation between the existing and proposed roadways. This is especially true where the alignments converge; however, the alignments have been designed to alleviate the problems between the existing and proposed roadways. The elevations will be the same near the tie-in until enough distance is provided so as not to interfere with the existing traffic flow. The final staging plan will be such that access will remain to all residences and businesses at all times.

Project Team

SCDOT : Leland Colvin

Triplett-King – Project Management & Bridge Design (Merritt King is Project Manager)

CECS – Roadway, traffic, hydro/hydraulics, environ. & permitting, PIM/PH,

F&ME – Geotechnical Services, Asbestos Surveys

Power – Surveying

BSI Associates – Subsurface Utility Engineering & Utility Coordination

Mr. Merritt King of Triplett King and Associates (TKA) is the assigned Project Manager for the bridge replacement project with the overall responsibility for bridge design and associated services. As a subconsultant to TKA, BSI Associates is responsible for all Subsurface Utility Engineering & Utility Coordination services under the direction of Mr. Randall Jones.

Utility Conflict Analysis

Water:

Charleston Department of Public Works has a proposed a water line crossing perpendicular to the project at the intersection of Clements Ferry Rd. and SC 42. This proposed line will then travel in a R-O-W owned jointly between the City of Charleston and SCE&G. This schedule critical project is to serve the water shortage prior to this year's tourist season. Forrest Suggs of Hussey, Gay, Bell & DeYoung is providing utility coordination on behalf of the City of Charleston.

Gas:

SCE&G has a high-pressure gas pipeline paralleling the project mostly within a SCE&G R-O-W. This line will be impacted near the waters edge, which will be the point of relocation to avoid impacting the existing line in the river crossing.

Power:

SCE&G has aerial facilities within the projects limits crossing the river in a SCE&G R-O-W. These high voltage transmission lines will be impacted where they are supported by wooden structures at the waters edge. BSI Associates is working with TKA to avoid impacting the steel structures in the river due to the complexity of a relocation of that type.

Telecommunications:

Bellsouth owns facilities crossing roughly centerline of the proposed project. These lines will defiantly be impacted and will require relocation. Bellsouth will be required to relocate some facilities impacting the services to the cellular tower in the vicinity of the project.

SBA Towers has a cellular phone tower with an easement adjoining this project.



Photo I

Photo I is a picture of the Easement where the City of Charleston proposes to place their new water line.



Photo II

Photo II is a picture of the high voltage lines supported by concrete structures, which will be avoided by coordination between BSIA and TKA



Photo III

Photo III is the marker where Bellsouth has their easement. Note the high voltage transmission lines crossing in the background and their relativity to the project



Photo IV

Photo IV is a view of the gas sign marker, which serves as an indication to all boaters that there are SCE&G facilities in the vicinity.

Preliminary Prior Rights Analysis

BSI Associates, Inc. has determined the following after a Utility Coordination Meeting held to discuss the impacts of this project with each facility owner.

Water:

The SCDOT has prior rights within the SCDOT R-O-W. City of Charleston has prior rights within their R-O-W although they have placed no facilities and will require no relocation. This is a number one priority to provide an early utility corridor in order to accommodate the city.

Gas:

The SCDOT has prior rights within the SCDOT R-O-W but most of this utility relocation will occur where SCE&G has prior rights.

Power:

The SCDOT has prior rights within the SCDOT R-O-W but as with the other utilities in question they will be impacted most within their own easement and will have prior rights.

Telecommunications:

The SCDOT has prior rights within the SCDOT R-O-W, which will encompass all utilities impacted other than the FO line crossing the river in the centerline of the new bridge alignment. BellSouth will have prior rights in this area.

Preliminary Relocation Analysis

Water:

BSI Associates recommends that the City of Charleston water line be permitted upon confirmation of the proposed location/relocation plan prepared and submitted for review on 04/25/05.

Gas:

BSI Associates recommends that this facility be relocated into the new R-O-W with the utility retaining prior rights.

Power:

SCE&G's transmission lines will have clearance problems with the elevation of the new bridge. This conflict will be determined when there is an approved vertical and horizontal alignment for BSIA to review.

Telecommunications:

Bellsouth will require relocation at various locations throughout the project. We feel early relocation of the Fiber Optic facility is the best option upon review of the proposed project alignment. This utility is directly in the path of the new bridge project and may hold up construction if not relocated prior to construction. All other facility relocations will be performed after submission of the Final Utility Report.

Preliminary Estimation of Cost

The following information was submitted on 09/30/2004. Updated information will be provided in the Final Utility Report.

- I. Ron Coppler
BellSouth
Utility Relocation Cost: \$250,000.00
Utility Portion: \$25,000.00
SCDOT Portion: \$225,000.00
- II. John Reiter
SCE&G (Electric)
Utility Relocation Cost: \$100,000.00
Utility Portion: \$100,000.00
SCDOT Portion: \$0.00
- III. Glen Blake
SCE&G (GAS)
Utility Relocation Cost: \$350,000.00
Utility Portion: \$50,000.00
SCDOT Portion: \$300,000.00
- IV. Tom Milazo
City of Mt. Pleasant
Relocation Cost: No Cost
- V. John Brown
SBA Towers
Relocation Cost: No Conflict

Utility Coordination Schedule

I. BSI Associates, Inc. Schedule

- ☐ Begin Record Research (09/15/04)
- ☐ Contact SCDOT District Utility Engineer (09/15/04)
- ☐ First Utility Coordination Meeting-GPDR Study (09/24/04)
- ☐ Begin GPDR Project SUE Study (09/01/04)
- ☐ Receive All Records from Utility Owners (10/20/04)
- ☐ Complete GPDR Study (11/22/04)
- ☐ Second Utility Coordination Meeting (12/14/04)
- ☐ Review SUE Study results (3/11/05)
- ☐ Submit Preliminary Utility Report (04/25/05)
- ☐ Third Utility Coordination Meeting (04/25/05)
- ☐ Utility Impact Analysis Complete (05/15/05)
- ☐ Fifth Utility Coordination Meeting (05/17/05)
- ☐ Sixth Utility Coordination Meeting (07/14/05)
- ☐ Submit Final Utility Report (08/15/05)

II. Utility Company Schedule

- ☐ Receive SUE Plans for review (04/28/05)
- ☐ Resubmit plans with any comments (05/06/05)
- ☐ Receive proposed relocation plans (04/28/05)
- ☐ Provide proposed relocation schedule (05/06/05)
- ☐ Respond with comments or concerns (05/06/05)
- ☐ Receive certified relocation plans (05/26/05)
- ☐ Receive supporting documentation and Utility Agreements (06/01/05)
- ☐ Negotiate misc. terms and conditions (06/24/05)
- ☐ Execute Final Utility Agreements and Encroachments (07/14/05)
- ☐ Early relocations complete (11/01/05)

- ❖ NOTE: All relocation schedules pending confirmation of horizontal and vertical alignment. No utility agreements or proposed relocation corridors can be established until this information has been provided. BSI Associates was informed on 04/21/05 that the Coast Guard is requiring another revision to these alignments.



Preliminary Utility Report

Appendix

ATTACHMENT A –BSI Utility Engineering

SC 41 BRIDGE REPLACEMENT OVER WANDO RIVER BERKELEY & CHARLESTON COUNTIES, SOUTH CAROLINA

UTILITY RELOCATION COORDINATION

Utility Coordination Scope of Work

- A. The CONSULTANT shall have the responsibility of coordinating the Project development with all utilities that may be affected. All utility relocations shall be handled in accordance with the Department's "A Policy for Accommodating Utilities on Highway Rights of Way" and the Code of Federal Regulations, Title 23, Chapter 1, Subchapter G, part 645, subparts A and B.
- B. These services shall be performed by individuals skilled and experienced in utility coordination services.
- C. The CONSULTANT shall design the Project to avoid conflicts with utilities where possible, and minimize impacts where conflicts cannot be avoided. This may include, but is not limited to, utilizing all available utility data, whether obtained from SUE services, as-builts, or provided by the Department or some other source. The CONSULTANT will be expected to determine all utility conflict points, including all work to properly analyze each conflict point, and make recommendations for resolution of the conflict where possible. The Department may request a Utility Conflict Analysis and Remediation Spreadsheet from the CONSULTANT as a deliverable.
- D. The CONSULTANT shall initiate early coordination with all utility companies that are located within the Project limits. Coordination shall include, but shall not be limited to, contacting each utility company to advise the company of the proposed project, providing preliminary plans to the utility company, obtaining copies of as-built plans for the existing utility facilities (if available), and determining the companies' requirements for the relocation of their facilities.
- E. The CONSULTANT shall provide the utility companies with design plans as soon as the plans have reached a level of completeness adequate to allow the companies to fully understand the Project impacts. These plans shall contain all available data that may be helpful to the utility in assessing the utility impact (stations and offsets, and etc.). The utility company may use the CONSULTANT's design plans for preparing Relocation Sketches. If a party other than the utility company or its agent prepares Relocation Sketches, there shall be a concurrence box on the plans where the utility company signs and accepts the Relocation Sketches as shown.
- F. The CONSULTANT shall coordinate and conduct a preliminary review meeting with the utility companies to assess and explain the impact of the Project to the companies. The Department's Project Manager, Resident Construction Engineer (RCE), and Utilities Manager (or designee) shall be included in this meeting.