Dear Sir/Madam:

Pursuant to our discussions during our July 20, 2017 teleconference, Miami-Dade County (County) respectfully requests to modify the scope of work for Appendix D-2, CIP 5.09 PS #0301 Replacement of Plumbing and Electrical Equipment. Attached for your review and approval is the technical presentation outlining the requested non-material change to Project 5.09 (see Attachment A). This correspondence summarizes the presentation made by Water and Sewer Department (WASD) to the United States Environmental Protection Agency (EPA) and Florida Department of Environmental Protection (FDEP) at that meeting.
The CD description for CD CIP 5.09 states, “Replacement of pumping and electrical equipment to include generator.” During validation and design phase, operations recommended to evaluate the possibility of constructing a new pump station. It was important for the County to not only satisfy the CD requirements but to extend the useful life of the facility. The conditions at PS 301 made it apparent that a new pump station was necessary. It was, however, unlikely that the new pump station could be designed and constructed within the CD mandated Appendix D-2 Work Schedule considering the expanded scope of work. The County opted for a two-phase approach to first meet the CD description and work schedule and then extend the useful life of the facility and satisfy the current code requirement by constructing a new pump station. Phase 1 would comply with CD requirements allowing time to design, permit, and procure Phase 2 to build a new Pump Station (PS). The new PS design will be compliant with sea level rise (SLR), Environmental and Fire Codes. To accommodate Phase 2, most of the work in Phase 1 would need to be removed or replaced. The County would be expending funds for assets that would be removed a short time later. This phased approach, was the County’s attempt to meet the CD compliance date for this project. As the project moved to the permitting phase, several challenges were encountered that are currently putting the project at risk of missing the compliance date contrary to the intent of Phase 1.

The scope modification request is to eliminate Phase 1 and proceed directly to the design revision, permitting, procurement, and construction of Phase 2. The new PS will be in the recently incorporated City of Sunny Isles, which is a coastal and affluent neighborhood of Miami-Dade County. The City is mostly comprised of high rise buildings with new high-density developments underway. The Phase 2 new PS design will be resilient to SLR (to comply with Miami-Dade Resolution R-451-14 dated 5/6/2014), will address storm surge and comply with new building and coastal codes. In addition, it will meet current and future 2035 flow requirements.

The elimination of Phase 1 reduces the risk of SSOs, since the existing PS would be in operation while the construction of the new submersible PS is completed, (no bypassing required). During the construction of the new PS, WASD will use the existing PS as a by-pass. WASD also commits to completing any maintenance work to ensure proper operation of the existing PS, i.e. pump equipment replacement, as needed.

Moreover, the small business contractor that won the competitive bid for Phase 1, was also awarded CD CIP projects 5.04 and 5.06; both projects have an EPA construction compliance date of May 09, 2018. Eliminating Phase 1 and directly procuring the construction of the New PS will open doors to competitive bids by additional qualified contractors as well as decrease the risk of schedule overruns during construction on CD CIPs 5.04 and 5.06.

Furthermore, the cost of Phase 1 is $4M, $1M of which (e.g., demolition services) are applicable to Phase 2. The elimination of Phase 1 and proceeding with a new PS will be a total cost of $9M. This represents savings of $3M.
The scope modification request for CD CIP 5.09 to include the construction of a new Submersible PS exceeds the CD description and as such will require a revision to the CD Appendix-D CIP 5.09 schedule. In addition to the technical presentation, the anticipated revised schedule is included for your approval (see Appendix B).

Should you have any questions regarding this matter, please call me at (786) 552-8894.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

[Signature]

Maricela J. Fuentes, P.E., ENV SP
Assistant Director, Capital Projects

Attachments: Attachment A - CD CIP 5.09 PS #0301 Replacement of Plumbing and Electrical Equipment Technical Presentation
Attachment B – Anticipated Schedule Revision

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Scope Modification Request for CD CIP 5.09 Replacement of Plumbing and Electrical Equipment Presentation

07.20.2017

Consent Decree Program Management and Construction Management
Discussion Items

• CD Description vs. Proposed Scope Modification
• Project Costs
• Project Benefits
• Anticipated Schedule
• Summary of Request
CD Description vs. Proposed Scope Modification

- **CD Description** – *Replacement of pumping and electrical equipment to include generator*

- **Project Impact/Need** – *Existing equipment beyond its useful life duration to saltwater environment*

Design included a two phase project where, Phase 1 would comply with CD requirements allowing time for Phase 2 to build a new PS to be in compliance with new sea level rise (SLR), Environmental and Fire Codes
CD Description vs. Proposed Scope Modification

Encountered Challenges –

– Phase 1 could not be permitted stand alone, specific issues with the generator
– During the permitting phase of the project, agencies requirements exceeded the initial purpose of phasing the project
– Amount of rehabilitation of the existing PS required complete up-to-Code upgrades
– Increased risk of schedule overrun due to municipality required awarded Contractor be on board for Building Department dry-run review
CD Description vs. Proposed Scope Modification

Scope Modification Request – Elimination of Phase 1 and design revision (to incorporate demolition plans detailed on Phase 1 and constructability review comments)/permit/construct Phase 2

• Use existing PS as a by-pass during construction of new submersible PS
• Maintenance activities to ensure proper operation
• New PS resilient to SLR (Miami-Dade Resolution dated 10/6/2015) and storm-surge
• Meets current and future (2035) flow requirements and
• In compliance with new building/coastal codes
Existing PS Illustration
Project Cost

By phasing the project, an additional $3M would be expended.

- Phase 1 - $4M ($1M of expenditure applicable to Phase 2)
- Phase 2 - $8M

- By eliminating Phase 1, and proceeding directly with Phase 2 cost will be $9M (added $1M cost includes required scope of work to implement Phase 2, i.e. demolition of the clarifier tank, tree relocations, site preparation)

- Saving of $3M
Project Benefits of Scope Modification

• PS that meets capacity and storm surge two years earlier than required

• The elimination of Phase 1 reduces the risk of SSOs, since the existing PS would be continued in operation while the construction of the new submersible Pump Station is completed, (no bypassing required for Phase 2)

• Since the three projects were won by the same Contractor, decrease risk of CD CIP 5.4 and 5.6 schedule overrun if encounter construction issues

• Due to the complexity/cost of proposed Phase 2, competitive bids are expected from a more qualified pool of contractors
Next Steps

• Constructability Review to optimize Cost vs. Schedule (1 month)
• Phase 2 minor design revisions and repackaging to include minor Phase 1 items and Design Consultant agreement (1 month)
• Permitting of Phase 2 (6 months)
• Procurement (6 months), possible reduction of 2 months if done parallel with permitting
• Construction (24 months)
Summary of Request for Modification of CIP 5.09

• Build only Phase 2 which creates an infrastructure to address future flows and extend the service life (Mechanical/Electrical Systems – 50 / 70 years)

• Initiate design revisions following constructability review

• New PS accomplishes the architectural aesthetics required by the recent incorporated City of Sunny Isles Zoning Code

• Implementation of proposed modification will require schedule revision of CD CIP 5.09 by two (2) years
## Project 5.09 - Proposed New Pump Station #0301

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MIAMI-DADE WATER & SEWER DEPARTMENT
CONSENT DECREE PROGRAM SCHEDULE
PROJECT 5.09 - PROPOSED NEW PUMP STATION #0301