

Post Design-Build Evaluation Report

Project Description: I-85/SR 400 Connector Ramps

P.I. Number: 762380-

County: Fulton

GDOT District: District 7

Date Conducted: June 24, 2014



Project Description:

Project NH000-085-02(153) is to reconstruct the interchange of SR 400/I-85 by providing connector ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound. The total length of the project is 1.39 miles. The project is located entirely inside the City of Atlanta, in Fulton County, at the interchange of SR 400 with I-85. The project area is bordered by the following interchanges: along I-85, I-85/North Druid Hills Road interchange to the north, the Buford Highway on and off-ramps to the south, and the SR 400/Lenox Road interchange to the north along SR 400.

1. **Design-Build (DB) delivery goal(s):** *Expedited delivery, and to make use of available funds.*
2. **Project stakeholders:**
 - o GDOT – Project Delivery and Inspection
 - o Archer Western Contractors, Ltd. Construction
 - o Heath & Lineback Engineers, Inc. Designer
3. **Project Summary:**

Project Milestone	Date	Procurement Summary	
Public Notice Advertisement (PNA)	12/10/2010	No. of SOQ's received	8
Request for Qualifications (RFQ)	01/14/2011	No. of teams shortlisted/prequalified	8
Statement of Qualifications (SOQ)	02/16/2011	No. of price/technical proposals received	5
Request for Proposals (RFP)	03/25/2011	Amount of lowest responsive bid	\$21,423,500.00
Letting	05/20/2011		
Award	06/03/2011		
NEPA Approval (EA/FONSI)	06/29/2012		
NTP 1 - Conditional	07/15/2011		
NTP 2 – Final Design Activities	08/05/2011		
NTP 3 – Areas 1a & 2	02/07/2012		
NTP 3 – Areas 1b, 1c, 3a, 3b, 5a, & 5b	03/23/2012		
NTP 3 – All remaining areas	08/14/2012		
Original Contract Completion Date	12/31/2013		
Contract Completion Date by SA	01/21/2014		
Ramp Construction Completion	04/30/2014		
Open to Traffic	04/02/2014		
Construction Complete	TBD on-going		

The “Contract Completion Date” and the “Construction Complete” date are dependent on on-going construction activities.

4. **Design-Build Proposers:**

	Contractor	Designer	Shortlisted or Prequalified	Total Bid
1	Archer Western Contractors, Ltd.	Heath & Lineback Engineers, Inc.	Prequalified	\$21,423,500.00
2	Sunbelt Structures, Inc.	URS Corporation	Prequalified	\$22,644,000.00
3	E.R. Snell Contractor, Inc.	Moreland Altobelli Associates	Prequalified	\$24,829,075.00

4	C.W. Matthews Contracting Co., Inc.	Reynolds Smith and Hills, Inc.	Prequalified	\$26,107,450.24
5	United Infrastructure Group, Inc. & Prince Contracting, LLC.	Florence & Hutcheson, Inc.	Prequalified	\$35,432,155.00

6. **Stipend**

- a. Was a stipend (stipulated fee) offered to proposing DB teams? Yes No

If yes, how much per firm: - N/A

7. **Design-Build Request for Qualifications (RFQ)**

- a. Did GDOT shortlist up to 5 DB teams? Yes No

If yes, list reasons why a shortlist was utilized for this project: *The prequalified list was determined by a "pass/fail" method. Firms' capable of completing the work were allowed to submit a proposal. Therefore, all eight teams were prequalified.*

- b. General observations and additional comments about the RFQ process: *Based on the amount of information that was developed by GDOT and provided to DB Teams, GDOT elected to prequalify all Proposers who met minimum qualifications. On this project there were 8 teams prequalified Only five of the eight shortlisted firms submitted a proposal.*

8. **Design-Build Request for Proposals (RFP)**

- a. Type of procurement: One Phase/Low Bid Two Phase/Low Bid Best Value

- b. Advertisement duration: 30 days 60 days 90 days

- c. Was a draft RFP released for this project? Yes No

If yes, list the number of releases: N/A

- d. Was a Q&A format provided? Yes No

- e. Were One-on-One meetings held with Proposers? Yes No

- f. List GDOT offices involved in the RFP development:

Design Policy & Support, Engineering Services, Environmental Services, Innovative Delivery, Utilities, Construction, Maintenance, Bridge, Program Delivery, Traffic Operations and Program Delivery

- g. Were there any approved Design Exceptions/Variations provided? Yes No

If yes, list the design exceptions/variances: *Reduced shoulder width and stopping sight distance*

- h. Were conflicts in project scope identified? Yes No

If yes, what sections should be revised for future RFPs: *Special Provision Section 999 needs to be reviewed and possibly revised to eliminate conflicts.*

The aggregate material identified in the scope could not be located within a reasonable distance to the project site. The DB Team worked with the binder supplier to find an aggregate within the area and a sieve analysis that was within general close conformity of the specification.

The Liquidated Damages (LD) associated with the Preliminary Utility Status Report (PUSR), and the timeframe at which the PUSR could have practically been completed did not match Table 10-1 in the specifications. A no cost SA was issued to address this item.

- i. General observations and additional comments about the RFP:

Contractor comment: The description in the scope for maintenance items could have been more descriptive, including layouts, and some quantities. One issue, the crack repair requirement on I-85 was difficult to quantify by the Contractor during the RFP phase because the interstate was under

traffic and required lane closures to assess. Additional items include assessing the amount of rip-rap to place under the I-85 viaduct, and drainage repairs.

GDOT Construction comment: The specifications were too prescriptive as to what the DB Team was to design and construct. Recommend less prescriptive scope items in areas that require the DB Team to fix issues with current conditions. For instance, a Barrier needed to be replaced between the 400NB ramp and the Buford SB ramp, since there was not a footing and over the years it had started to fail. This was fixed by the DB Team with a force account, which could have been a scope item listed in the specifications.

Contractor comment: The DB Team felt the allowable lane closures were too restrictive for the project. GDOT said they performed due diligence during the development of the RFP by bringing in SMEs to assess the required number of lane closures to safely construct the project. Not knowing the DB team’s approach or how it will be built does present a challenge when assessing lane closure requirements.

Contractor comment: The MOU’s provided in the RFP package were confusing and offered little guidance as to who would be ultimately responsible to bear the cost of the utility relocations. GDOT said that during the RFP advertisement, an amendment was issued for all utility relocation costs to be handled as a SA during construction. This was intended to alleviate some of the risk. Since this project was awarded, Innovative Delivery and the Utilities Office have refined the MOU which now provides more detail, general relocation costs, utility owner approved subs, and who incurs the costs for relocations.

9. Design-Build Reference Information Documents (RID) Package

- a. List items included in the RID package:

Item	Notes
Costing plans	Provided on the GDOT’s ftp site
Approved bridge layouts	Provided on the GDOT’s ftp site
Approved concept report/concept revision	Provided on the GDOT’s ftp site
CAiCE or InRoads files	Provided on the GDOT’s ftp site
MicroStation files	Provided on the GDOT’s ftp site
Approved BFI	Provided on the GDOT’s ftp site
Approved WFI	Provided on the GDOT’s ftp site
Approved Soils Report	Provided on the GDOT’s ftp site
Geotechnical borings	Provided on the GDOT’s ftp site
Approved Pavement Design	Provided on the GDOT’s ftp site
Overhead/Subsurface Utility Engineering (SUE) Quality Level “B” (QL-B)	Provided on the GDOT’s ftp site
Utility Memorandum of Understanding (MOU)	Provided on the GDOT’s ftp site
Costing Plan Review Report	Provided on the GDOT’s ftp site
Draft Transportation Management Plan (TMP)	Provided on the GDOT’s ftp site
Other	Survey Control database,

- b. What other RID’s could have been provided prior to letting:

Contractor comment: Soils borings within the project limits could have been provided rather than an approved BFI. GDOT mentioned that the project, at the time it was decided to go DB, had or was in the process of obtaining a BFI.

10. Environmental

- a. Type of document: NEPA: Level: PCE CE EA/FONSI EIS/ROD
 GEPA: Level: Type A Type B EER/NOD

b. Was the environmental document approved prior to the RFP advertisement? Yes No

c. Was a re-evaluation performed post-let? Yes No

If 10.c is yes, describe scenario why a re-evaluation was required: *Stream impacts*

If 10.c is yes, did the DB team perform the re-evaluation? Yes No

If 10.c is no, did the DB team provide supporting documentation? Yes No

d. General observations and additional comments about the pre-let or post-let environmental process:

The changing of the bridge column from round to square, and one of the bents was located within a stream which was reclassified from the time of the original field work required an environmental re-evaluation. During the re-evaluation, the noise study analysis requirements were revised by FHWA. The Department and the DB Team worked with the FHWA who ultimately agreed that a revised noise study adhering to the latest requirements was not necessary and the original study results was acceptable for the project.

o *The environmental process allowed for the construction activities to proceed in stages.*

o *Temporary impacts not included; criteria changes such as noise, protected species etc.. cause the needed for additional environmental work.*

11. Environmental Permitting

a. Type of 404 permit required: NWP IP Other None

b. Was mitigation required as part of the permit? Yes No

If yes, did the DB team perform mitigation and/or acquire credits? Yes No

c. Was a Stream Buffer Variance (SBV) required? Yes No

d. List any other permits required by the project (not counting NPDES Permit): *None*

e. General observations and additional comments about the environmental permitting process:

Any changes made by the Design Build Team could affect the project.

GDOT comment: The DB Team performed as expected and exceeded the Office Innovative Delivery's expectations with the amount of information provided and their willingness to assist GDOT complete the permits. The DB Team purchased the mitigation credits.

12. NPDES Permit

a. Did the DB team prepare the Notice of Intent (NOI)? Yes No NA

b. Did the DB team pay the NPDES permitting fee? Yes No NA

c. Were the ESPCP regularly redlined? Yes No NA

d. Did any self-report actions occur? Yes No

If yes, describe the reason(s) and outcome(s): *N/A*

e. Was a consent order filed? Yes No

f. If yes, describe the reason(s) and outcome(s): *N/A*

i. General observations and additional comments about the NPDES Permit:

GDOT comment: Overall Contractor response times lagged following GDOT requests to maintain various BMPs. The WECS appeared to cover multiple project sites which could have led to this. No major issues resulted.

- o Erosion control issues throughout the life of the contract. This was primarily due to the “lump sum” payment method of erosion control items.

13. Right of Way (R/W)

- a. Was R/W required? Yes No

If yes, who was responsible for R/W? GDOT Locals DB team

If yes, was it acquired prior to award of the DB contract? Yes No

If yes, did R/W acquisition activities impact the project schedule? Yes No

- b. How were R/W commitments or cost-to-cure elements handled on this project: N/A- There were none.
- c. List any special circumstances, conditions, or property owner commitments of R/W acquisition: N/A- None.
- d. General observations and general comments about the R/W acquisition process:

*GDOT comment: Since this project was state funded, GDOT was able to expedite the **Right-of-way acquisition** process by more than 4 months which allowed GDOT to advance the project.*

14. Utilities

- a. Was SUE performed pre-let and included in the RFP package? Yes No

If yes, what level? QL-D QL-C QL-B QL-A

If No, was a ‘SUE waiver’ approved by the State Utilities Office? Yes No

If No, what was the mitigating activity (e.g. white lining specification, “no-conflict” letters, first submission plans): N/A

- b. Were DB Utility MOU’s executed? Yes No

List the utility owners, if any, which were included in the DB contract: *AT&T, AGL, City of Atlanta Watershed Management, Georgia Power Company, Comcast, ZAYO Communications, Level III.*

- c. General observations and additional comments about the DB utility coordination:

GDOT comment: The DB team should be commended for their approach to avoiding the City of Atlanta waterline conflicts.

- d. Generally describe any areas of improvement with respect to DB utility coordination:

Contractor comment: The DB Team found it very difficult to get some utility companies to respond to the requests for meetings, submission letters, relocation plans, etc. GDOT commented that the 3.10 Consider using a utility coordination consultant is tasked with this effort, and that the escalation team to help expedite the schedule. GDOT should do more upfront work and be more engaging with the facility owners during throughout the process in the UAM that was underutilized by the DB team.

GDOT comment: After this project was let and on subsequent DB projects, GDOT performs more pre-let coordination with utility companies. Items such as the latest MOU and the Utility Analysis Preliminary Routing Report (UAPRR) are discussed..

- e. What was the frequency of utility coordination meetings:

Monthly meetings until “no-conflict” letters were received.

15. Geotechnical

- a. Was an approved Soils Report required for this project? Yes No
Was an approved BFI required for this project? Yes No
- b. Was an approved BFI included in the RFP package? Yes No
If no, was a BFI required for this project? Yes No
Was an approved WFI required for this project? Yes No
Was an approved High Mast Found Investigation report required for this project? Yes No
- c. Were there any geotechnical issues encountered on construction? Yes No

If yes, describe the issue(s) and outcome(s):

GDOT comment: The culvert located under bent 9 was not shown correctly in the DB team's plans. The costing plans had a note to locate the box culvert prior to construction. As a result, 3 of the piles for Bent 9 substructure punctured and caused damage to the box culvert, which required a lengthy and extensive repair.

Contractor comment: Utilities were not accurate in the SUE plans provided in the RID. As per the Contract, the DB Team was required to obtain and verify SUE for the project.

Contractor comment: The BFI provided in the RIDs recommended the use of drilled caissons due to the large boulder field throughout the project limits. During construction, AWC experienced piles walking out of tolerance on almost all bents. This resulted in revisions, redlines, and changes on construction, which caused further delay in the overall delivery of the project. The group briefly discussed if the proposal should have specified drilled shafts. There were varying opinions. The prescriptiveness for bridge foundations will be assessed by GDOT on a project-by-project basis.

- o *The BFI was limited. The GDOT rejected the use of micro-piles. The contractor used pile foundations, which resulted in changes to the footings.*

16. Design and Construction Phases

- a. Did the DB team advance portions of the project to the construction phase while other portions of the project continued to be designed and/or permits obtained? Yes No
- b. If yes, describe: Describe the typical frequency for progress meetings? *Monthly meetings prior to construction, during construction weekly meetings occurred onsite Meetings were held weekly. Meeting once per week was too often at times.*
- c. Were the DB team plans/submittals of acceptable quality? Yes No
If no, describe issue and any corrective actions taken: -
- d. Were GDOT's review times adequate? Yes No
General observations and additional comments about the review times:
Review times were met on submittals in accordance with the dates included in the specifications. Review times did not appear to cause delay to the project even though at times there were several submittals under review at once.
- e. Was the Asphalt Index specification included in this project? Yes No
- f. Was the Fuel Index specification included in this project? Yes No
- g. Was construction staging/Maintenance of Traffic (MOT) acceptable? Yes No
General observations and additional comments about the MOT: *None*
- h. Was the Schedule of Values (SOV) adequate? Yes No

General observations and additional comments about the Schedule of Values:

Contractor comment: Some mid-month payments were not processed during construction because of GDOT staff on vacation during invoice submission and other times there was confusion over the amount.

GDOT comment: The backup documentation to the SOV took some time for GDOT and the Contractor to refine. GDOT asked if there was a way to better standardize the level of detail needed to substantiate what is being claimed each pay period in the SOV.

- i. Was the pay voucher and overall payment process acceptable? Yes No

If no, describe: Mid-month payment were not processed due to vacations. Lump Sum payments were a struggle at times due to indifferences between the contractor and GDOT. Individual line items would have solved this issue.

- j. Was the Critical Path Method (CPM) schedule specification used on this project? Yes No

If yes, describe general experiences (pro or con) using the CPM specification:

GDOT Comment: The intent of the CPM schedule requirement was to help GDOT and the DB team best understand critical path items to ensure the project was delivered on time. The DB team appeared to be behind schedule through much of the project. ,

Contractor comment: Heavy rains effected construction and warrant a time extension.

If yes, any suggested improvements to the use of **CPM schedule specification is required, then the frequency to submit regular updates:** -

Submittals should be monthly *not* quarterly as was the case for this project. The submittals should also be arranged in a standardized format. This could be enforced by withholding payment.

GDOT comment: If CPM comments are not being adequately addressed, or CPM schedules are not being submitted as per the specification, then GDOT should exercise the right to withhold payment until such time as the Contractor complies.

Contractor comment: GDOT should use caution when choosing to withhold payment.

Contractor comment: GDOT should consider including more detail in the CPM specification with respects to how many weather days GDOT anticipates each year (or by month).

- k. Were there any unique issues (to Design-Build) that occurred? Yes No

If yes, describe: *Utility coordination in DB contracting is unique. Issues with the geotechnical information and the utility adjustments.*

- l. Were sound barriers required on this project? Yes No

If yes, was the sound barrier material/color specified in the contract? Yes No

Sound barrier type was specified as Type B in the contract, and the color was specified as T-Rock Green in the contract. This was amended to standard beige to match the surrounding sound walls. The sound barrier color was modified prior to installation.

If yes, was the sound barrier height/location specified in the contract? Yes No

Noise barrier analysis and barrier impact assessment was provided during the RFP advertisement phase for use in the DB team's noise barrier design.

- m. Were there lane closure restrictions on this project? Yes No

If yes, were they adequate or could they have been modified for efficiency:

Some of the lane closures did require minor modifications via SA to best suit the DB team's approach.

- *The lane closure restrictions were modified under a supplemental agreement.*

n. Were there ITS outage restrictions on this project? Yes No NA

If yes, were they adequate or could they have been modified for efficiency: The ITS restrictions were adequate. The new LDs were used.

o. Were there new or existing Traffic Signal modifications required? Yes No

If yes, were the traffic signal permits obtained by GDOT: Yes No

p. Were as-built plans prepared by the DB team? Yes No (*Currently being prepared by DB Team*)

17. Design-Build Innovations

a. Were there innovative designs, solutions or materials used on this project? Yes No

If yes, describe:

Pot-holed utilities to modify bridge bent locations in order to avoid lengthy relocation timeframes.

Constructed four drilled caissons on bridge 4 – Bent 11 was modified to avoid a \$1M relocation cost of a 12” gravity sanitary sewer pipeline. This resulted in a cost savings.

Straddle bent design on bridge 3 – bent 3 to avoid a gravity sanitary sewer pipe and a 60” storm drainage pipe.

b. Were any Value Engineering Change Proposals (VECP) submitted? Yes No

If yes, list the VECPs:

e. List other benefits that are not reflected in the cost savings:

GDOT comment: Benefit of DB is that the designer/Engineer of Record is on the Contractor’s team which means RFI are submitted directly to them rather than to GDOT in a typical Design-Bid-Build setting.

18. Supplemental Agreement Summary

SA No.	Amount	Description
1	\$0.00	Discontinued obtaining of the Escrow Bid Documentation
2	\$0.00	Revision of Special Provision 108.08 & Section 999.1.C.28.f
3	\$11,754.00	Gas line relocation
4	\$0.00	Replaced SA #2; Revision of Special Provision 108.08 & Section 999.1.C.28.f
5	\$0.00	Modification of Contract Specification 150.11.A
6	\$41,310.42	Stream reclassification which occurred post-let
7	\$472,782.17	Bent #11 (in lieu of spending over \$1M– Otherwise, the cost to relocate a 12” sanitary sewer)the facility was over \$1 million
8	\$211,505.00	Method II Barrier, including lane closure modifications on Buford to I-85 NB ramp (14 days added to the Contract Completion date)
9	\$32,350.69	Type 2 Barrier (force account), plus 1 week of contract time.
10	\$2,598.21	Additional length joint 15A

19. Disadvantaged Business Enterprise (DBE)

a. Was there a DBE goal for this project? Yes No

If yes, what was the DBE goal? (goal was 0% for State funded project)

b. Was it or will it be met? Yes No

If yes, generally describe utilization:

The DB Team achieved a DBE of 6.41% usage of the original contract amount for this project. The DBE utilization was: Trucking, Steel, Fencing, Construction Services, Sealant, and Concrete.

If no, then describe reasons: N/A

20. Summary of observations from Office of Innovative Delivery (OID)

- a. *The DB team missed the opportunity to collect the \$1,000,000.00 incentive to finish the project early (August 2013). OID had hoped that the CPM specification and focus on schedule management would benefit the project by achieving this early completion.*
- b. *DB team did a great job accurately locating and avoiding utilities on the project. In addition, having the designer on hand appeared to be helpful when responding to changes in the field.*
- c. *Consideration should be given to specifying or being less prescriptive on portions of the work. The group discussed if the RFP should have specified drilled shafts when it was known that there were large boulders in the project limits. The DB team believes that the agency should provide soils data, but that the DB team should choose the foundation type. GDOT commented that since time to open was extremely important that specifying drilled shafts may have cost more, but that this may have helped avoid the need for the structural revisions (because of piles "walking") and may have led to the project being completed on or ahead of schedule.*

21. Summary of observations from Office of Construction

- a. *If the DB team includes subcontractors and/or products not on GDOT's QPL, then the DB team should coordinate with GDOT early to ensure acceptance. On this project the pedestrian bridge manufacture and product had to change late in the course of the project because of this issue.*
- a. *Too many piles were "walking" which led to a large number of structural revisions.*
- b. *It took a little while to develop and come to agreement on the level of detail necessary to substantiate the SOV pay request. Consider better detailing the requirements in the RFP.*

22. Summary of observations from Design-Build team

- a. *Need to have more streamlined decision making process for such items as structural revisions. GDOT should rely more on the DB team's Engineer of Record.*
- b. *Improve or streamline GDOT's subcontractor approval process and/or products to be added to GDOT's QPL.*
- c. *GDOT should provide better guidance on how best to account for weather days in the CPM schedule specification.*
- d. *Modify the utility MOU and overall process to ensure clarity both for the DB team's scope and the utility owners.*

23. Recommendations

- a. *If CPM schedule specification is used on a project, modify specification to require monthly updates (rather than quarterly as was the case for this project). The DB team recommended that GDOT modify it*

to provide clarity on allowable weather days and how they should be tracked during the course of the project. Finally, GDOT should consider enforcing the “may withhold payment” section of the CPM specification (Contractor didn’t agree with this recommendation).

- b. Consider revising the RFP to provide more guidance on how best the DB should prepare supporting documentation needed to substantiate the project’s progress against the SOV and needed for GDOT to approve pay applications.*
- c. Regularly evaluate the utility MOU for clarity and monitor the overall process of utility relocations in DB contracting.*
- d. Consider the level of detail that should be provided to DB teams regarding geotechnical conditions with the goal being to only provide soil borings with enough locations to provide a representative sample of the area.*
- e. Geotechnical – how do we align risk to allow for greater opportunities while protecting the Department. Complete more borings in a grid format. There were issues when the contractor did not use prequalified products.*

24. Notable achievements by early interaction of design and contractor

- a. Designing to avoid utilities*
- b. Phasing of the utility avoidance created a cost savings. The environmental process allowed for phased construction activities (advancing construction on portions of the project).*

25. Post Construction Design-Build Participants (see the attached)