

A selection of relevant project experiences using this method can be found below.



Boynton Beach Police Station

**Boynton Beach Town Square, Boynton Beach, FL.** \$78 Million in tax-exempt financing, 176,000 SF. Redevelopment of city blocks in downtown Boynton Beach including all new utilities, roads, parks, playgrounds, amphitheater and associated amenities. As a component of this redevelopment, Haskell constructed the new City Hall/ Library Building and 2,700 ton District Energy Plant. CFP3 also financed the Police Station and Fire Station part of the Town Square project.



Menifee, CA Library

**Riverside County Libraries in Menifee, French Valley and Desert Hot Springs, CA.** \$42 Million in tax-exempt financing, 75,000 SF. CFP3 was involved in the financing, design and construction, and continues to be involved in the operation and maintenance for this project which leveraged buying efficiencies and development expertise of a turnkey P3 development team to get all three libraries done at once, in 18 months. The project was completed in April of 2021.

**Bay City Office Center, Bay City MI.** Sale/Leaseback, \$6,040,000 in financing, 24,996 SF. A new state-of-the-art eco-friendly office building for their Michigan State Environmental Quality division was built

**Grand River Office Center, State of Detroit, MI.** Sale/ Leaseback; \$8.7 Million in financing, 37,599 SF. Facility used by the State of Michigan’s Department of Human Services, which serves customers in the Southern Detroit area.



The Palladium Energy Center

**The Palladium Energy Center, Carmel, IN.** Sale/ Leaseback; \$16,300,000 in tax-exempt financing. The City of Carmel ran out of money to finish the restoration of the historic Palladium Dramatic Arts center. CFP3 purchased the Energy Center that heated and cooled the Arts Center to provide the cash to finish the restoration. The City paid off the outstanding Certificates of Participation and the Energy Center was donated back to the City.

**Vadnais Sports Center, Vadnais Heights, MN.** \$24.8 Million in tax-exempt financing, 183,500 SF This Design-Build-Finance-Operate-Maintain project included 2 NHL sized hockey rinks with seating and 2 domed soccer fields for two Cities: Vadnais Heights and White Bear Lake, MN.

**Taylor Governmental Center, Taylor, MI.** Sale/Leaseback, \$6.55 Million in financing, 32,201 SF. A location for the Department of Health and Human Services in Taylor, MI

*e. If proposing Private Capital as an option [i- iv]*

The Team is not proposing private capital as an option.

*f. The proposed term of the financing and what requirements the financing will be subject to (i.e. subject to developer entering a lease with the RBUD, terms of lease, etc.).*

The proposed term of our financing will be 30 years. As mentioned in prior answers, once bonds are paid, the property would be donated back to the District at no additional cost.

### 3. Options for a Tiered Payment System

*Provide information on options within a lease-lease back agreement or a private capital agreement for a tiered payment system to allow gradual rate increases and leveraging current debt payments.*

It is essential that we can get the Phase I process started immediately. We are assuming the District has the ability to loan the project some pre-development money to get the process started. That amount can be “repaid” at closing through bond proceeds. All our options assume the pre-development money is included in the \$115 million overall budget.

The District has already presented the need for a 6% rate increase for the next five years in order to have the ability to afford new bonds issued in 2025 (Source: Utility Revenue Sufficiency Study, June 2016 presentation). The RFQ gives us the budget at \$115 million. We are going to make the following assumptions in our quest to make the annual Debt Service (DS) affordable, not only during the first five years, but also during years leading up to 2037, which is the year after the District is able to retire the Senior debt it currently has.

Assumptions:

- ◆ \$105 million net proceeds raised for the project after Capitalized Interest, Underwriter's Discount and Cost of Issuance have been taken out. This will vary slightly by Option
- ◆ Current A+ Rating of the District
- ◆ Lease revenue bonds secured by a 30 year lease
- ◆ 30 year term on the bonds
- ◆ True Interest Rates (TIC) used are estimated current rates as of 7/10/21
- ◆ Estimated cost of issuance included
- ◆ Pledge of utility district revenues
- ◆ Debt Service only — additional fees (trustee or issuer) to be included in the lease
- ◆ *Underwriting and issuance assumption is dependent on legal authorization and bond counsel approvals on all aspects*
- ◆ *Actual interest rates determined by market conditions at time of bond issuance*

What follows is an example of how we might be able to get financing for the project started earlier than expected because we can use expected revenues and future cash flows as we structure the deal. The numbers shown are for demonstration purposes only. In an RFQ process, we do not

pretend to understand all the nuances and pressures of your Capital Improvement Plan. The numbers we are using are general estimates and we are rounding amounts to simplify the narrative. [Charts for all four options are available on the following pages.](#)

In terms of rate increase amounts, you have stated in your Rate Sufficiency Powerpoint (June 16th meeting) that 2.8% of the 6% rate increase is for inflationary adjustments. We are taking a more conservative approach and rounding the inflation rate adjustment to 3% which allows for added dollars for expenses. We are then only using the remaining 3% as the net additional dollars available to cover the additional debt service payments. Therefore, during Year 3 there should be \$2.843 million available for Debt Service, after Year 4 \$3.549 million available and Year 5 \$4.574 million available.

We also know that approximately \$4.55 million per year will be freed up in 2037 from the payment on the senior debt. If we can use this to our benefit to defer principal to later years and then use the extra cash flow to fund the jump in Debt Service, we can make years 2025 through 2036 fit within the budget.

**Option 1** is a baseline graph to show what the Debt Service would be with no deferred principal and three years of capitalized interest (no payments for the first three years – the capitalized interest account would cover the first three years Debt Service payments). This is provided for comparison purposes as we look at the other tiered options. This option does not defer any additional principal payments and therefore provides the lowest True Interest Cost at 2.796%

**Option 2** provides for a True Interest Cost of 2.9% as more principal is deferred in the later years, but it provides for a step up in year 2037 when the payment on the current senior debt is freed up (\$4.55 million). This option also reduces the capitalized interest to 2.5 years which is probably more realistic, in that we can only keep providing for capitalized interest up to six months after construction is completed. However, the payments in years 2025-2036 are not meeting our goal of \$4.5 million per year.

**Option 3** defers even more principal to later years, creating a Debt Service payment around \$8.14 million in year 2037 and a more affordable \$4.5 million annual payment in years 2025 to 2036. The True Interest Cost goes up to 2.96%. Capitalized interest is reduced to 2.5 years.

**Option 4 (the Team's preferred option).** We use capitalized interest for 2.5 years, but then interest only for Years 4 and 5. The True Interest Cost rises slightly to 2.97%

because more debt is being pushed to later years, but the Debt Service is still under \$4 million annually for years 3, 4 and 5 and then ticks up to the \$4.5 million level for the period up to 2037, which meets our budget objective. In 2037, the Debt Service is around \$8.3 million, but taking the extra \$4.55 Million in cash that can now be applied to the Debt Service payment from retiring the senior debt, we would have \$9.05 million available to cover the \$8.28 level of payments.

The one small challenge is that the amounts for interest only payments for Year 3, 4 and 5 will probably not be able to be paid from the rate increases alone, but the District will be able to use proceeds from the pre-payment of the ground lease to cover any deficiencies.

Finding just the right answer is an iterative and collaborative process and we look forward to working with the District to arrive at a formula that works. With our assumptions above, we feel we have arrived at a possible answer, but we realize 2021 Revenue projections are down and some past assumptions haven't played out. However, the Tiered approach which was used on the Boynton Beach Town Square project looks like it is not only appropriate but doable.

## 4. Adverse Action

*Indicate whether any funding sources or financial institutions have taken adverse action against the proposer.*

CFP3 has not had any funding source or financial institution take adverse action against it in the last five years.

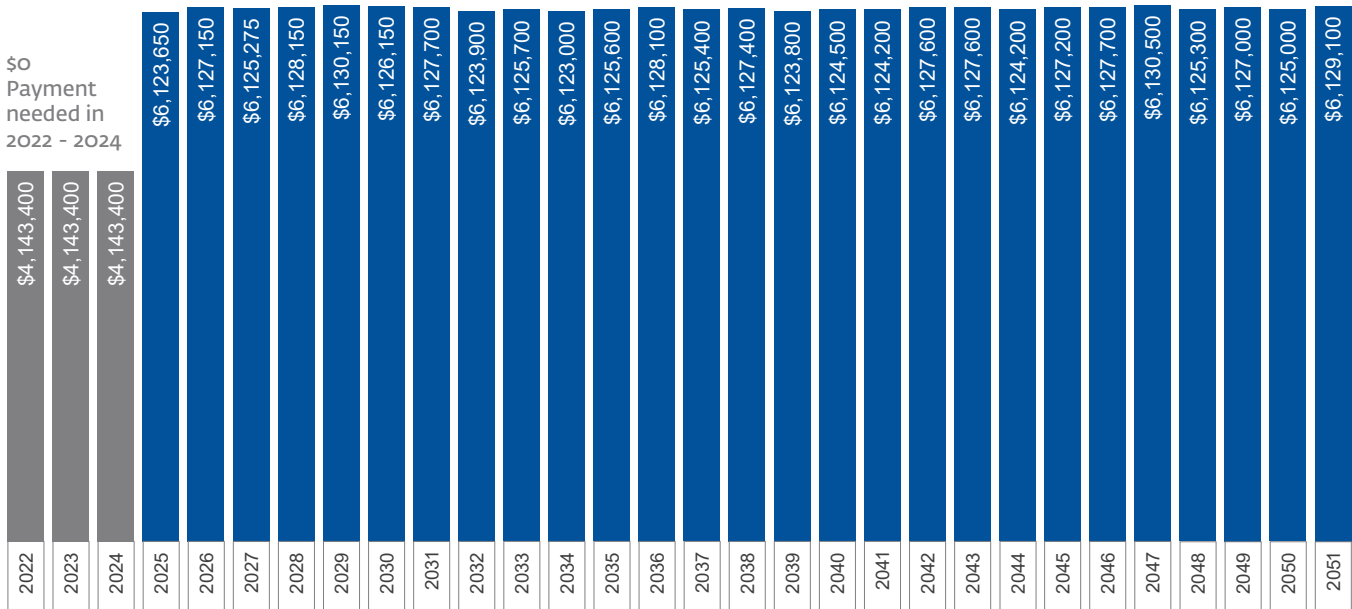
## Options for a Tiered Payment System

### Option 1 | Baseline: No tiered Debt Service schedule

■ Capitalized Interest (CIF)      ■ Net Debt Service Schedule

Assumptions:

- ✓ Cap I For First Three Years
- ✓ True Interest Cost 2.796%



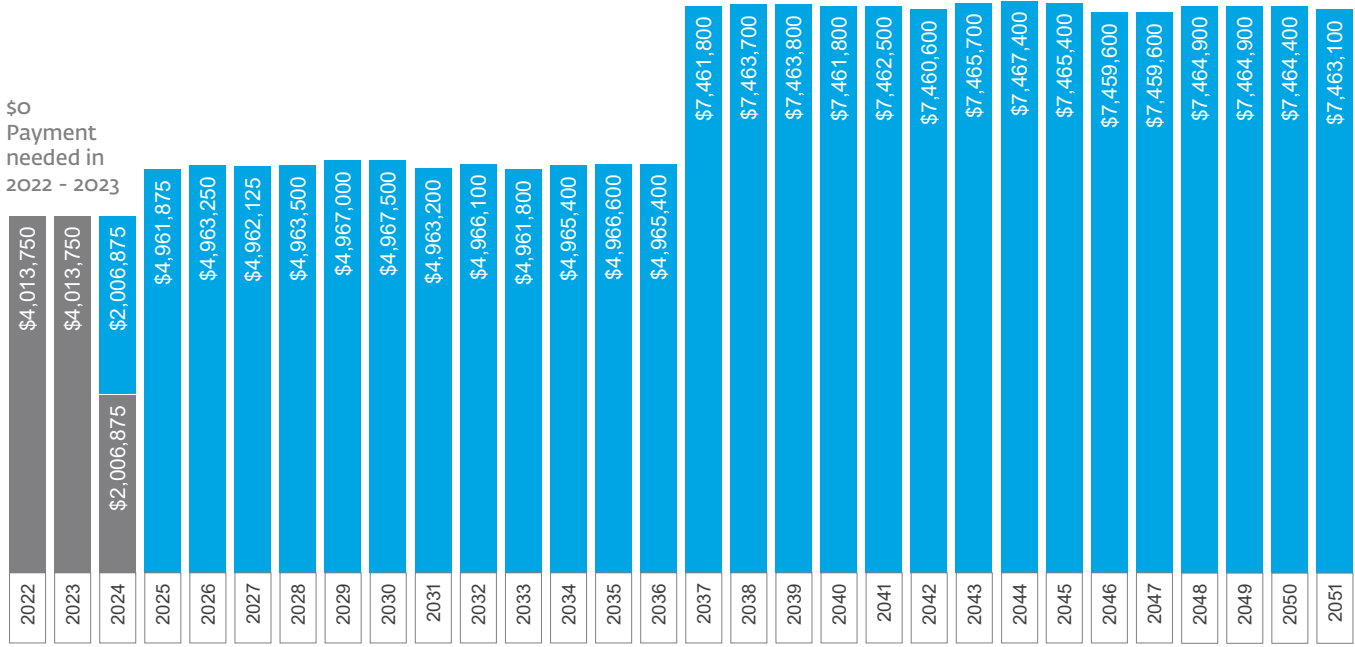
## Options for a Tiered Payment System (cont.)

### Option 2 | Lowered D/S for 12 years with step up in 2037

■ Capitalized Interest (CIF)      ■ Net Debt Service Schedule

Assumptions:

- ✓ Cap I for 2.5 Years
- ✓ Step Up in 2037 Coincides With Payoff of Senior Debt
- ✓ True Interest 2.91% TIC

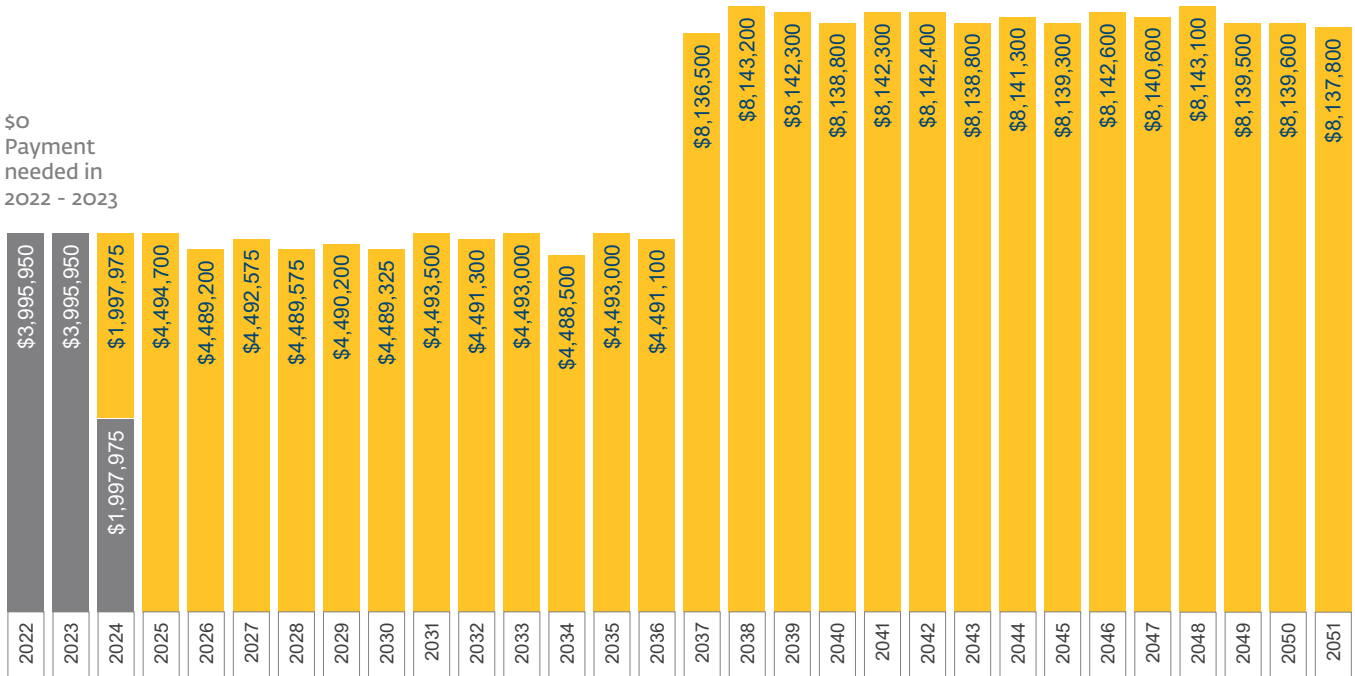


### Option 3 | Lowered D/S for 12 years with step up in 2037, with deferred principal - 2025-2036

■ Capitalized Interest (CIF)      ■ Net Debt Service Schedule

Assumptions:

- ✓ Cap I for 2.5 Years
- ✓ Step Up in 2037 Coincides With Payoff of Senior Debt
- ✓ True Interest Cost 2.96%



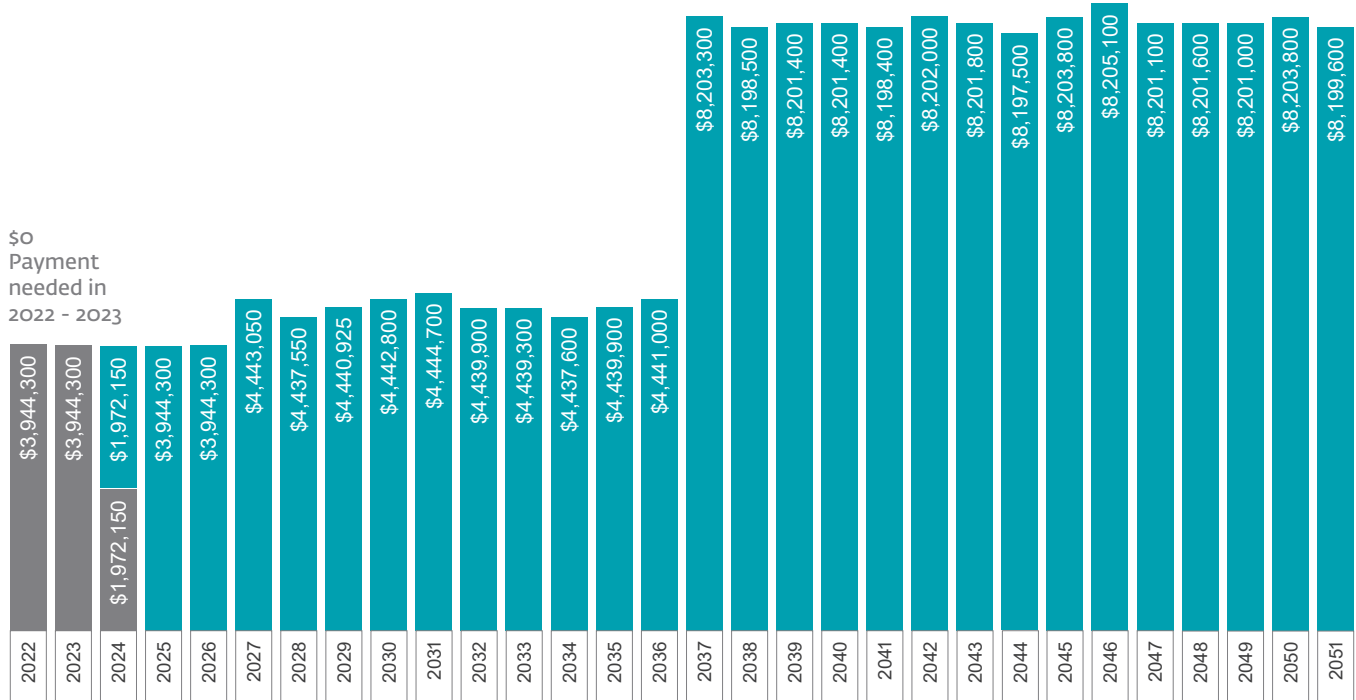
## Options for a Tiered Payment System (cont.)

**Option 4 |** Interest only for years 4 and 5 with step up in 2037.

■ Capitalized Interest (CIF)    ■ Net Debt Service Schedule

Assumptions:

- ✓ Cap I for 2.5 Years
- ✓ Step Up in 2037 Coincides With Payoff of Senior Debt
- ✓ True Interest Cost 2.97%



### Team Experience with WIFIA Funding

There are quite a few opportunities to obtain grants and low-cost loans in the field of water infrastructure. There will no doubt be other opportunities that arise if the new Federal Infrastructure bill passes congress in the near future. [Our team has a great deal of experience helping Municipalities and Districts to gain access to the money that is available.](#)

**One such program is WIFIA.** However, since the next application period for WIFIA dollars doesn't start until this time next year, we won't be able to obtain funds from this program until 2024, after the water plant is scheduled to be finished. We are currently working to see if there is a way the program could still be used to impact and offset any of the cost at the tail end of the project.

### Recent WIFIA Experience

The City of Memphis, TN was recently awarded a \$156M WIFIA loan from EPA to help finance the City's upgrades to its Facility Process and Biosolids Upgrades Program at the T.E. Maxson WWTF. The loan, secured with help from CDM Smith's funding and wastewater technical delivery experts, will help support the city's growth, protect public health and bolster continued economic development throughout Memphis.





**HASKELL**  
JOINT VENTURE

**CDM  
Smith**



**Tab 6 | Project Innovation,  
Development and Management Plan**

## 6. Project Innovation, Development and Management Plan

### Project Approach

Our planned approach to meet the project's goals and objectives is simple, including:

- ◆ Developing and refining our understanding of the source water
- ◆ Selecting the best treatment process and developing a strategy to treat within the first 30 days of the project
- ◆ Permitting, designing and constructing the most efficient and effective advanced water treatment plant for the District using a collaborate Progressive Design Build (PDB) approach
- ◆ Monitoring water quality all the way to the District residential and industrial customer's taps to avoid issues with startup and commissioning and provide a long-term solution for the community
- ◆ Planning elements of utility administrative offices, utility maintenance shops and public works facility with creative design and construction elements

This approach is more fully described in subsequent paragraphs.

### 1. Team's Development Concept, Operational and Management Plan

#### Management Processes to Drive Collaboration and Integrated Relationships

The exchange of information between Haskell-CDM Smith and the District will be an important element to the success of this project. As the design progresses and data is evaluated, new insights will be gained relating to the work on the project. Our approach will be to work as a cohesive unit with the District through constant communications, both formal and informal, in an interactive project process.

### 1a. Recommended Early Construction Components

We recommend that the District consider early procurement of specialty equipment required for the project. By procuring the equipment early, the design can be focused solely on integrating the selected equipment into the design documents and provide a higher level of cost certainty due to fewer unknowns caused by the minor differences between equipment manufacturers. Some equipment that would be beneficial to procure at the conclusion of the 30% design phase include the membranes or ion exchange equipment, and the pumping equipment.

Our Team will fast track some portions of the design to allow for early construction packages:

- ◆ The long lead process equipment must be procured early because of the extended fabrication time
- ◆ We will procure the major process equipment in the conceptual design phase, obtaining them from the project specifications. The team will work with the equipment manufactures to progress the design of the equipment concurrently.
- ◆ Simultaneously, we will construct the shell of the treatment building, but not pour the building slab to allow the layout of the process equipment to be further developed.

The process equipment will have approximately six month lead time and this approach will allow the critical path equipment to be installed while the building shell is being constructed.

### 1b. The First Four Weeks

The first four weeks of the project is going to be very fast paced. The exchange of information at the start of the project is important to the success and because of the speed required for quick decisions, three workshops are planned within the first four weeks. These three collaborative workshops are planned to allow information to be exchanged that will drive the design and construction of the project. Water samples for the raw water will be taken and provided to vendors so that pilot equipment can be coordinated. In addition, the Team will review the site survey, coordinate SUE locates and mobilize the geotech firm. Project fencing will be installed with a fence screens

describing the future advanced water treatment plant. The necessary construction equipment will be mobilized to aid in the early construction phases of the project.

### First Four Weeks Breakdown

- ◆ Day 1 - Kick-off Meeting with the District and Workshop 1 Project Quality Management (PQM) Kickoff Workshop
- ◆ Day 2 – Collect Water Samples
- ◆ Day 3 – Mobilize Fencing Subcontractor
- ◆ Day 4 - Install Project Signage
- ◆ Day 5 – Install Erosion control
- ◆ Day 6 – Mobilize SUE Subcontractor
- ◆ Day 7 – SUE Locates
- ◆ Day 8 – SUE Locates
- ◆ Day 9 - SUE Locates
- ◆ Day 10 – Site Survey
- ◆ Day 11 - Workshop 2 Preliminary Treatment Alternative/Risk Analysis and Cost Workshop
- ◆ Day 12 - Workshop 2 Preliminary Treatment Alternative/Risk Analysis and Cost Workshop
- ◆ Day 13 - Mobilize Geotechnical for Site Investigation
- ◆ Day 14 - Geotechnical Site Investigation
- ◆ Day 15 - Geotechnical Site Investigation
- ◆ Day 16 – Geotechnical Site Investigation
- ◆ Day 17 - Workshop 3 Treatment Process Selection Workshop
- ◆ Day 18 - Ground Breaking Ceremony
- ◆ Day 19 – Procure Pilot Equipment
- ◆ Day 20 – Submit ROM Estimate

*\*Based on a 5-day work week at this current time.*

## Ic. Engaging Major Process Subcontractors

Haskell's subcontractor and vendor selection process is transparent for subcontractors, vendors and the District. Our team uses a proven subcontractor pre-qualification process to select only the most qualified subcontractors. Through collaboration with the District, the team will identify the most highly qualified subcontractors and suppliers who will then be invited to submit price proposals to perform work on the project.

Detailed further in Tab's 7 and 8, a key first step is the identification of work packages and scopes of work that we intend to subcontract. Our team will develop preliminary bid packages for the scopes of work that will be subcontracted and will coordinate with the District to finalize the packages. These packages will be broken down to a detailed level. Haskell will then advertise and issue a request for qualifications for firms interested in performing the work advertised.

Because of recent projects in the area, the team will begin by coordinating with past subcontractors. At the same time, our Team will coordinate several outreach events early on to create interest for the project. The goal will be to utilize as many local vendors to Riviera beach as possible. The remaining specialty subcontractors will come from the surrounding counties.

The bidding process is developed around six fundamental measures:

- ◆ **Prequalification.** Comprehensive pre-qualification of subcontractors and vendors, with emphasis on SBE/M/WBE and local businesses participation
- ◆ **Tailored packages.** Bid and performance packages tailored to anticipate the needs of the project in conjunction with local resources
- ◆ **Clear scopes.** Scopes of work clearly and concisely written
- ◆ **Detailed documents.** Construction documents distinctly developed and detailed
- ◆ **Meetings.** Pre-bid and pre-award meetings are conducted to communicate project expectations regarding safety, quality and schedule and to avoid potential scope misunderstandings
- ◆ **Expedited award.** Work awarded promptly

## Collaborative Workshop Approach for Project Success

Upon receipt of Notice to Proceed, we propose to plan, schedule, facilitate and document three key workshops in the first 30 days, including:

**Workshop 1 | Completed Day 1. Partnering Session Workshop** The purpose of the project kickoff and workshop will be to properly kickoff the project with the full Team to develop protocols for how we interface/ communicate, and build stakeholder consensus on the project mission. Other items that will be incorporated include a discussion of critical success factors, key issues and processes, and ownership responsibility for execution of developed action plans. Conducted at the initiation of a project, this is

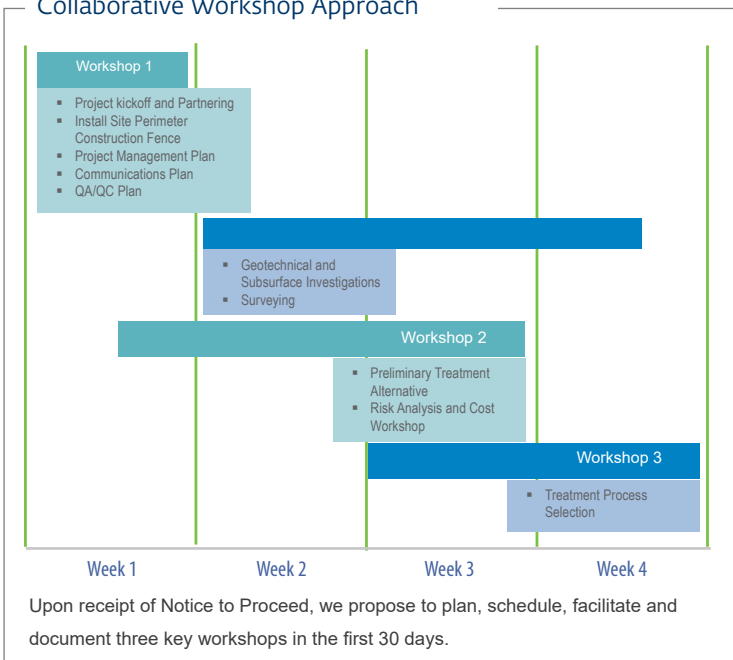


fundamental to effective and efficient project planning and communication. We believe the kickoff partnering session represents an important initial step in formulating a true working partnership with the District staff and other project stakeholders. Specifically, the partnering session workshop will focus on:

- ◆ **Aligning Team.** Developing a shared vision of project success.
- ◆ **Establishing Protocols.** Developing protocols for how project stakeholders will communicate to foster the teamwork needed for success. Effective communication leads to timely decisions and solution-focused issue resolution.
- ◆ **Setting Joint Goals.** Establishing joint goals to facilitate clarity and alignment amongst the stakeholders, developing a shared understanding of the nuances of each goal including water treatment/ water quality goals (e.g., hardness, total organic carbon, and taste and odor compound removal goals, etc.), and facilitate buy-in from the entire Team to the project goals.

Through this process, we will facilitate a commitment to the project goals, promoting Team integration and cohesion, which drives project stakeholders to put the success of the overall project first over any individual goals.

**Collaborative Workshop Approach**



**Workshop 2 | Completed Week 3. Preliminary Treatment Alternative/Risk Analysis and Cost Workshop.** The purpose of the Preliminary Treatment Alternative/Risk Analysis and Cost Workshop will be to:

- ◆ **Review Treatment Alternatives.** While capitalizing on our vast experience as a preeminent advanced water treatment plant designer, we will review up to three advanced water treatment alternatives being proposed for the project and discuss advantages and disadvantages associated with each option. Our evaluation will incorporate our understanding of the source water quality and the water treatment / water quality goals defined in the Partnering Session Workshop.
- ◆ **Review Treatment Alternative Costs.** Using our cost model tool already developed and well calibrated from similar projects completed in the last 5 years in central and south Florida area, we will review our defensible and appropriate planning level costs developed for each proposed water treatment alternative being considered. We will also review our findings from our preliminary life cycle cost analysis for each treatment alternative because we have found that the cost of power, chemicals, resin and membrane replacement over time can oftentimes outweigh the relative cost of construction.
- ◆ **Review Preliminary Risk Register.** As risks are identified during the first 30 days, they will be recorded and managed directly or transferred to the party best positioned to manage them. The impacts and likelihood of such risks will be fully understood by the District and Haskell-CDM Smith. Cost and schedule impacts will be communicated to those that will or may be impacted. In addition to risks, opportunities will be identified that further enhance the project. This workshop will be the first time that the project’s preliminary risk register will be reviewed and discussed. The risk register will be a living document reviewed and updated at each and every meeting.

**Workshop 3 | Completed Week 4. Treatment Process Selection Workshop.** The purpose of the Treatment Process Selection Workshop will be to draw consensus on the selected treatment process that will be advanced into the design phase of the project. Consensus will be reached at the workshop by following a weighted criteria analysis process that includes:

◆ **Brainstorm Project Evaluation Criteria.**

Develop list of project evaluation criteria that are most important to the District (e.g., schedule, construction cost, life cycle costs, water quality, ease of operations and maintenance, process control and monitoring, economic factors, aesthetics, and neighborhood considerations, etc.).

◆ **Project Evaluation Criteria Weight Assignment.**

Assign a relative weight to each criterion, based on how important that criterion is to the District.

◆ **Project Evaluation Criteria Ranking of Alternatives.**

Evaluate each alternative against the criteria and rank-order all options according to how well each meets the criterion (i.e., lowest number being the alternative that is least desirable according to that criterion, etc.).

◆ **Treatment Alternative Scoring and Selection.**

Each alternative’s rating (ranking) will be multiplied by the weight of each criterion and the points will be totaled to determine a score. The alternative with the highest score will not necessarily be the one to choose, but the relative scores can generate meaningful discussion and lead the District’s team toward consensus. The planning level construction costs and preliminary life cycle costs associated with each alternative (i.e., obtained from [Preliminary Treatment Alternative/Risk Analysis and Cost Workshop](#)) will also be incorporated into the weighted criteria analysis to assist the Haskell-CDM Smith to recommend and the District to select the best alternative to advance to the design phase.

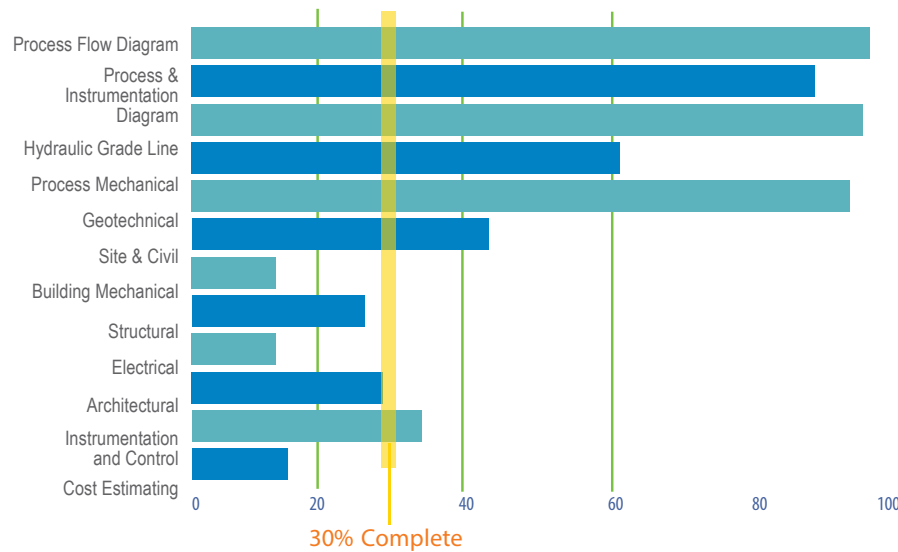
**Haskell-CDM Smith’s approach to Making the Right Project Decisions at the Right Time**

The previously-described collaborative workshop approach is how the JV plans to springboard the project to select the most efficient and effective advanced water treatment plant for the District in the first 30 days. [The pilot program will begin within the first 30 days.](#) The anticipated duration for the piloting work will be 3 months. The Team’s familiarity with similar facilities and raw water quality locally allows us to accelerate the pilot testing portion of the work and move

**Table 6.1 | Core questions that will drive the cost and scope of the project**

Core Question	Impact	Timeframe for Decision
Select pre-treatment and treatment technologies with consideration of life cycle performance	Cost Impacts	• First 30 Days
Confirm and optimize pre-treatment and treatment technologies with consideration of life cycle performance	Cost Impacts	• After piloting • Before commencing 60% design and submitting GMP

**Figure 6.1 | 30% Design Completion**

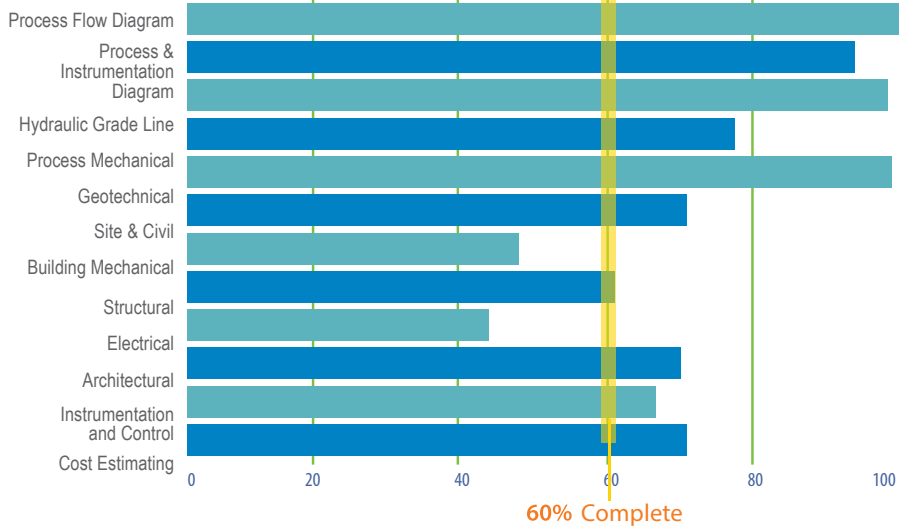


Our Team’s approach to design encourages process-mechanical components to advance ahead of other disciplines, which facilitates interdisciplinary coordination and improves cost certainty.

quickly into the design phase. The primary objective of the pilot plant testing program is to confirm at pilot scale the capability of proposed unit processes for the District to meet overall treatment performance standards for the Project, including:

- ◆ **Membrane Piloting.** Demonstrate life cycle performance and pretreatment technologies and membrane selection
- ◆ **Ion Exchange Piloting.** Define empty bed contact times and evaluate alternative resins to determine which resin will provide the best performance for the District
- ◆ **Pipe Loop Study.** A pipe loop study can also be performed to determine potential corrosion impacts of treated water produced by the different pilot treatment trains

**Figure 6.2 | 60% Design Completion**



To provide a cost-effective GP, the process-mechanical and P&IDs are nearly complete, and all major design decisions are detailed for the other disciplines.

The result of these studies will be the selection of a reliable, cost-effective process that meets the overall water quality and cost objectives of the District.

This exchange of information between the Haskell-CDM Smith and the District will be an important element to the success of this project. As the design progresses and data is evaluated, new insights will be gained relating to the work on the project. Our approach will be to work as a cohesive unit with the District, through constant communications, both formally and informally, in an interactive project process.

The collaborative workshop approach has proven to be a successful way to share project information and get stakeholder buy-in on all key project decisions. While there are hundreds of decisions that will need to be made over the course of the project, the core questions posed in Table 6.1 will drive the overall cost and Guaranteed Maximum Price.

The information needed to allow the District to make all critical decisions will be provided in a series of technical memoranda. The technical memoranda will be submitted to the District at least 2 weeks in advance of the workshop to allow for proper review prior to the collaborative workshop. To simplify the review of the memoranda, we will clearly outline the key decisions or outcomes needed from each memoranda for the project to remain on schedule. A final agenda for each workshop will be provided a minimum of 5 days prior to each workshop to allow the District to provide feedback and ensure that proper time is allotted for all discussion points.

At the end of the preliminary design phase, Haskell-CDM Smith intends to ensure that all critical design decisions for the project have been made. This approach allows us to advance the 30% complete design documents, with the process mechanical component being more than 60% complete. Other critical items—system hydraulics, electrical power distribution strategy, P&IDs, and control strategies—are also finalized to provide the vision for the final design product. This ensures that the design progresses without the threat of “circle back” events due to changes in the final vision for the project. Circle back events increase the potential for an error when addressing the required changes across the different disciplines. By properly managing decisions during design and making the right decision at the right time, Haskell-CDM Smith’s approach to design results in a more highly coordinated and complete set of design

documents, which reduces change orders and improves the cost certainty of the project for the District.

Consideration and timing of upgrades and maintenance of operation to the RBUSD’s existing facilities as needed during the transitional design and construction period will be incorporated into the overall planning. There may be an opportunity to reduce costs with value engineering those modifications once the Team has established a timeline for commissioning of the new facilities. With Globaltech on the Team, the work at the existing facilities will be seamlessly considered and incorporated into the overall project schedule to achieve the desired finished water quality throughout.

During the 30% design phase, our Team will identify whether the construction schedule or sequence of work would benefit from any early work packages or procurement of specialty equipment. As noted in Figure 6.1 on the previous page, our Team will have completed nearly 100% of the process components, 90% of the process and instrumentation design (P&ID), geotechnical, etc. at the 30% design stage which allows us to proceed with early procurement and preparation of key bid packages that support schedule acceleration. Examples of early work packages that could result in cost-savings through schedule reduction include site demolition and site preparation.

Once the 30% design phase is complete, the project shifts from a visioning effort to a production effort to allow development of the Guaranteed Maximum Price (GMP). At the 60% design or GMP submittal, as illustrated in Figure 6.2 on the previous page, Haskell-CDM Smith intends for the process-mechanical design effort to be nearly complete. This ensures that the process component of the project is always ahead of the supporting disciplines, improving cross-discipline coordination and eliminating coordination issues during construction. Throughout the production phase, we will be holding meetings and workshops with the District to incorporate the District's preferences into the project without changing the overarching vision.

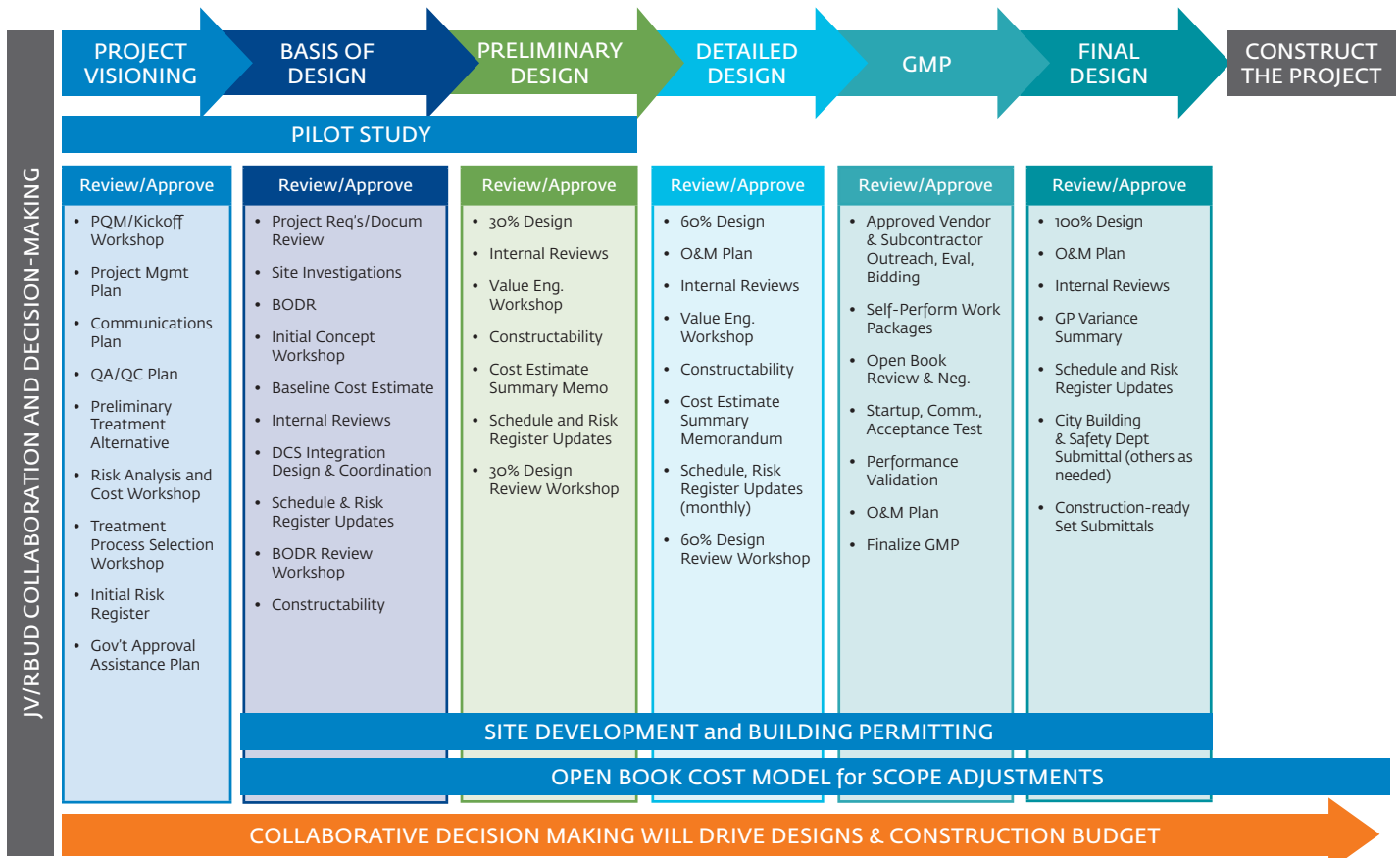
At 30%, 60% and 90%/DRAFT Issue for Construction (IFC), each discipline will be responsible for providing direction to the estimators and the rest of the construction team on items that are not necessarily captured in the design, are unclear and/or need special attention. As shown in Figure 6.3 below, part of each design milestone and establishment of a formal cost estimate or GMP, the design leads and construction estimating team will perform a sheet-by-sheet review of the design and discuss scope that is not yet

shown on the drawings. This detailed design review will be used to update the risk register and project contingency with a scope definition divisor for each major discipline.

### Flexible Approach to Improved Water Quality to be Clear, Colorless and Odor Free

From our experience treating similar South Florida groundwater in Palm Beach County, Broward County, and Miami-Dade South County, the feed water is mostly calcium and alkalinity with some hydrogen sulfide, iron and Total Organic Carbon (TOC). Feed water with TOC, combined with unoptimized disinfection, leads to THMs. **Based on preliminary sampling by CDM Smith, and reviewing the available information, there is turbidity in the distribution system.** The turbidity could be a result of lime solid carryover and/or colloidal sulfur. For both cases, advanced water treatment is the preferred method for removal versus conventional filtration.

Figure 6.3 | The Team will apply our proven, collaborative PDB approach to successfully execute all phases of the project.



From our pilot testing work for Miami-Dade County, as well as more recently with the Pueblo of Pojoaque, we know how to treat high sulfide and TOC raw waters to minimize disinfection by-products (DBP) formation and meet water quality goals. Our approach is to utilize either nanofiltration (NF) or reverse osmosis (RO) as our core technology. This has proven to be effective in removing hardness and reducing TOC. The selection of NF or RO will be determined based on the District's available and future groundwater sources (surficial or Floridan Aquifer wells). The options evaluated focus on a combination of treatment options to remove sulfide and limit colloidal sulfur formation, remove TOC and limit DBP formation, soften the water, increase recovery, minimize costs of the project and to build expandability into the system. Besides hardness, color is another secondary water quality parameter that results in a perception of water quality. The alternatives proposed will result in a crystal-clear water quality.

On the operations side, the team will focus on bacteriological health within the distribution system. A 4-log disinfection system will provide higher disinfection capabilities for the City while also reducing the requirements for public notification. Whenever a system changes the treatment methodology, the distribution system will be monitored and controlled carefully to ensure that there is no impact to the customers.

## Alternatives to Meet Project Schedule and Consumer Confidence in the Quality of Potable Water

Our team recognizes that the District had some volatile organic compounds (VOCs) a while ago so currently the existing system has air strippers/packed towers prior to lime softening. It is our understanding that this is no longer an issue and is therefore not included in any of our design alternatives. In addition, it is important to note that incomplete removal of hydrogen sulfide before chlorine addition may have resulted in the formation of colloidal sulfur/sulfur turbidity observed in the water distribution system. Therefore, all alternatives will be designed to ensure that hydrogen sulfide is removed before final chlorination, eliminating the possibility of sulfur turbidity forming in the distribution system. Inclusive in our evaluation of all alternatives will also include cost/benefit analysis of the following:

- ◆ Chemical usage and impact to pre-treatment, the complexity of operations and long-term costs

### Understanding the Existing WTP



On June 18th, our team conducted water quality sampling at Cunningham Park in Riviera Beach running tests focused on isolating, quantifying, and identifying the type of solids in the distribution system. [Through careful study of the water quality, we understand that effective pretreatment of the sulfur turbidity and total organic carbon \(TOC\) will be the most critical factor for maintaining the aesthetic clarity and purity of the finished water in your distribution system.](#) It is based on this strong foundation we can confidently say that we understand the unique challenges of treating South Florida groundwater to the highest drinking water quality, while controlling process costs.

- ◆ Reverse osmosis treatment for the Floridan aquifer and finished water blending
- ◆ Concentrate disposal options for Nanofiltration membrane for use in reclaimed water.
- ◆ Lower bypass options with looser membranes or post-treatment lime addition
- ◆ Consideration of raw water supply water quality noting existing wells with raw iron at 0.05 mg/L
- ◆ Deep injection well and other concentrate disposal options

During the first four weeks, we will develop the following treatment options for further development and consideration by the District, which will be discussed at the [Preliminary Treatment Alternative/Risk Analysis and Cost Workshop](#). These alternatives provide the advanced treatment while also hedging against future regulations. [Below is a summary of the alternatives.](#)

### Alternative 1 | Membrane Treatment with Blending

Under this alternative (Figure 6.4 on page 53), hardness, alkalinity, TOC and some sulfide will be removed from 80% of the feed water by NF. Bypass blend about will be dependent on finished water considerations including color. The permeate produced by the NF or RO will be blended with the bypassed water, degassed to remove carbon dioxide and any remaining hydrogen sulfide and disinfected

before it is sent to the distribution system. This treatment process would produce a treated water with approximately 3 mg/L of TOC and 75 mg/L of hardness as CaCO<sub>3</sub>.

#### Advantages of Alternative 1

- ◆ Low complexity, capital and operating costs (compared to Alternatives 2 and 3)
- ◆ One discharge point (injection well)
- ◆ Smallest footprint

#### Disadvantages of Alternative 1

- ◆ Highest concentrate flow/lowest system recovery (compared to Alternatives 2 and 3)
- ◆ Careful monitoring and control of TOC and sulfide on the bypassed water as well as pH adjustment may be required
- ◆ Higher number of additional wells required due to recovery
- ◆ Highly dependent on raw water quality and iron levels in wells

### Alternative 2 | Ion Exchange and Nanofiltration/Reverse Osmosis and Bypass Ion Exchange

This alternative (Figure 6.5 on page 53) builds on the design proposed in Alternative 1 by only treating approximately 50% of the water with NF and adding additional treatment processes for the bypassed water. The bypass percentage will be dependent on the blend of surficial and Floridan wells to control TDS/ chlorides and meet hardness. From our experience with similar systems in Florida, we understand that it can be challenging to remove both sulfide and organic matter with ion exchange, due to the potential for severe fouling of the resin by sulfur oxidizing bacteria. Therefore, to protect the resin from fouling, we will evaluate the suitability of packed tower aeration to remove hydrogen sulfide before the IX process. We will utilize limited acid addition before the packed tower to achieve enhanced sulfide removal and carbon dioxide removal, while also reducing tower capital cost. We recommend biological scrubbers for odor control of the sulfurous offgas. With the sulfide removed, the bypassed water will be treated by IX (strong base fixed-bed or MIEX® resin in a fluidized bed) to remove TOC, color and lower DBP formation potential. The finished water quality is expected include to hardness in the range of 110-150 mg/L as CaCO<sub>3</sub> and negligible TOC.

#### Advantages of Alternative 2

- ◆ System recovery is higher than Alternative 1, reducing the number of additional wells required
- ◆ One discharge point (injection well)
- ◆ TOC and sulfide are completely removed from the finished water

#### Disadvantages of Alternative 2

- ◆ Increased complexity (compared to Alternative 1)
- ◆ Larger footprint (compared to Alternative 1)
- ◆ Costs of IX regeneration
- ◆ Iron in the feed water may impact the performance of the IX and NF with pretreatment, but this can be controlled by acid addition.
- ◆ Feed TOC may limit NF or RO flux
- ◆ Add additional chemicals and complexity of regeneration.

### Alternative 3 | Enhanced Coagulation, Ultrafiltration and Nanofiltration

This alternative (Figure 6.6 on page 53) focuses on pre-treating the feed water to remove iron and some sulfide and TOC ahead of the NF system. Under this alternative, feed water is aerated to oxidize its components and remove iron and some sulfide out of solution. This can be done with coagulation and/or green sand filters. An enhanced coagulation treatment process removes iron and provides TOC and sulfide reduction by allowing the particles to be combined into larger and easier to remove particles. Some of the larger particles are then removed by sedimentation while the rest of the particles are removed by UF. With some of the TOC removed by the pre-treatment, an increase in NF recovery can also be expected.

#### Advantages of Alternative 3

- ◆ Protects NF against sulfide fouling
- ◆ Removes other sparingly soluble metals under oxidation conditions like iron and manganese from all of the feed water
- ◆ Removes the need for cartridge filters
- ◆ Sequence of ultrafiltration and membrane treatment could be adaptable for future applications (including potable reuse and/or industrial reuse).

#### Disadvantages of Alternative 3

- ◆ Higher capital costs
- ◆ Introduces a solid waste stream (sedimentation) additional waste stream (UF backwash)

Figure 6.4 | **Alternative 1** | Membrane Treatment with Blending

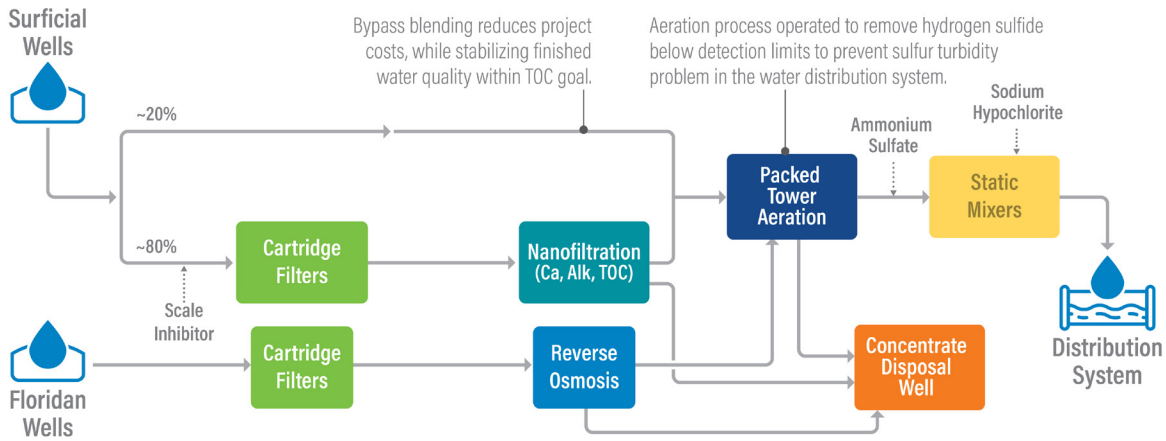


Figure 6.5 | **Alternative 2** | Membrane Treatment with Bypass Ion Exchange

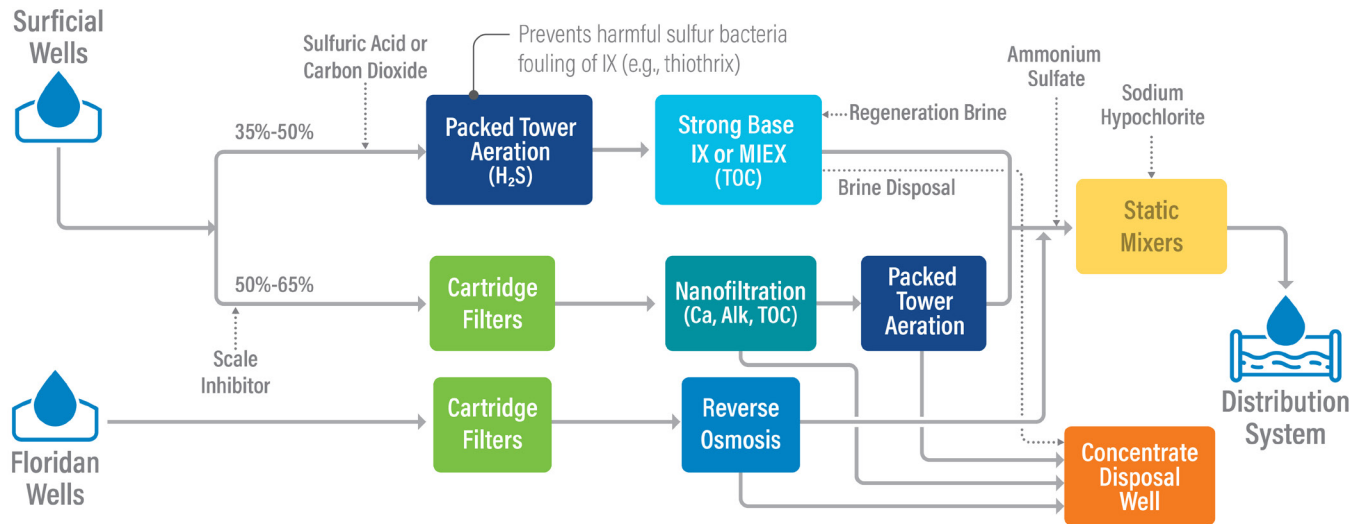
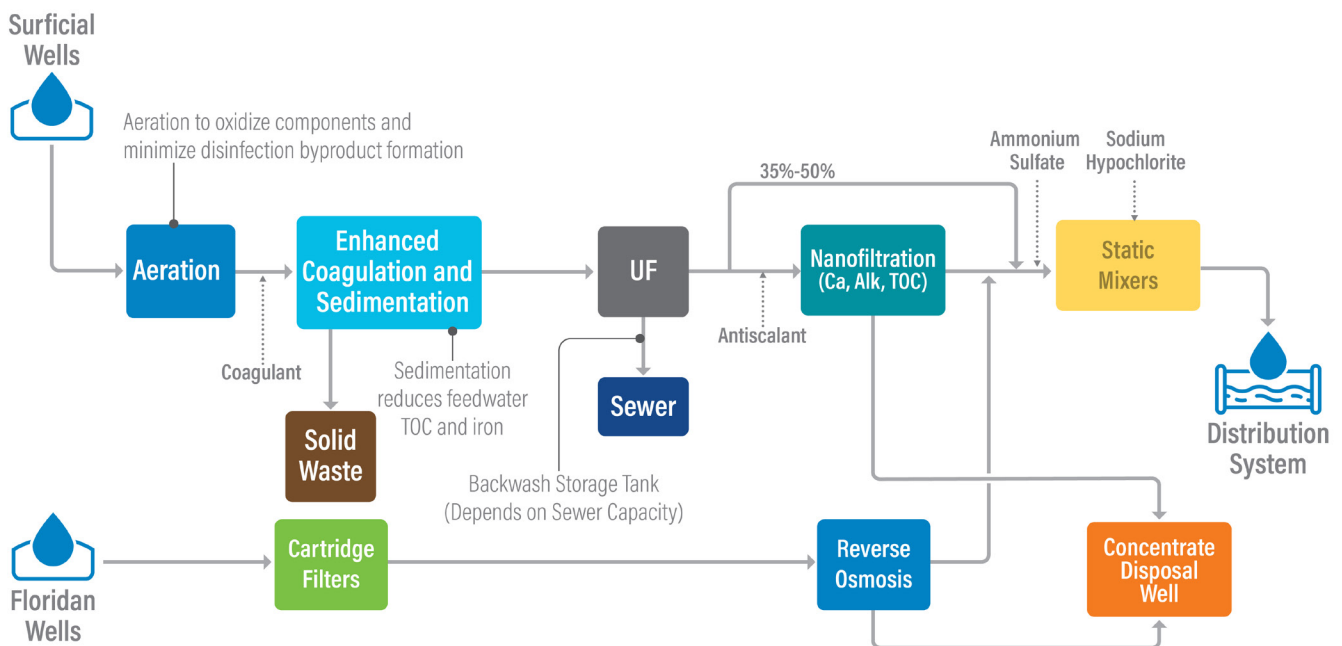


Figure 6.6 | **Alternative 3** | Enhanced Coagulation, Ultrafiltration and Membrane Treatment



## Continuity of Operations

Under their current continuing design-build contract Globaltech is engaged in multiple tasks at the existing WTP with the goal of restoring and maintaining reliable operation while delivering quality water to the customers as the new facilities are being planned and constructed.

With a longer-term planning horizon Globaltech is also involved in significant upgrades at the Avenue C and U storage and repump facilities to enhance water quality and delivery in the distribution system. These include complete pumping, storage, electrical, and instrumentation upgrades as well as improvements to residual disinfection monitoring and control.

Having Globaltech on the Haskell-CDM-Smith team affords a high level of coordination during the transitional period until the new facilities are brought online. This will also allow refinement of the interim work needed as the details of the new facilities and the schedule emerge resulting in a 'best allocation of resources' scenario.

From a funding and management of resources perspective this will allow the City to either continue working directly with Globaltech on current projects or have the work executed under the project funding and management umbrella of the Haskell-CDM-Smith team with absolutely no ramp-up time required. It would simply be a horizontal move from the City's perspective.

With Globaltech's knowledge of the existing facilities and permitting agency timelines and their excellent report with City staff, maintenance of plant operations will be assured. And, throughout Globaltech's term at Riviera Beach they have excelled at utilization of local business resources to the fullest extent possible.



## 2. High-Level Project Timeline

The new water plant is scheduled to be producing high quality drinking water for the residents of Riviera Beach on November 28th, 2023. To meet this timeline, the project team will start the first week after the notice to proceed, mobilizing the necessary construction equipment to provide the engineers with the information required for them to expedite the design of the new plant. Haskell-CDM Smith Team will schedule meetings in the first weeks of the project with the permitting authorities in an effort to expedite the permitting process. Although major construction activities are scheduled to start June 2022, smaller portions of the project will be designed so early construction packages can proceed. Phase one of the project will include the design of the plant and the procurement of the major process equipment that have long fabrication periods (pumps, pretreatment equipment, water filters, post treatment equipment). A high level draft project timeline can be found at the end of this tab.

## 3. Cost Control Methods

Haskell and CDM Smith have maintained a strong reputation in the design-build industry through collaboration with our clients. We help you define the scope of your project early, often before finalizing a full design-build contract. Our goal is to provide the best value solution to your needs. We encourage a phased process through which we quickly understand your vision for the project, develop an indicative budget, fine-tune the scope of work and then commit to an auditable open-book budget.

As described, the phased process for developing the Guaranteed Maximum Price (GMP) eliminates ambiguity, limits your contractual commitment to steps that are in alignment with scope development and allows for open-book cost accounting so that you know where your dollars are going to be spent. We include you in the scope and budget development while also taking contractual responsibility for completing the project on time and within budget.

### Scope and Budget Development

Haskell-CDM Smith has over 130 years of experience and knowledge to assist clients in the evaluation of a planned construction project to determine what is attainable in terms of cost and schedule. We will work with the District to identify costs at various stages in the project and help to establish budget contingencies as well as methods to control those costs and contingencies.

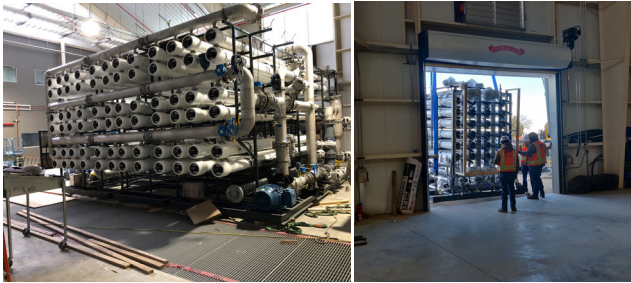
When determining these estimates, we utilize a wide variety of tools, in addition to our construction knowledge and



experience, to determine accurate, anticipated costs. Cost estimating is performed in-house by our Project Managers and Estimators using the MC2 software program. The software database is updated regularly to reflect actual labor, equipment and material costs for construction.

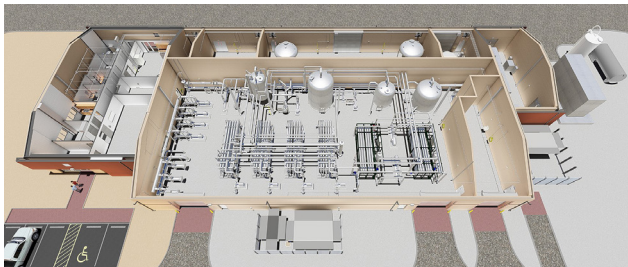
Estimates are produced using MC2 software allowing for the flexibility to provide quick summary or detailed cost estimates. When subsequent estimates are produced, the software allows for quick comparisons to earlier budgets

### Cost Control Examples



#### East Cherry Creek Valley RO WTP Phase 2, Denver, CO

Developed as a BIM 3D project and with construction completed in spring 2021. Cost Control Option - The membrane skids are relatively standard units except we designed each 3.3 mgd unit to be shipped as factory assembled sub-units to be connected in the field. This design helps limit field work, allows more options for constructability, and is easily expandable in the future. The factory assembled RO sub-units that were on steel frames, and brought into the completed building through large garage doors. The manifolds for the sub-units were connected using split ring couplings.



#### Design Build of Potable Water Treatment/Blending Facility, Twentynine Palms, CA

DB project under construction. Cost Control Option - Piping was routed overhead to eliminate pipe trenches. This approach is faster and less costly than trenches. This concept can be laid out to maintain access to administration, control room area, chemical rooms and the electrical room.

to help identify savings or overruns, which can inform the District on how changes in the planning process affect the budget. Having this level of detail allows for the Owner to make informed decisions each step of the way through the planning process. Although tools are an important part of accurate estimates, it is important to note that all our estimators are well-versed in the costs of construction and how they impact a project.

There are four key estimating phases during the development of construction documents: conceptual, schematic design, design development and construction documents.

**Conceptual Estimate.** The conceptual estimate is utilized during the master planning, programming or budgeting stage. Components utilized include available sketches, site and floor plans, elevations, outline specifications, site conditions as well as the use of our cost database and the construction cost of similar facilities.

**Schematic Design Estimate.** A schematic design estimate is prepared from schematic documents. It is more detailed and quantitative than its predecessor, the conceptual estimate. At this stage, most of the material quantities should be related to the project and/or CSI specifications.

**Design Development Estimate.** This estimate is prepared from design development documents, as prepared by the architectural and engineering team. Quantities, including the use of cost per unit and detailed material, labor and equipment costs, are based on the detailed plans and specifications available at this phase. Furthermore, due to greater documentation detail, design contingencies should be reduced.

**Construction Documents Estimate.** The construction documents estimate is the final estimate before the project is submitted for bids. Prepared at a substantial level of construction document completion, the plans and specifications should be complete to ensure accurate quantity takeoffs and pricing. Detailed material, labor and equipment costs will be used; estimate/design contingencies should be deleted or reduced at this stage.

### Preconstruction Expertise in South Florida

The real difference and added benefit of Haskell-CDM Smith's role in the development of budgets to support the programming phase of the City's Water Treatment Plant is that our budget information is developed from real experiences over years in construction in South Florida. Our Teams construction services develop budgets, produce estimates and competitively bid work every day.

Our staff's experience with similar type of facilities eliminates the need for an educated guess. We provide the following:

- ◆ Internal construction expertise solicits feedback on constructability at the conceptual level to identify potential issues and cost impacts. This allows for informed decision-making early in the planning process.
- ◆ Seasoned superintendents, who have coordinated trades on complex projects, will explain how engineering systems and the impact design decisions will have on the budget before significant investment is committed.
- ◆ Project managers, who purchase services and goods from trades day in and day out in the South Florida market, know the capability of trades and availability of the materials required to complete the work and can provide feedback and alternative solutions if programming decisions introduce unnecessary cost.
- ◆ Our internal preconstruction department offers experienced estimators with well-established vendor relationships in the Riviera Beach market to provide reliable and accurate budgets.
- ◆ Scheduling experts develop and maintain schedules with planning, design, procurement, permitting and construction agendas that can be relied upon for decision making.

### Handling Material and Labor Cost Escalations/Delays Due to the Economy

In today's market, vendors and subcontractors run very tight operations and can be selective with the projects they pursue, as they are constantly faced with the challenge of a limited and reliable workforce. As a result, the slightest change in the market can impact pricing and availability of qualified subcontractors. It's our experience that the best way to combat price fluctuations and uncertainty is to generate a competitive environment through collaborative communication.

This is accomplished through engagement with the market early and often. It is our recommendation to identify key trades during the development of the design. By connecting with these trades, we can bring awareness of future bidding opportunities, along with seeking input in a collaborative fashion as it relates to resources both material and labor. These interactions will help inform the early design

decisions to ensure the project will remain on budget. We will also seek budget verification from several of the key trades to confirm that the project will stay in budget as design progresses. In parallel to our internal estimate, this effort will yield competitive pricing results on bid day.

To stay ahead of market pricing fluctuations, Our Team is undertaking early purchases of materials to lock in delivery dates. In addition, we are purchasing materials earlier than normal to lock in on pricing and storing those materials until needed. We spend a lot of our time analyzing the risk vs reward of these scenarios and also alternate materials or designs that may have a better lead time or cost.

### Ensuring Quality and Cost Before Construction Begins

During each phase of preconstruction, Haskell-CDM Smith participates in regular meetings to monitor progress, address action items and coordinate with RBUD's consultants. We provide recommendations on construction feasibility, availability of materials and labor, time requirements for installation and construction and factors related to cost, including costs of alternative designs or materials, preliminary budgets, schedules, possible economies and impact on project phasing. At the completion of the preconstruction phase, essentially all project planning will have been completed.

Our cost management system will document each step in the process and keep all project participants informed of the status of the project. Some of the objectives include:

- ◆ Determine the best-value approach to meet all project objectives
- ◆ Put a mechanism in place for including the District's preferences in material and equipment evaluation
- ◆ Identify and take action on specific areas of price risk and associated contingency
- ◆ Accurately forecast and track critical resources and progress
- ◆ Benefits of our cost control program include:
- ◆ Specific allocations for price risk/contingency rather than blanket percentages
- ◆ Owner participation on all price/scope decisions
- ◆ Continuous knowledge of the expected final cost
- ◆ Confidence of receiving the best value for all expenditures

The starting point of the cost management system will be the initial cost model developed during the preliminary consultation and project analysis phase. From the initial cost model through target estimate and GMP, the status of the

project budget will be tracked and shared with the District. Each estimate level will be compared to the previous estimate and differences reconciled, resulting in a complete record of the cost history of the project.

Our cost estimators of Mike Spaeder, Donnie Belloit, Craig Gadberry and Elias Andreas will be embedded as part of the project team throughout Phase 1, attending key design workshops and meetings. They will maintain a cost trending log in between formal estimate submittals to make sure that the District and the design build team are informed regarding any scope decisions that could have a potential impact on the budget. The team will focus on a design to budget mentality and make sure there are no surprises when it comes time to prepare the GMP.

## Value Engineering

The Team will provide a systematic approach to obtaining the optimum value for every dollar spent by providing creative, quality value engineering (VE). Our Team will collaborate to identify innovation to improve the value and economy of construction through design. Items considered during the process include overall project sequencing and site layout, layout of process equipment and piping and the need for continuation of services in the existing plant. VE will also include the review of equipment and material selection, communications strategies, any off-site work or miscellaneous improvements, construction means and methods, operation and maintenance costs and future expansions.

As we progress through the program, we will develop innovative opportunities for quality improvement, schedule enhancement, initial-cost reduction and operations and maintenance (O&M) cost reduction. These options will be presented to your team during design meetings or weekly conference calls and will be tracked on the VE log until they are accepted or rejected. When necessary, Haskell-CDM Smith will provide calculations, estimates and life cycle cost analyses for these concepts to aid your team in decision-making.

## Quality Program

Haskell-CDM Smith's Quality Program is focused on assuring predictable quality outcomes on our projects, thus enhancing owner satisfaction. It is the intent of our policy to define consistent applications of quality processes, clarify responsibilities, incorporate continuous improvement, limit rework/warranty activities and satisfy your project requirements.

## Successful Quality Examples



### WTP Reverse Osmosis and SCADA Systems Upgrades, Venice, FL

Design checklists, independent peer reviews of calculations and drawings and a technical review committee combined to enable the City to maintain the quality of the reverse osmosis (RO) concentrate and meet permitted discharge limits. It was also necessary to keep three of the four RO skids in operation throughout the project. This included a thorough QA/QC review before constructing each design element, verification of contract compliance, daily work checks, testing and documentation.



### Wastewater Treatment Plant No. 3 Upgrades, Winter Haven, FL

A new diffused air system and baffle modifications to the existing aeration basins to increase nitrogen reduction enabled the City to improve the level of treatment and quantity of public access reuse quality effluent. Working side-by-side with project engineers, quality checks were conducted throughout design, preconstruction, construction and testing and startup. Reflecting the City's needs and alignment with their goals, the project was designed and constructed to allow the effluent to be discharged directly to adjacent surface waters. As this bypassed the 1,200-acre sprayfield, they were no longer needed and the City sold this valuable tract of land.

## Successful Value Engineering Examples



### Boynton Beach WTP improvements, Boynton Beach, FL

When CDM Smith was engaged for the PDB of the City's East WTP Improvements, our initial cost estimate of all components was \$48M. As this price was 50% over the City's budget, we worked with the City to perform cost assessments and value engineering as design continued and provide target estimates at the 10%, 30%, and 60% levels. The final guaranteed maximum price was signed for \$30.8M. Using PDB, the team was able to deliver the baseline scope below the initial \$30.8M budget. Approximately \$2.5M in savings from project buyout, value engineering, and sales tax on owner-direct purchases allowed the City to proceed with several other value added items related to site enhancements, long term safety, unforeseen conditions and community outreach projects.



### Southwest Water Reclamation Facility Capacity Upgrades, St. Petersburg, FL

The City's project was on the verge of being cancelled due to price escalation. The City asked Haskell to provide value engineering and constructability review to reduce the cost, while maintaining the major project objectives. Working with the City's engineer, Haskell evaluated and priced alternative value engineering ideas and construction techniques and reduced the original estimate by \$18 million dollars to bring the project back into budget and keep the project on track.

To maintain the highest level of quality in all our work products, including design documents and construction, Haskell will implement a Quality Implementation Plan (QIP). This plan is intended to capture those activities needed to ensure a quality project and a satisfied client. To establish the project's QIP, we work in partnership with the District to clearly understand the quality requirements and what defines excellence. We will then develop a project specific QIP that includes required design and construction quality criteria focused on delivering a high-quality project. The QIP is dynamic and requires periodic revisions as the project progresses. The project team is responsible for execution with independent monitoring, enforcement and reporting by Haskell Quality.

### Quality Controls During Design

After the initial project start-up, the Team will continue to keep the lines of communication open. One of the key roles performed by Haskell's Overall Project Manager Mike Hoisington. Mike will be holding biweekly design review meetings and will meet with the District at least monthly during the project execution to discuss areas of concern and forecasted activities for the upcoming period.

Design work and documentation are reviewed by the Quality Manager, Design Manager, Construction Manager, Project Manager and Superintendent, along with quality professionals from each discipline, at set milestones in the schedule. These reviews include the use of design checklists and independent peer reviews. In addition to an independent check of calculations and drawings, a technical review committee (TRC) will provide independent senior-level checking, overview and guidance to the Team. We anticipate that TRC meetings will be held at 30%, 60% and 90% progress points in design development.

### Quality Controls During Construction

General Superintendent Frankie McGee is responsible for the quality of work performed in the field. He will be supported by our QA/QC Construction Kevin Kett and our well-defined procedures. To facilitate quality construction, the Team will use an approach consisting of three phases of control. This approach guarantees that all work is properly planned, executed, inspected, tested and documented.

**Preparatory Phase.** Executed prior to constructing each distinct element of work, our construction quality management process includes: review of applicable contract specifications and drawings, submittal approvals, material conformance, hazard analysis, relevant sections of the site safety and health plan and physical examinations of

the work area and material and equipment necessary to complete the work.

**Initial Phase.** Performed at the beginning of work to verify that all elements are at a level necessary to achieve full contract compliance. All control, inspection and testing procedures are verified and any differences identified and resolved.

**Follow-Up Phase.** Performed to ensure continued compliance with contract requirements. Quality Control activities include daily work checks, verification of control testing and documentation, daily coordination by field superintendent with subcontractor field supervisors and continuous review of in-place work as the job progresses, all to take corrective action in real-time to minimize the number of internal pre-punchlist items and resolve issues.

## 4. Schedule Maintenance

The Team's overall management approach is based on an innovative approach to integrated project delivery which involves not only our team members, but the District as well. Our approach is founded on the shared commitment of a highly integrated team that will work together to deliver a seamless project from inception through design, permitting, construction, commissioning and final acceptance and turnover.

### A Focus on Early Activities

A detailed design schedule will be integrated with the construction schedule so the design activities for each package are tied to procurement and permitting activities. Our design process will also facilitate early procurement through the identification of items with long lead times. Another early activity is the initiation of the SBE/M/WBE outreach program and the identification of sub-consultants, construction subcontractors and vendors who will be able to quote on packages when the design is advanced to that point.

### Frequent Communications

The Team will establish an interactive communications protocol so that our continuous project team (design, construction and commissioning) and the District are kept up-to-date on progress, given the opportunity to provide input, involved in all key decisions and informed of the required deliverable schedule. During design, we will use collaboration tools, such as our virtual collaboration room and Procore (team collaboration software), to guarantee the timely and accurate delivery of project information. The project files and information will be available to all real-

## Successful Schedule Example



### Boynton Beach City Hall and Library and District Energy Plant, Boynton Beach, FL

Hurricane Dorian forced the closing of the Boynton Beach Town Square job site for longer than expected. This resulted in the need to repour four tilt panels during the final phase of shell construction. Haskell brought in all subcontract partners affected by the unforeseen sequence of work.

During the subsequent pull planning meeting, lead by key representatives from Haskell management, all team members consulted with their fellow trade partners on the upcoming schedule of activities. They discussed sequencing and what needs to happen first before their work can continue. During this recovery effort, the building schedule was broken out into smaller sections of work. This allowed the team to keep construction ongoing at the east end of the building, while a separate recovery effort was ongoing at the west end. During this meeting, the team further broke out each floor to accommodate the many specialized finishes being installed. These were incorporated into subsequent schedules.

[These schedule saving solutions brought the project back on schedule and within the original estimated completion date.](#)

time to facilitate the nature of this progressive design-build project.

A key component of this interaction will be our biweekly design review meetings held in the District's office (or virtually depending on the type of information and feedback required). These frequent meetings are invaluable; they help us obtain timely input from the project stakeholders, including the District project team, the Haskell-CDM Smith design team, construction team, commissioning team and estimators. This feedback will enable us to execute decisions to keep the design advancing efficiently.

## Effective Construction Management

Project site management will be the responsibility of our General Superintendent Frankie McGee. Frankie, having familiarized himself with the project during design development, will work closely with our construction manager Steve Solters. He will be well-equipped to support the construction team and immediately address all inquiries. His knowledge of the WTP design and familiarity with the Team will aid in rapidly reviewing many shop drawings in the field, getting input from the appropriate team members and ensuring permit compliance—all efforts that will keep the project on schedule.

Managing construction also involves coordinating equipment and material delivery/storage on-site. By carefully scheduling deliveries, we can reduce the need for on-site storage and minimize the cost and risks associated with double handling and limited laydown space.

In addition, the CPM schedule will be updated every two weeks and detailed logic revisions will be provided monthly. Steve Solters will also provide detailed three-week look-ahead schedules, based on the activities detailed in the main project schedule, at every biweekly meeting.

## Monitoring Progress

Procurement activities will be subdivided into:

- ◆ Subcontract/purchase order execution
- ◆ Submittal development
- ◆ Engineering approval
- ◆ Fabrication and delivery
- ◆ Field visits for verification of selected items

A milestone of “Procurement Complete” is built into the schedule 30 days after 100 percent design is completed. A second milestone “Submittals Complete” is built into the schedule 90 days after 100 percent design is completed. This is a very positive way keep a sense of urgency on the smallest items and reduces the number of “surprises” that arise later in the project. For this reason, we will also require our subcontractors to provide us with similar detailed schedules for submittals and fabrication on all the major pieces of equipment that fall under their subcontract. These will also be tracked in the project schedule.

Success on a timely delivery will result in a proven process and commitment to integrating the Team and the District into the development and management of the schedule.

## Schedule Management

The schedule will be updated weekly, led by our project manager Mike Hoisington, with input from the rest of the Team and other stakeholders. It will be reviewed during progress meetings with the District and adjusted accordingly to show improvements or acceleration as required to stay on track. Our scheduling department will administer quality control over the logic. This extra set of eyes will allow us to keep our pulse on the critical path, understand where the float is and look for opportunities to improve.

## 5. Key Risk Factors

### Risk Management Planning/Project Contingency

The Haskell-CDM Smith applies a proactive, robust and structured risk management planning process specifically designed for PDB projects. It is used for identifying, classifying, analyzing, mitigating, and quantifying project cost and schedule risks. It is also used for assessing, updating, and managing the risk management plan throughout the project. Risks and opportunities are managed in conjunction with project contingency, given the hand-in-hand relationship. Identifying and managing opportunities is also coupled with and included in JVs risk and contingency management approach. Our approach for PDB projects is diligent and brings cost and schedule certainty while creating opportunities to avoid use of project contingency funds.

The risk management process begins at project inception and continues until all risks are fully closed (i.e., fully mitigated or eliminated). The Team’s risk management process is dynamic and addresses changes that occur throughout the project. Risks are captured in a risk register, an example from our Union County, NC project that was developed as part of the 60% and GMP is included at the end of this tab. The risk register format and methodology will be finalized in partnership with Riviera Beach. The following is a description of how the Team will manage risk and the risk register and how risk items can be monetized into an appropriate project contingency.

### Identifying

Risks are identified through several means. These include a risk assessment for each element of the project work breakdown structure, specific risk identification workshops with the District and’s key design, procurement, construction and operations team members, performing a strengths, weaknesses, opportunities and threats (SWOT) analysis for the project and periodic meetings throughout the project that

are specifically focused on risk management. A key aspect of our approach is identifying potential risk items early to allow for analysis and mitigation-based decision making, creating opportunities for contingency reduction as the design, pre-construction and construction progresses. Each identified risk is included within the risk register.

## Classifying/Assignment

Each identified risk is categorized and a responsible entity and individual is assigned. Risk categories for the project may include: design, pre-construction, procurement, construction, start-up/commissioning/operations, schedule, cost estimate and public/stakeholders.

In cases where a party other than the Team may be best-suited to own a specific risk and the related actions for mitigating the risk, the decision for allocating this risk would be made mutually with the District.

## Mitigation Approach and Actions

A specific mitigation approach and related actions are identified for each risk and captured in the risk register, with the intensity of the action aligning with the cost and/or schedule impact severity that could result from the risk.

## Outcome Scenarios

Once a risk has been identified and the related mitigation approach and actions have been established, the cost impact and probability and schedule impact and probability are estimated for optimistic, most likely and pessimistic outcomes and this information is included within the risk register. We have included some sample risks and related costs, schedule impacts, and related probabilities from another project in the example risk register, for illustrative purposes.

## Statistical Analysis

A Monte Carlo simulation is then applied to the cost impact, schedule impact, and related probabilities for the optimistic, most likely, and pessimistic scenarios to establish a recommended contingency amount and expected schedule impact for each identified risk.

## Risk Rating

The estimated cost impact and estimated schedule impact for each risk from the Monte Carlo simulation results are then categorized into a risk rating (as follows) and are color-coded. Establishing a risk rating helps the Team focus resources on specific risk mitigation activities.

By identifying and including risks that pose a potential schedule impact and also prioritizing risks based on schedule impact, the Team's approach manages and mitigates schedule-related risks and thereby supports cost and date certain delivery.

## Managing the Plan

The risk management plan requires continuous management by the project managers and project team, with close attention to specific actions and related deadlines for each identified risk. The risk register is a 'live' document that will be managed and updated throughout the life of the project and at regular risk review meetings, with the actions, outcome scenarios, and estimated cost and schedule impacts for each risk regularly updated until the risk is fully mitigated and closed. Any newly identified risk items would also be added to the risk register together with the specific actions and schedule for managing the risk. The risk register is a 'live' document that will be managed and updated throughout the life of the project and at regular risk review meetings, with the actions, outcome scenarios, and estimated cost and schedule impacts for each risk regularly updated until the risk is fully mitigated and closed.

## Contingency Development

As described above, the Team will employ a structured approach to identify, assess scenarios and use statistical analysis to develop a recommended contingency for each identified risk. This information will then be used by the District and our Team to negotiate and reach agreement on an appropriate risk-related contingency for inclusion in the GMP. In addition to the risk-related component, the contingency also needs to address additions to the construction cost estimate that will occur with further definition of the project as the design is advanced. The project risk register will include a line item for each major design discipline (e.g., concrete, process mechanical, electrical) with a definition divisor for the estimated level of contingency needed to account for yet-to-be-identified design scope that will be developed and added between the particular design milestone (30%, 60%, GP) and the 100% design. The individual definition divisors will be determined by conducting a workshop with the construction and design team to review each drawing and discuss the scope items not yet shown. The results of the design definition workshop will then be shared with the District to make sure there is a clear understanding and consensus on all design definition contingencies carried in the risk register.

## 5. Sample Risk Register

The Haskell-CDM Smith Team has reviewed the District's project goals and objectives against the team's experience with projects of similar scope, performance, safety and quality requirements, system architectures, designs and environments to determine the following initial risks:

	Hazard/Risk Analysis	Potential Cause of Hazard	Potential Consequences	Mitigation Measure
Design Challenges	<b>Geotechnical investigations fail to capture existing conditions</b>	Errors in assumptions or design differs from investigations	Failure of structures, unexpected differential settlement, delays in schedule	Thorough geotechnical investigations at location of structures/tanks, comparison of newly acquired data with data from previous investigations
	<b>Influent water quality</b>	Unforeseen or unknown constituents or contaminants	Membranes do not perform as expected	Additional water quality testing, piloting, or O&M Measures
	<b>Issuance of all necessary permits</b>	Delays in development of permit applications, development of design data	Schedule delay and early release to procure long lead items	Meet early and often with all known permitting agencies to identify all hot-buttons and respond accordingly
Construction Challenges	<b>Dewatering</b>	Heavy rain results in a high water table,	Delays in excavation of structures below grade, delay in schedule	Thorough investigation of water levels, identify proper dewatering systems, stand by equipment in case of failure or poor dewatering performance
	<b>Working around existing fueling station</b>	On-going daily fueling activities	Impact construction of new facilities	Isolate existing fueling station from all construction activities, separate ingress/ egress for fueling
	<b>Labor Shortage</b>	Competing projects in the area, increased economic activity	Delay in construction, increased costs, reduced quality	Work with local subs, work with local labor, prepare to self-perform with JV labor
	<b>Safety</b>	Concerns associated with working on a congested site in multiple areas with ongoing access to the fueling station	Safety incident, schedule delays, injured labor staff	Develop project specific H&S plan, work closely with all trades and subs to coordinate activities, isolate the fueling station from all work activity
	<b>Delay in receipt of major equipment</b>	Delay in early procurement, poor shop drawings, delay in fabrication	Delay in construction, increased cost due to claims, missed commissioning date	Leverage the JV purchasing power, timely shop drawing tracking, quick turn around on review, multiple GMP's to facilitate early procurement
Operations Challenges	<b>Unable to complete full plant start-up and testing</b>	Insufficient water available for start-up and testing	MFRO not tested to confirm conformance with design	Thorough review, QA/QC, design coordination, design workshop to confirm data and design assumptions
	<b>Operations transition</b>	O&M manual does not convey reasoning behind operational schemes	O&M manual re-write, ops does not follow O&M manual leading to poor system performance	Proper training of O&M staff, hands on training early in start-up, after handoff shadow operations for several months to ensure proper operation.
	<b>Distribution water quality variations</b>	Changes in water quality (compatibility), flow direction and/or magnitude.	Turbidity, low chlorine residuals, and tastes/odors can lead to customer complaints	Conduct water quality/ blending study for existing and new WTPs; Develop transition plan for new plant. Implement rigorous distribution monitoring program.



**PROJECT LEVEL RISK REGISTER**

Project Name: Union County YRWSP WTP & FWI  
 Project Number (Internal): 231695  
 PM: Ryan Bucceri  
 DPM: Jon Lapsley  
 DM: Chris Kolkhorst  
 CM: Mike Halloran  
 LCE: Craig Gervin  
 PCS: Nick Maxin

SUMMARY			
Run Date			10/3/19
Total Current Project Cost	\$	112,260,019	
Total Current Construction Cost	\$	65,684,355	
Total Risks	\$	9,639,964	
Total Opportunities	\$	-	
Risk as % of Construction			14.7%
Risk as % of Total Project			8.6%

RISK PROBABILITY ASSESSMENT	
Rating	Guideline
Very Low (VL)	10%
Low (L)	30%
Moderate (M)	50%
High (H)	70%
Very High (VH)	90%

COST ASSESSMENT		SCHEDULE ASSESSMENT
Impact Rating	Cost Impact Guideline	Rating
Negligible	<\$10,000	Negligible
Marginal	\$10,000 - \$100,000	Marginal
Significant	>\$100,000 - \$500,000	Significant
Critical	>\$500,000 - \$1 million	Critical
Crisis	>\$1 million	Crisis

ID	Risk Prob	Risk Resp	Risk/Opportunity Element	Definition of Risk/Opportunity Element	Consequence of Occurrence (Cost (\$) and Schedule (days) Impact)	Risk/ Opp	Risk Mitigation / Opportunity Suggestion (technical approach)	BIC	RESP	Pricing Strategy Contingency -- complete Part Three	Outcome	Cost (whole \$)	Cost Probability	Schedule (days)	Schedule Probability	Assumptions	30%>60% Track Changes and Comments
1	M	Project	CSI 02 Site Work	More Rock Excavation FWI - Pipeline Than Expected	\$ 330,000	Risk	Review borings and update 60% OPCC based on final Geotech Report	Girven	CDMS	Contingency	Optimistic	\$ 200,000	20%	5	20%		Updated Risk Mitigation comment and BIC. Risk consequence decreased based on additional boring logs UC to consider taking on risk through Allowances/Unit Costs.
					Schedule (days): 25						Most Likely	\$ 300,000	40%	20	40%		
											Pessimistic	\$ 425,000	40%	40	40%		
2	M	Project	CSI 02 Site Work	Harder Rock Excavation FWI - Pipeline Than Expected	\$ 275,000	Risk	Review borings and update 60% OPCC based on final Geotech Report	Girven	CDMS	Contingency	Optimistic	\$ 175,000	60%	5	60%		Updated Risk Mitigation comment and BIC. Risk consequence decreased based on additional boring logs UC to consider taking on risk through Allowances/Unit Costs.
					Schedule (days): 15						Most Likely	\$ 300,000	20%	20	20%		
											Pessimistic	\$ 550,000	20%	40	20%		
3	-	Project	CSI 02 Site Work	Further Optimize Earthwork Cut/Fill with Hydraulic Profile	\$ -	CLOSED	CLOSED. Earthwork was optimized during 60% development.	-	-	-	Optimistic	-	-	-	-		Risk item closed.
					Schedule (days): -						Most Likely	-	-	-	-		
											Pessimistic	-	-	-	-		
4	M	Project	CSI 02 Site Work	Increased Rock Excavation for WTP	\$ 325,000	Risk	Review borings and update 60% OPCC based on final Geotech Report	Girven	CDMS	Contingency	Optimistic	\$ 125,000	60%	5	60%		Updated Risk Mitigation comment and BIC. Risk consequence decreased based on additional boring logs UC to consider taking on risk through Allowances/Unit Costs.
					Schedule (days): 9						Most Likely	\$ 400,000	20%	10	20%		
											Pessimistic	\$ 850,000	20%	20	20%		
5	H	Project	Estimate	Change in actual equipment cost after GMP submittal	\$ 510,000	Risk	Obtain ENR 12 City Cost of Work Price Index. Get vendors to lock in their pricing for 180-210 days after award. Buyout within the first month	Girven / Halloran	CDMS	Contingency	Optimistic	\$ 300,000	45%	0	0%		Updated Definition of Risk and BIC.
					Schedule (days): -						Most Likely	\$ 500,000	35%	0	0%		
											Pessimistic	\$ 1,000,000	20%	0	0%		
6	M	Project	Estimate	Lack of Local Available Labor	\$ 262,800	Risk	Consider manpower requirement language in subcontracts. Monitor actual manpower during construction and alert subs if determined insufficient. Monitor local construction market for changes to risk probability	Halloran	CDMS	Contingency	Optimistic	\$ 73,000	20%	0	20%		Risk increased in probability and consequence due to increased volatility in local market (other large projects being advertised).
					Schedule (days): 13						Most Likely	\$ 219,000	30%	10	30%		
											Pessimistic	\$ 365,000	50%	20	50%		
7	M	Project	CSI 01 General Conditions	Unforeseen changes in construction methods resulting from Environmental Agency Permit Reviews & Inspections during construction	\$ 215,000	Risk	Conduct a back-check review of potential environmental permits required in sensitive areas.	Boone	CDMS	Contingency	Optimistic	\$ -	20%	0	20%		Updated Definition of Risk and Mitigation Action. Risk probability and consequence reduced based on advancement of design.
					Schedule (days): 10						Most Likely	\$ 215,000	60%	10	60%		
											Pessimistic	\$ 430,000	20%	20	20%		
8	M	Project	CSI 02 Site Work	Phase 2 (60% to 100%) Design Services Contingency	\$ 142,500	Risk	Increase definition of scope of services and avoid scope creep through change management procedures	Bucceri	CDMS	Contingency	Optimistic	-	40%	0	0%		Updated Definition of Risk and Mitigation Action. Risk probability and consequence reduced based on advancement of design.
					Schedule (days): -						Most Likely	\$ 190,000	50%	0	0%		
											Pessimistic	\$ 475,000	10%	0	0%		



**PROJECT LEVEL RISK REGISTER**

Project Name: Union County YRWSP WTP & FWI

Project Number (Internal): 231695

PM: Ryan Bucceri

DPM: Jon Lapsley

DM: Chris Kolkhorst

CM: Mike Halloran

LCE: Craig Gervin

PCS: Nick Maxin

SUMMARY		
Run Date		10/3/19
Total Current Project Cost	\$	112,260,019
Total Current Construction Cost	\$	65,684,355
Total Risks	\$	9,639,964
Total Opportunities	\$	-
Risk as % of Construction		14.7%
Risk as % of Total Project		8.6%

RISK PROBABILITY ASSESSMENT	
Rating	Guideline
Very Low (VL)	10%
Low (L)	30%
Moderate (M)	50%
High (H)	70%
Very High (VH)	90%

COST ASSESSMENT		SCHEDULE ASSESSMENT
Impact Rating	Cost Impact Guideline	Rating
Negligible	<\$10,000	Negligible
Marginal	\$10,000 - \$100,000	Marginal
Significant	>\$100,000 - \$500,000	Significant
Critical	>\$500,000 - \$1 million	Critical
Crisis	>\$1 million	Crisis

ID	Risk Prob	Risk Resp	Risk/Opportunity Element	Definition of Risk/Opportunity Element	Consequence of Occurrence (Cost (\$) and Schedule (days) Impact)	Risk/ Opp	Risk Mitigation / Opportunity Suggestion (technical approach)	BIC	RESP	Pricing Strategy Contingency -- complete Part Three	Outcome	Cost (whole \$)	Cost Probability	Schedule (days)	Schedule Probability	Assumptions	30%>60% Track Changes and Comments
62	M	Project	Schedule	(ID#43) NCDOT Raleigh Office delays in approval of encroachments for major roads such as Monroe Bypass	\$ 100,280	Risk	Met with NCDOT, defined open cut vs trenchless for individual crossings.	Boone	CDMS	Contingency	Optimistic	\$ 80,500	80%	7	80%		Updated BIC. Risk probability and consequence decreased based on better understanding of risks as design advances.
					Schedule (days): 8.72						Most Likely	\$ 161,000	18%	14	18%		
											Pessimistic	\$ 345,000	2%	30	2%		
63	-	Owner	Schedule	(ID#47) BOCC does not approve expenditures for easements until the FERC Permit is secured	\$ -	CLOSED	CLOSED. Owner responsible of mitigation	-	UC	-	Optimistic	-	-	-	-		Risk item closed. Program Manager to track.
					Schedule (days): 0						Most Likely	-	-	-	-		
											Pessimistic	-	-	-	-		
64	-	Owner	Schedule	(ID#48) BOCC requirements for the project change, requiring rework	\$ -	CLOSED	CLOSED. Owner responsible of mitigation	-	UC	-	Optimistic	-	-	-	-		Risk item closed. Program Manager to track.
					Schedule (days): 0						Most Likely	-	-	-	-		
											Pessimistic	-	-	-	-		
65	L	Project	Schedule	(ID#49) Permit conditions require Individual Permit rather than anticipated Nationwide Permit	\$ 43,884	Risk	Develop design to align with Nationwide permits. Limit impacts to waters of the State.	Boone	CDMS	Contingency	Optimistic	\$ -	50%	0	50%		Risk slightly increased in probability and consequence due to better understanding in risk profile.
					Schedule (days): 23.4						Most Likely	\$ 48,300	48%	42	45%		
											Pessimistic	\$ 1,035,000	2%	90	5%		
66	L	Project	CSI 01 General Conditions	(ID#50) Unintentional environmental damage during construction	\$ 28,000	Risk	Follow regulations regarding clean-up protocol. Develop workplans for working in sensitive areas near water bodies. Maintain spill containment kit on-site.	Halloran	CDMS	Contingency	Optimistic	\$ 10,000	35%	1	35%		Risk increased in probability and consequence due to better understanding in risk profile.
					Schedule (days): 2.8						Most Likely	\$ 30,000	40%	3	40%		
											Pessimistic	\$ 50,000	25%	5	25%		
67	L	Project	CSI 01 General Conditions	(ID#52) Dewatering for pipe installation or trenchless shafts causes drawdown and settlement of adjacent properties, utilities, etc.	\$ 76,500	Risk	Consider requiring subcontractor engineered dewatering submittals. Consider installing monitoring wells and deformation monitoring points where critical	Tastan	CDMS	Contingency	Optimistic	\$ 10,000	40%	0	0%		Risk increased in probability and consequence due to better understanding in risk profile.
					Schedule (days): 0						Most Likely	\$ 100,000	35%	0	0%		
											Pessimistic	\$ 150,000	25%	0	0%		
68	-	Owner	Estimate	(ID#53) Potential requirement for mitigation credits	\$ -	CLOSED	CLOSED. Owner responsible of mitigation	-	UC	-	Optimistic	-	-	-	-		Risk item closed. Program Manager to track.
					Schedule (days): 0						Most Likely	-	-	-	-		
											Pessimistic	-	-	-	-		
69	L	Project	Estimate	Failure of Lake Twitty Open Cut Crossing due to unforeseen weather events	\$ 86,250	Risk	Execute during Low Flow season and timing to capture good weather	Halloran	CDMS	Contingency	Optimistic	\$ -	25%	0	25%		New risk added
					Schedule (days): 11.5						Most Likely	\$ 75,000	35%	10	35%		
											Pessimistic	\$ 150,000	40%	20	40%		
70	VH	Project	Estimate	Inability to receive NPDES approval for on-site discharge resulting in new discharge pipe to Mill Creek	\$ 550,000	Risk	Meetings with NCDEQ during review of the application	Lapsley	CDMS	Contingency	Optimistic	\$ -	52%	0	35%		New risk added
					Schedule (days): 0.5						Most Likely	\$ 1,000,000	45%	0	55%		
											Pessimistic	\$ 1,500,000	3%	5	10%		
71	L	Project	Estimate	Extended operations due to longer than anticipated State approval to distribute	\$ 54,000	Risk	Continue discussion with State through design and construction	Barnes	CDMS	Contingency	Optimistic	\$ -	35%	0	35%		New risk added
					Schedule (days): 12						Most Likely	\$ 67,500	50%	15	50%		
											Pessimistic	\$ 135,000	15%	30	15%		
72	VH	Project	Estimate	Results of Corrosion Study require process changes	\$ 550,000	Risk	Complete the Corrosion Study	Dowbiggin	CDMS	Contingency	Optimistic	\$ -	10%	0	10%		New risk added
					Schedule (days): 11.5						Most Likely	\$ 500,000	80%	0	80%		
											Pessimistic	\$ 1,000,000	15%	0	15%		

# High Level Draft Project Timeline

Activity ID	Activity Name	Orig Dur	Start	Finish	2021	2022	2023	2024	2025	2026
<b>Riviera Beach Blue Heron WTP</b>		662	22-Jun-21	24-Jan-24						
<b>Milestones</b>		947	22-Jun-21	24-Jan-24						
MI1010	Pre-Proposal Meeting	0	22-Jun-21		◆					
MI1020	Submit Proposal	0		20-Jul-21	◆					
MI1030	Recommendation & Notification of Award	0		21-Sep-21	◆					
MI1040	City Council Award	0		21-Oct-21	◆					
MI1050	30% Design Review	0		12-Jan-22	◆					
MI1060	NTP Construction	0	10-Jun-22			◆				
MI1070	Raw Water Supply Well Design and Permit (By Others)	0		10-Jun-22		◆				
MI1080	60% Design Review	0		24-Jun-22		◆				
MI1090	90% Design Review	0		28-Sep-22		◆				
MI9998	WATER PLANT OPERATIONAL / Project Substantial Completion	0		28-Nov-23				◆		
MI9999	Project Final Completion	0		24-Jan-24				◆		
<b>First 30 Days</b>		24	21-Sep-21	22-Oct-21						
DE1010	Prepare Pilot Testing Plan	5	21-Sep-21	27-Sep-21						
DE1020	Kick-Off Workshop	1	21-Sep-21	21-Sep-21						
DE1030	Preliminary Design & VE Concept Review Workshop #1	1	22-Sep-21	22-Sep-21						
DE1040	Site Fencing and Signage	5	22-Sep-21	28-Sep-21						
DE1050	Geotechnical & SUE Investigation / Report	15	22-Sep-21	12-Oct-21						
DE1060	Preliminary Treatment Alternative / Risk Analysis and Cost Workshop #2	11	24-Sep-21	08-Oct-21						
DE1070	Groundbreaking	1	30-Sep-21	30-Sep-21						
DE1080	Treatment Process Assessment Workshop #3	11	01-Oct-21	15-Oct-21						
DE1090	10% ROM Cost	5	18-Oct-21	22-Oct-21						
DE1100	Procure Pilot Equipment	5	18-Oct-21	22-Oct-21						
<b>Design Services</b>		324	22-Jun-21	28-Sep-22						
<b>30% Design</b>		265	22-Jun-21	06-Jul-22						
DE3010	30% Design Development	45	22-Oct-21	27-Dec-21		■				
DE3020	Install Pilot Equipment and Start-Up / Commission Pilot Plan	5	25-Oct-21	29-Oct-21						
DE3030	Pilot Testing	55	25-Oct-21	12-Jan-22		■				
DE3040	30% Milestone Estimate/Schedule/VE Concepts	10	28-Dec-21	11-Jan-22		■				
DE3050	Owner Review	5	28-Dec-21	04-Jan-22						
DE3060	30% Cost Reconciliation & VE Concept Review Workshop	1	12-Jan-22	12-Jan-22						
<b>Permits</b>		265	22-Jun-21	06-Jul-22						
PE1010	Floridian Well Permit (By Brown & Caldwell)	90	22-Jun-21	27-Oct-21		■				
PE1020	UIC Permit	200	23-Sep-21	06-Jul-22		■				

Start Date : 22-Jun-21  
 Finish Date : 24-Jan-24  
 Data Date : 22-Jun-21  
 Print Date : 16-Jul-21 - 16:23

- Actual Work
- Remainin...
- Critical Re...
- ◆ Milestone

Riviera Beach Blue Heron WTP  
Project Schedule



# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021	2022	2023	2024	2025	2026
PE1030	FDEP / PBCHD Permits	130	23-Sep-21	28-Mar-22		█				
PE1040	Florida Eastcoast Railway Utility Crossing Permit	60	23-Sep-21	16-Dec-21		█				
PE1050	City Site Plan Review and Approval	60	28-Dec-21	22-Mar-22		█				
PE1060	SFWMD Permits	60	28-Dec-21	22-Mar-22		█				
PE1070	FDOT Permit	60	28-Dec-21	22-Mar-22		█				
PE1080	Building Permits	60	28-Dec-21	22-Mar-22		█				
<b>60% Design</b>		<b>116</b>	<b>13-Jan-22</b>	<b>24-Jun-22</b>						
DE6010	60% Design Development	75	13-Jan-22	27-Apr-22		█				
DE6020	60% GMP Estimate/Schedule/VE Concepts	30	28-Apr-22	09-Jun-22		█				
DE6030	Owner Review	10	28-Apr-22	11-May-22		█				
DE6040	60% Cost Reconciliation & VE Concept Review Workshop	1	10-Jun-22	10-Jun-22						
DE6050	GMP Submittal / Owner Review / Approval	10	13-Jun-22	24-Jun-22		█				
<b>90% Design</b>		<b>66</b>	<b>27-Jun-22</b>	<b>28-Sep-22</b>						
DE9010	90% Design Development	40	27-Jun-22	22-Aug-22		█				
DE9020	IFC Design	30	27-Jun-22	08-Aug-22		█				
DE9030	90% Confirm GMP / Schedule	25	23-Aug-22	27-Sep-22		█				
DE9040	Owner Review	10	23-Aug-22	06-Sep-22		█				
DE9050	90% Cost Reconciliation & VE Concept Review Workshop	1	28-Sep-22	28-Sep-22						
<b>Early Procurement</b>		<b>229</b>	<b>12-Jan-22</b>	<b>05-Dec-22</b>						
EW1010	Early Work Procurement	5	12-Jan-22	18-Jan-22						
<b>Early Procurement</b>		<b>224</b>	<b>19-Jan-22</b>	<b>05-Dec-22</b>						
<b>Well Pumps</b>		<b>155</b>	<b>19-Jan-22</b>	<b>25-Aug-22</b>						
A31320	Procure Well Pumps	20	19-Jan-22	15-Feb-22		█				
A31330	Submit Well Pumps	20	16-Feb-22	15-Mar-22		█				
A31340	Owner / Engineer Approve Well Pumps	10	16-Mar-22	29-Mar-22		█				
A31450	Fab Well Pumps	100	30-Mar-22	18-Aug-22		█				
A31460	Del Well Pumps	5	19-Aug-22	25-Aug-22						
<b>Pretreatment Equipment</b>		<b>115</b>	<b>19-Jan-22</b>	<b>29-Jun-22</b>						
A31360	Procure Pretreatment Equipment	20	19-Jan-22	15-Feb-22		█				
A31370	Submit Pretreatment Equipment	20	16-Feb-22	15-Mar-22		█				
A31380	Owner / Engineer Approve Pretreatment Equipment	10	16-Mar-22	29-Mar-22		█				
A31470	Fab Pretreatment Equipment	60	30-Mar-22	22-Jun-22		█				
A31480	Del Pretreatment Equipment	5	23-Jun-22	29-Jun-22						
<b>NF Process Equipment</b>		<b>225</b>	<b>19-Jan-22</b>	<b>05-Dec-22</b>						
A31390	Procure NF Process Equipment	20	19-Jan-22	15-Feb-22		█				

Start Date : 22-Jun-21  
 Finish Date : 24-Jan-24  
 Data Date : 22-Jun-21  
 Print Date : 16-Jul-21 - 16:23

- █ Actual Work
- █ Remainin...
- █ Critical Re...
- ◆ Milestone

Riviera Beach Blue Heron WTP  
Project Schedule



EXCLUDED FROM PAGE COUNT

# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021	2022	2023	2024	2025	2026
A31400	Submit NF Process Equipment	40	16-Feb-22	12-Apr-22		█				
A31410	Owner / Engineer Approve NF Process Equipment	10	13-Apr-22	26-Apr-22		█				
A31490	Fab NF Process Equipment	150	27-Apr-22	28-Nov-22		█				
A31500	Del NF Process Equipment	5	29-Nov-22	05-Dec-22			█			
<b>Post Treatment Equipment</b>		115	19-Jan-22	29-Jun-22						
A31420	Procure Post Treatment Equipment	20	19-Jan-22	15-Feb-22		█				
A31430	Submit Post Treatment Equipment	20	16-Feb-22	15-Mar-22		█				
A31440	Owner / Engineer Approve Post Treatment Equipment	10	16-Mar-22	29-Mar-22		█				
A31510	Fab Post Treatment Equipment	60	30-Mar-22	22-Jun-22		█				
A31520	Del Post Treatment Equipment	5	23-Jun-22	29-Jun-22			█			
<b>High Service Pumps</b>		155	19-Jan-22	25-Aug-22						
A31530	Procure High Service Pumps	20	19-Jan-22	15-Feb-22		█				
A31540	Submit High Service Pumps	20	16-Feb-22	15-Mar-22		█				
A31550	Owner / Engineer Approve High Service Pumps	10	16-Mar-22	29-Mar-22		█				
A31560	Fab High Service Pumps	100	30-Mar-22	18-Aug-22		█				
A31570	Del High Service Pumps	5	19-Aug-22	25-Aug-22			█			
<b>Procurement</b>		119	27-Jun-22	14-Dec-22						
PM1010	Begin Remaining Procurement	5	27-Jun-22	01-Jul-22					█	
<b>014529 - Testing Laboratory Services</b>		20	04-Jul-22	29-Jul-22						
014529P	Procure Testing Laboratory Services	5	04-Jul-22	08-Jul-22					█	
014529S	Submit Testing Laboratory Services	5	11-Jul-22	15-Jul-22					█	
014529A	Owner / Engineer Approve Testing Laboratory Services	10	18-Jul-22	29-Jul-22					█	
<b>024100 - Demolition</b>		25	04-Jul-22	05-Aug-22						
024100P	Procure Demolition	10	04-Jul-22	15-Jul-22					█	
024100S	Submit Demolition	5	18-Jul-22	22-Jul-22					█	
024100A	Owner / Engineer Approve Demolition	10	25-Jul-22	05-Aug-22					█	
<b>033000 - Cast In Place Concrete</b>		20	05-Jul-22	01-Aug-22						
330000P	Procure Cast In Place Conc	5	05-Jul-22	11-Jul-22					█	
330000S	Submit Cast In Place Conc	5	12-Jul-22	18-Jul-22					█	
330000A	Owner / Engineer Approve Cast In Place Conc	10	19-Jul-22	01-Aug-22					█	
<b>040000 - Masonry</b>		25	04-Jul-22	05-Aug-22						
040000P	Procure Masonry	10	04-Jul-22	15-Jul-22					█	
040000S	Submit Masonry	5	18-Jul-22	22-Jul-22					█	
040000A	Owner / Engineer Approve Masonry	10	25-Jul-22	05-Aug-22					█	
<b>055000 - Metal Fabrications</b>		70	04-Jul-22	07-Oct-22						

Start Date : 22-Jun-21  
 Finish Date : 24-Jan-24  
 Data Date : 22-Jun-21  
 Print Date : 16-Jul-21 - 16:23

- █ Actual Work
- █ Remainin...
- █ Critical Re...
- ◆ Milestone

Riviera Beach Blue Heron WTP  
 Project Schedule



EXCLUDED FROM PAGE COUNT



# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021												2022												2023												2024												2025												2026																							
055000P	Procure Metal Fabrications	10	04-Jul-22	15-Jul-22																																																																									█ Procure Metal Fabrications											
055000S	Submit Metal Fabrications	20	18-Jul-22	12-Aug-22																																																																									█ Submit Metal Fabrications											
055000A	Owner / Engineer Approve Metal Fabrications	10	15-Aug-22	26-Aug-22																																																																									█ Owner / Engineer Approve Metal Fabrications											
055000F	Fab Metal Fabrications	25	29-Aug-22	30-Sep-22																																																																									█ Fab Metal Fabrications											
055000D	Del Metal Fabrications	5	03-Oct-22	07-Oct-22																																																																									█ Del Metal Fabrications											
<b>079200 - Sealants And Caulking</b>		<b>30</b>	<b>04-Jul-22</b>	<b>12-Aug-22</b>																																																																																				
079200P	Procure Sealants & Caulking	10	04-Jul-22	15-Jul-22																																																																									█ Procure Sealants & Caulking											
079200S	Submit Sealants & Caulking	5	18-Jul-22	22-Jul-22																																																																									█ Submit Sealants & Caulking											
079200A	Owner / Engineer Approve Sealants & Caulking	10	25-Jul-22	05-Aug-22																																																																									█ Owner / Engineer Approve Sealants & Caulking											
079200D	Del Sealants & Caulking	5	08-Aug-22	12-Aug-22																																																																									█ Del Sealants & Caulking											
<b>081113 - Hollow Metal Doors And Frames</b>		<b>50</b>	<b>04-Jul-22</b>	<b>09-Sep-22</b>																																																																																				
081113P	Procure Hollow Metal Doors & Frames	10	04-Jul-22	15-Jul-22																																																																									█ Procure Hollow Metal Doors & Frames											
081113S	Submit Hollow Metal Doors & Frames	5	18-Jul-22	22-Jul-22																																																																									█ Submit Hollow Metal Doors & Frames											
081113A	Owner / Engineer Approve Hollow Metal Doors & Frames	10	25-Jul-22	05-Aug-22																																																																									█ Owner / Engineer Approve Hollow Metal Doors & Frames											
081113F	Fab Hollow Metal Doors & Frames	20	08-Aug-22	02-Sep-22																																																																									█ Fab Hollow Metal Doors & Frames											
081113D	Del Hollow Metal Doors & Frames	5	05-Sep-22	09-Sep-22																																																																									█ Del Hollow Metal Doors & Frames											
<b>084113 - Aluminum-Framed Entrances And Storefronts</b>		<b>60</b>	<b>04-Jul-22</b>	<b>23-Sep-22</b>																																																																																				
084113P	Procure Aluminum-Framed Entrances & Storefronts	10	04-Jul-22	15-Jul-22																																																																									█ Procure Aluminum-Framed Entrances & Storefronts											
084113S	Submit Aluminum-Framed Entrances & Storefronts	5	18-Jul-22	22-Jul-22																																																																									█ Submit Aluminum-Framed Entrances & Storefronts											
084113A	Owner / Engineer Approve Aluminum-Framed Entrances & Storefronts	10	25-Jul-22	05-Aug-22																																																																									█ Owner / Engineer Approve Aluminum-Framed Entrances & Storefronts											
084113F	Fab Aluminum-Framed Entrances & Storefronts	30	08-Aug-22	16-Sep-22																																																																									█ Fab Aluminum-Framed Entrances & Storefronts											
084113D	Del Aluminum-Framed Entrances & Storefronts	5	19-Sep-22	23-Sep-22																																																																									█ Del Aluminum-Framed Entrances & Storefronts											
<b>087111 - Door Hardware (Descriptive Specification)</b>		<b>60</b>	<b>04-Jul-22</b>	<b>23-Sep-22</b>																																																																																				
087111P	Procure Door Hardware (Descriptive Specification)	10	04-Jul-22	15-Jul-22																																																																									█ Procure Door Hardware (Descriptive Specification)											
087111S	Submit Door Hardware (Descriptive Specification)	5	18-Jul-22	22-Jul-22																																																																									█ Submit Door Hardware (Descriptive Specification)											
087111A	Owner / Engineer Approve Door Hardware (Descriptive Specification)	10	25-Jul-22	05-Aug-22																																																																									█ Owner / Engineer Approve Door Hardware (Descriptive Specification)											
087111F	Fab Door Hardware (Descriptive Specification)	30	08-Aug-22	16-Sep-22																																																																									█ Fab Door Hardware (Descriptive Specification)											
087111D	Del Door Hardware (Descriptive Specification)	5	19-Sep-22	23-Sep-22																																																																									█ Del Door Hardware (Descriptive Specification)											
<b>099015 - Paint</b>		<b>25</b>	<b>04-Jul-22</b>	<b>05-Aug-22</b>																																																																																				
099015P	Procure Paint	10	04-Jul-22	15-Jul-22																																																																									█ Procure Paint											
099015S	Submit Paint	5	18-Jul-22	22-Jul-22																																																																									█ Submit Paint											
099015A	Owner / Engineer Approve Paint	10	25-Jul-22	05-Aug-22																																																																									█ Owner / Engineer Approve Paint											
<b>400506 - Electrical</b>		<b>115</b>	<b>04-Jul-22</b>	<b>09-Dec-22</b>																																																																																				
400506P	Procure Electrical	20	04-Jul-22	29-Jul-22																																																																									█ Procure Electrical											
400506S	Submit Electrical	20	01-Aug-22	26-Aug-22																																																																									█ Submit Electrical											

Start Date : 22-Jun-21  
 Finish Date : 24-Jan-24  
 Data Date : 22-Jun-21  
 Print Date : 16-Jul-21 - 16:23

- █ Actual Work
- █ Remainin...
- █ Critical Re...
- ◆ Milestone

Riviera Beach Blue Heron WTP  
 Project Schedule



EXCLUDED FROM PAGE COUNT



# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021	2022	2023	2024	2025	2026
400506A	Owner / Engineer Approve Electrical	10	29-Aug-22	09-Sep-22						
400506F	Fab Process Electrical	60	12-Sep-22	02-Dec-22						
400506D	Del Process Electrical	5	05-Dec-22	09-Dec-22						
<b>312000 - Earthwork</b>		<b>50</b>	<b>05-Jul-22</b>	<b>13-Sep-22</b>						
312000P	Procure Earthwork	20	05-Jul-22	01-Aug-22						
312000S	Submit Earthwork	20	02-Aug-22	29-Aug-22						
312000A	Owner / Engineer Approve Earthwork	10	30-Aug-22	13-Sep-22						
<b>321216 - Asphalt Paving</b>		<b>25</b>	<b>04-Jul-22</b>	<b>05-Aug-22</b>						
321216P	Procure Asphalt Paving	10	04-Jul-22	15-Jul-22						
321216S	Submit Asphalt Paving	5	18-Jul-22	22-Jul-22						
321216A	Owner / Engineer Approve Asphalt Paving	10	25-Jul-22	05-Aug-22						
<b>402000 - Process Piping</b>		<b>115</b>	<b>05-Jul-22</b>	<b>14-Dec-22</b>						
402000P	Procure Process Piping	20	05-Jul-22	01-Aug-22						
402000S	Submit Process Piping	20	02-Aug-22	29-Aug-22						
402000A	Owner / Engineer Approve Process Piping	10	30-Aug-22	13-Sep-22						
402000F	Fab Process Piping	60	14-Sep-22	07-Dec-22						
402000D	Del Process Piping	5	08-Dec-22	14-Dec-22						
<b>402700 - Liquid Process Valves</b>		<b>100</b>	<b>04-Jul-22</b>	<b>18-Nov-22</b>						
402700P	Procure Liquid Process Valves	10	04-Jul-22	15-Jul-22						
402700S	Submit Liquid Process Valves	15	18-Jul-22	05-Aug-22						
402700A	Owner / Engineer Approve Liquid Process Valves	10	08-Aug-22	19-Aug-22						
402700F	Fab Liquid Process Valves	60	22-Aug-22	11-Nov-22						
402700D	Del Liquid Process Valves	5	14-Nov-22	18-Nov-22						
<b>405000 - Instrumentation</b>		<b>110</b>	<b>04-Jul-22</b>	<b>02-Dec-22</b>						
405000P	Procure Instrumentation	20	04-Jul-22	29-Jul-22						
405000S	Submit Instrumentation	15	01-Aug-22	19-Aug-22						
405000A	Owner / Engineer Approve Instrumentation	10	22-Aug-22	02-Sep-22						
405000F	Fab Field Instrumentation	60	05-Sep-22	25-Nov-22						
405000D	Del Field Instrumentation	5	28-Nov-22	02-Dec-22						
<b>Construction</b>		<b>473</b>	<b>23-Mar-22</b>	<b>24-Jan-24</b>						
<b>Project General</b>		<b>412</b>	<b>13-Jun-22</b>	<b>24-Jan-24</b>						
PG1010	Mobilize	15	13-Jun-22	01-Jul-22						
PG9999	Demobilization	10	11-Jan-24	24-Jan-24						
<b>Construction</b>		<b>463</b>	<b>23-Mar-22</b>	<b>10-Jan-24</b>						
Avenue L		378	10-Jun-22	30-Nov-23						

Start Date : 22-Jun-21 Finish Date :24-Jan-24 Data Date : 22-Jun-21 Print Date : 16-Jul-21 - 16:23	<ul style="list-style-type: none"> <li><span style="color: blue;">■</span> Actual Work</li> <li><span style="color: green;">■</span> Remainin...</li> <li><span style="color: red;">■</span> Critical Re...</li> <li>◆ Milestone</li> </ul>	Riviera Beach Blue Heron WTP Project Schedule	
---	---	--	--



EXCLUDED FROM PAGE COUNT

# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021												2022												2023												2024												2025												2026																										
<b>Sitework / Site Improvements</b>					176	14-Sep-22	23-May-23																																																																																				
SW1010	Erosion Control & Silt Fencing	5	14-Sep-22	20-Sep-22																									Erosion Control & Silt Fencing																																																														
SW1020	Site Survey & Layout	5	21-Sep-22	27-Sep-22																									Site Survey & Layout																																																														
SW1030	Site Grading	5	28-Sep-22	04-Oct-22																									Site Grading																																																														
SW1040	Yard Piping (Potable Water Mains, etc.)	40	05-Oct-22	30-Nov-22																									█ Yard Piping (Potable Water Mains, etc.)																																																														
SW1050	Storm Water Drainage Systems (Culverts, Manholes, etc.)	15	02-Dec-22	22-Dec-22																									█ Storm Water Drainage Systems (Culverts, Manholes, etc.)																																																														
SW1060	Misc. Site Utilities	15	23-Dec-22	16-Jan-23																									█ Misc. Site Utilities																																																														
SW1070	Site Electrical & Ductbanks	30	17-Jan-23	27-Feb-23																									█ Site Electrical & Ductbanks																																																														
SW1090	Asphalt Paving & Parking	20	28-Feb-23	27-Mar-23																									█ Asphalt Paving & Parking																																																														
SW1080	Security Guard House	15	28-Feb-23	20-Mar-23																									█ Security Guard House																																																														
SW1100	Video Surveillance, Access Control, and Alarm Systems (Around Site & Select Bldg)	10	28-Mar-23	10-Apr-23																									Video Surveillance, Access Control, and Alarm Systems																																																														
SW1110	Plant Signage	15	11-Apr-23	01-May-23																									█ Plant Signage																																																														
SW1120	Site Fencing	5	02-May-23	08-May-23																									Site Fencing																																																														
SW1130	Landscaping	10	09-May-23	23-May-23																									█ Landscaping																																																														
<b>Deep Injection Well / Concentrate Boost PS</b>					166	07-Jul-22	01-Mar-23																																																																																				
SP2010	Deep Injection Well & Assc. Piping	120	07-Jul-22	23-Dec-22																									█ Deep Injection Well & Assc. Piping																																																														
SP2020	Force Main	30	11-Nov-22	23-Dec-22																									█ Force Main																																																														
SP2030	Concentrate Booster Pump	10	30-Dec-22	13-Jan-23																									█ Concentrate Booster Pump																																																														
SP2040	Electrical & Instrumentation	20	16-Jan-23	10-Feb-23																									█ Electrical & Instrumentation																																																														
SP2050	System Startup & Commissioning	10	16-Feb-23	01-Mar-23																									█ System Startup & Commissioning																																																														
<b>Raw Water Wells</b>					344	10-Jun-22	16-Oct-23																																																																																				
GC1010	Raw Water Well 1 & 2	180	10-Jun-22	23-Feb-23																									█ Raw Water Well 1 & 2																																																														
GC1020	Raw Water Well 1 & 2 Force Main	200	10-Jun-22	23-Mar-23																									█ Raw Water Well 1 & 2 Force Main																																																														
GC1030	Startup & Commission - Raw Water Wells & Force Main	40	21-Aug-23	16-Oct-23																									█ Startup & Commission - Raw Water Wells & Force Main																																																														
<b>Utility &amp; Public Works Admin Bldg.</b>					360	05-Jul-22	30-Nov-23																																																																																				
UP1010	Underslab Rough-In	10	05-Jul-22	18-Jul-22																									█ Underslab Rough-In																																																														
UP1020	Concrete Footings/Foundation	20	02-Aug-22	29-Aug-22																									█ Concrete Footings/Foundation																																																														
UP1030	Slab on Grade	20	30-Aug-22	27-Sep-22																									█ Slab on Grade																																																														
UP1040	Concrete Wall Panels	55	28-Sep-22	14-Dec-22																									█ Concrete Wall Panels																																																														
UP1050	Roofing	20	15-Dec-22	13-Jan-23																									█ Roofing																																																														
UP1060	Hurricane Rated Windows & Storefronts	30	16-Jan-23	24-Feb-23																									█ Hurricane Rated Windows & Storefronts																																																														
UP1070	Mechanical	30	27-Feb-23	07-Apr-23																									█ Mechanical																																																														
UP1080	Electrical	60	13-Mar-23	05-Jun-23																									█ Electrical																																																														
UP1090	Plumbing	30	06-Jun-23	18-Jul-23																									█ Plumbing																																																														
UP1100	Finishes	80	19-Jul-23	08-Nov-23																									█ Finishes																																																														
UP1110	FF&E	15	09-Nov-23	30-Nov-23																									█ FF&E																																																														

Start Date : 22-Jun-21	Actual Work	Riviera Beach Blue Heron WTP Project Schedule	
Finish Date : 24-Jan-24	Remainin...		
Data Date : 22-Jun-21	Critical Re...		
Print Date : 16-Jul-21 - 16:23	Milestone		





# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021	2022	2023	2024	2025	2026
<b>Nano Filtration Process Bldg</b>										
NF1010	Underslab Rough-In	20	05-Jul-22	01-Aug-22			■ Underslab Rough-In			
NF1020	Concrete Footings/Foundation	25	02-Aug-22	06-Sep-22			■ Concrete Footings/Foundation			
NF1030	Slab on Grade	15	07-Sep-22	27-Sep-22			■ Slab on Grade			
NF1040	CMU Walls	30	28-Sep-22	08-Nov-22			■ CMU Walls			
NF1050	Roofing	10	09-Nov-22	22-Nov-22			■ Roofing			
NF1060	Monorail & Hoist System	5	23-Nov-22	30-Nov-22			■ Monorail & Hoist System			
NF1070	Overhead Doors	5	23-Nov-22	30-Nov-22			■ Overhead Doors			
NF1080	Painting/Coatings	10	01-Dec-22	14-Dec-22			■ Painting/Coatings			
NF1100	Pretreatment Equipment	15	15-Dec-22	06-Jan-23			■ Pretreatment Equipment			
NF1090	Finishes	45	15-Dec-22	17-Feb-23			■ Finishes			
NF1110	NF Equipment	20	09-Jan-23	03-Feb-23			■ NF Equipment			
NF1120	Post Treatment Equipment	15	06-Feb-23	24-Feb-23			■ Post Treatment Equipment			
NF1130	Process Piping , Mechanical and Pump	60	27-Feb-23	19-May-23			■ Process Piping , Mechanical and Pump			
NF1140	Electrical & Instrumentation	40	23-May-23	18-Jul-23			■ Electrical & Instrumentation			
NF1150	Building Mechanical	15	20-Jul-23	09-Aug-23			■ Building Mechanical			
NF1160	Misc. Metals	10	07-Aug-23	18-Aug-23			■ Misc. Metals			
NF1170	System Startup & Commissioning	20	21-Aug-23	18-Sep-23			■ System Startup & Commissioning			
<b>Ground Storage Tank</b>										
GS1010	Under Slab Rough-In	20	14-Sep-22	11-Oct-22			■ Under Slab Rough-In			
GS1030	Pre-Stressed Concrete Tank	60	12-Oct-22	06-Jan-23			■ Pre-Stressed Concrete Tank			
GS1040	7 Day Hydrostatic Testing	21	07-Jan-23	27-Jan-23			■ 7 Day Hydrostatic Testing			
GS1050	Process Piping & Mechanical	30	30-Jan-23	10-Mar-23			■ Process Piping & Mechanical			
GS1060	Equipment Startup & Commissioning	20	13-Mar-23	07-Apr-23			■ Equipment Startup & Commissioning			
<b>De-Gasification and Mixing</b>										
DG1010	Underslab Rough-In	20	23-Nov-22	21-Dec-22			■ Underslab Rough-In			
DG1020	Concrete Footings/Foundation	20	22-Dec-22	20-Jan-23			■ Concrete Footings/Foundation			
DG1030	Slab on Grade	25	23-Jan-23	24-Feb-23			■ Slab on Grade			
DG1040	Process Piping & Mechanical	30	27-Feb-23	07-Apr-23			■ Process Piping & Mechanical			
DG1050	Chemical Storage & Mixing Tanks	15	10-Apr-23	28-Apr-23			■ Chemical Storage & Mixing Tanks			
DG1060	Degasification & Mixing Equipment	20	01-May-23	29-May-23			■ Degasification & Mixing Equipment			
DG1070	Emergency Plumbing Fixtures	10	30-May-23	12-Jun-23			■ Emergency Plumbing Fixtures			
DG1080	Electrical & Instrumentation	30	13-Jun-23	25-Jul-23			■ Electrical & Instrumentation			
DG1090	Equipment Startup & Commissioning	20	21-Aug-23	18-Sep-23			■ Equipment Startup & Commissioning			
<b>High Service Pump Station</b>										
HP1010	Underslab Rough-In	15	14-Sep-22	04-Oct-22			■ Underslab Rough-In			

Start Date : 22-Jun-21  
 Finish Date :24-Jan-24  
 Data Date : 22-Jun-21  
 Print Date : 16-Jul-21 - 16:23

- Actual Work
- Remainin...
- Critical Re...
- ◆ Milestone

Riviera Beach Blue Heron WTP  
 Project Schedule



EXCLUDED FROM PAGE COUNT



# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021	2022	2023	2024	2025	2026
HP1020	Concrete Footings/Foundation	20	05-Oct-22	01-Nov-22			█ Concrete Footings/Foundation			
HP1030	Slab on Grade	5	02-Nov-22	08-Nov-22			█ Slab on Grade			
HP1040	CMU Walls	15	09-Nov-22	30-Nov-22			█ CMU Walls			
HP1050	Roofing	10	01-Dec-22	14-Dec-22			█ Roofing			
HP1060	Process Piping & Mechanical	20	15-Dec-22	13-Jan-23			█ Process Piping & Mechanical			
HP1070	Finishes	20	16-Jan-23	10-Feb-23			█ Finishes			
HP1080	Electrical & Instrumentation	20	13-Feb-23	10-Mar-23			█ Electrical & Instrumentation			
HP1090	Building Mechanical	15	13-Mar-23	31-Mar-23			█ Building Mechanical			
HP1100	Equipment Startup & Commissioning	10	03-Apr-23	14-Apr-23			█ Equipment Startup & Commissioning			
<b>Utility Maintenance Bldg</b>		<b>205</b>	<b>23-Nov-22</b>	<b>13-Sep-23</b>						
UM1010	Underslab Rough-In	15	23-Nov-22	14-Dec-22			█ Underslab Rough-In			
UM1020	Concrete Footings/Foundation	20	15-Dec-22	13-Jan-23			█ Concrete Footings/Foundation			
UM1030	Slab on Grade	10	16-Jan-23	27-Jan-23			█ Slab on Grade			
UM1040	CMU Walls	20	30-Jan-23	24-Feb-23			█ CMU Walls			
UM1050	Roofing	10	27-Feb-23	10-Mar-23			█ Roofing			
UM1060	Overhead Doors	10	13-Mar-23	24-Mar-23			█ Overhead Doors			
UM1070	Mechanical	20	27-Mar-23	21-Apr-23			█ Mechanical			
UM1080	Electrical	40	24-Apr-23	19-Jun-23			█ Electrical			
UM1090	Plumbing	20	20-Jun-23	18-Jul-23			█ Plumbing			
UM1100	Finishes	30	19-Jul-23	29-Aug-23			█ Finishes			
UM1110	FF&E	10	30-Aug-23	13-Sep-23			█ FF&E			
<b>Public Works / Fleet Service Bldg</b>		<b>200</b>	<b>23-Nov-22</b>	<b>06-Sep-23</b>						
FS1010	Underslab Rough-In	10	23-Nov-22	07-Dec-22			█ Underslab Rough-In			
FS1020	Concrete Footings/Foundation	20	08-Dec-22	06-Jan-23			█ Concrete Footings/Foundation			
FS1030	Slab on Grade	10	09-Jan-23	20-Jan-23			█ Slab on Grade			
FS1040	CMU Walls	20	23-Jan-23	17-Feb-23			█ CMU Walls			
FS1050	Roofing	10	20-Feb-23	03-Mar-23			█ Roofing			
FS1060	Overhead Doors	10	06-Mar-23	17-Mar-23			█ Overhead Doors			
FS1070	Mechanical	20	20-Mar-23	14-Apr-23			█ Mechanical			
FS1080	Electrical	40	17-Apr-23	12-Jun-23			█ Electrical			
FS1090	Plumbing	20	13-Jun-23	11-Jul-23			█ Plumbing			
FS1100	Finishes	30	12-Jul-23	22-Aug-23			█ Finishes			
FS1110	FF&E	10	23-Aug-23	06-Sep-23			█ FF&E			
<b>Plant Water Quality Laboratory</b>		<b>212</b>	<b>05-Jul-22</b>	<b>02-May-23</b>						
PL1010	Underslab Rough-In	20	05-Jul-22	01-Aug-22			█ Underslab Rough-In			
PL1020	Concrete Footings/Foundation	20	02-Aug-22	29-Aug-22			█ Concrete Footings/Foundation			

Start Date : 22-Jun-21 Finish Date : 24-Jan-24 Data Date : 22-Jun-21 Print Date : 16-Jul-21 - 16:23	<ul style="list-style-type: none"> <li>█ Actual Work</li> <li>█ Remainin...</li> <li>█ Critical Re...</li> <li>◆ Milestone</li> </ul>	Riviera Beach Blue Heron WTP Project Schedule	
--	---	--	--

# High Level Draft Project Timeline (cont.)

Activity ID	Activity Name	Orig Dur	Start	Finish	2021												2022												2023												2024												2025												2026											
PL1030	Slab on Grade	10	30-Aug-22	13-Sep-22																									■ Slab on Grade																																															
PL1040	CMU Walls	15	14-Sep-22	04-Oct-22																									■ CMU Walls																																															
PL1050	Roofing	10	05-Oct-22	18-Oct-22																									■ Roofing																																															
PL1060	Building Mechanical	20	19-Oct-22	15-Nov-22																									■ Building Mechanical																																															
PL1070	Electrical	40	12-Dec-22	07-Feb-23																									■ Electrical																																															
PL1080	Plumbing	20	08-Feb-23	07-Mar-23																									■ Plumbing																																															
PL1090	Finishes	30	08-Mar-23	18-Apr-23																									■ Finishes																																															
PL1100	FF&E	10	19-Apr-23	02-May-23																									■ FF&E																																															
<b>Avenue U</b>		<b>459</b>	<b>23-Mar-22</b>	<b>10-Jan-24</b>																																																																								
<b>Site Work / Site Improvements</b>		<b>111</b>	<b>23-Mar-22</b>	<b>26-Aug-22</b>																																																																								
SW1210	Site Fencing & Signage	5	23-Mar-22	29-Mar-22																									■ Site Fencing & Signage																																															
SW1220	Erosion Control & Silt Fencing	2	30-Mar-22	31-Mar-22																									■ Erosion Control & Silt Fencing																																															
SW1230	Site Survey & Layout	1	01-Apr-22	01-Apr-22																									■ Site Survey & Layout																																															
SW1240	Site Grading	5	01-Apr-22	07-Apr-22																									■ Site Grading																																															
SW1250	Site Electrical & Ductbanks	10	07-Apr-22	20-Apr-22																									■ Site Electrical & Ductbanks																																															
SW1260	Layout Temporary Large Construction Materials Laydown/Storage Area	1	21-Apr-22	21-Apr-22																									■ Layout Temporary Large Construction Materials Laydown/Storage Area																																															
SW1270	Loose Material Bins	10	22-Apr-22	05-May-22																									■ Loose Material Bins																																															
SW1280	Loading/Unloading Pads for Storage Areas	2	06-May-22	09-May-22																									■ Loading/Unloading Pads for Storage Areas																																															
SW1290	Misc. Site Concrete	20	10-May-22	07-Jun-22																									■ Misc. Site Concrete																																															
SW1300	Asphalt Paving & Parking	5	08-Aug-22	12-Aug-22																									■ Asphalt Paving & Parking																																															
SW1310	Video Surveillance, Access Control, and Alarm Systems (Around Site & Select Bldg)	10	15-Aug-22	26-Aug-22																									■ Video Surveillance, Access Control, and Alarm Systems (Around Site & Select Bldg)																																															
<b>Existing Storage Bldg.</b>		<b>30</b>	<b>01-Apr-22</b>	<b>12-May-22</b>																																																																								
ES1010	Converting of Existing Bldg. into new Storage Bldg.	30	01-Apr-22	12-May-22																									■ Converting of Existing Bldg. into new Storage Bldg.																																															
<b>Covered Equipment Storage</b>		<b>60</b>	<b>05-Jul-22</b>	<b>27-Sep-22</b>																																																																								
CE1010	Covered Utility Storage Structure	15	05-Jul-22	25-Jul-22																									■ Covered Utility Storage Structure																																															
CE1020	Solar Powered Roofing System for Utility Storage Structure	10	26-Jul-22	08-Aug-22																									■ Solar Powered Roofing System for Utility Storage Structure																																															
CE1030	Covered Large Equipment Storage Structure	20	09-Aug-22	06-Sep-22																									■ Covered Large Equipment Storage Structure																																															
CE1040	Solar Powered Roofing System for Large Equipment Storage Structure	15	07-Sep-22	27-Sep-22																									■ Solar Powered Roofing System for Large Equipment Storage Structure																																															
<b>Start-Up &amp; Closeout</b>		<b>59</b>	<b>17-Oct-23</b>	<b>10-Jan-24</b>																																																																								
SU1010	Functional Testing	10	17-Oct-23	30-Oct-23																																																													■ Functional Testing											
SU1020	Plant Commissioning	20	31-Oct-23	28-Nov-23																																																													■ Plant Commissioning											
SU1030	Punchlist	15	19-Dec-23	10-Jan-24																																																													■ Punchlist											

Start Date : 22-Jun-21 Finish Date :24-Jan-24 Data Date : 22-Jun-21 Print Date : 16-Jul-21 - 16:23	<ul style="list-style-type: none"> <li><span style="color: blue;">■</span> Actual Work</li> <li><span style="color: green;">■</span> Remainin...</li> <li><span style="color: red;">■</span> Critical Re...</li> <li>◆ Milestone</li> </ul>	<p>Riviera Beach Blue Heron WTP</p> <p>Project Schedule</p>	
---	---	---	---



## Tab 7 | Local Vendor Preference

# 7. Local Vendor Preference

## Local Vendor Presence

*Under the City's Procurement Code, the City has a preference for local businesses. A local business, for the purposes of the application of the local vendor preference, means a bidder which has a permanent, physical place of business within the corporate city limits, and a valid business tax receipt and certificate of occupancy applicable to the required goods, services, or construction items being procured.*

### Keeping Project Investment Dollars Local

Our Team has always taken great efforts to support local businesses in the communities where we work. We are keenly aware of the District's local vendor preference and we have already begun efforts to identify local firms and vendors to support the execution of this contract. The Haskell-CDM Smith Team will honor a commitment to include local vendors and subcontractors in all phases of its procurement process.

We understand that the District requires a 25% participation goal for local businesses as subcontractors and a 15% participation goal for local vendor preference. **The Haskell-CDM Smith Team is committed to meet or exceed both of these goals over the course of the entire project (both phase I design and phase II construction).**

The forms that are attached at the end of this tab comprise our initial invitations to local and SBE subcontractors for phase 1 services.

As the scope of supply and the corresponding price for the project is developed during phase I and culminates in a Guaranteed Maximum Price (GMP) at the 60% design phase, we will identify the remaining small business enterprise and local vendor participants to meet or exceed the stated goals above.

To achieve our commitment to meet or exceed the City of Riviera Beach's 25% participation goal for local businesses as subcontractors and a 15% participation goal for local vendor preference, our approach includes:

- ◆ Maximizing project awareness and interest through local outreach efforts and advertising throughout the Riviera Beach subcontracting community.
- ◆ Engaging local vendors using online and social media campaigns, collaborate with local third-party organizations that support the Riviera Beach contracting community.

- ◆ Schedule project information meetings and invite local vendors, contractors and suppliers to discuss the project, available opportunities, schedule, construction package information, bidding schedule and requirements.
- ◆ Establish a comprehensive source list of local vendors, contractors and suppliers to solicit for goods and services.
- ◆ Build relationships with local vendors, contractors, and local staffing agencies.

### Strengthening the Local Community

We proudly help strengthen local subcontracting communities through our mentor, protégé and apprenticeship programs. Local investment in paid on the job training has a lasting impact with these small businesses and increases the number of skilled construction workers in the community. Our apprenticeship program provides the opportunity to work "hands on" beside the best skilled professions in the industry. Our Team supports local communities and their local businesses through actions that make a difference during and after project completion.

SBE Training Session at Haskell's Offices



Teri Williams, the Team's Business Diversity Manager, Leading SMB Education Events



## Additional Community Outreach

Some of the local Rivera Beach businesses our Team has identified that can potentially contribute to this project:

- ◆ Abel Sheet Metal Works
- ◆ Advanced Concrete Systems
- ◆ All Star Equipment
- ◆ Allied Building Products
- ◆ Altec Banks Cleaning
- ◆ Baron International LLC dba Baron Sign Manufacturing
- ◆ Builders First Source, Inc.
- ◆ Catoe & Son Plumbing, Inc.
- ◆ Certified Slings
- ◆ Cheney Brothers
- ◆ CLA Construction
- ◆ Diversified LLC
- ◆ Farmer & Irwin
- ◆ Ferguson
- ◆ Florida Bolt & Nut
- ◆ Florida Silica Sand
- ◆ Gator Grading Excavating
- ◆ GCME
- ◆ Glasgow
- ◆ GT Supplies
- ◆ Herc Rentals
- ◆ Hinterland
- ◆ K&M Electric Supply
- ◆ Knight Fire and Security
- ◆ MCM Portable Storage
- ◆ Melrose Turf
- ◆ Meyers Turf
- ◆ Motts Commercial Cleaning Co.
- ◆ Overhead Door Co.
- ◆ Palm Beach Hose & Fittings
- ◆ Pipeline Utilities Inc.
- ◆ PSI Technologies
- ◆ R&R Door
- ◆ Reddy Ice
- ◆ Restoration Lawn
- ◆ Sherwin Williams
- ◆ Shoreline Underground
- ◆ Statewide Construction
- ◆ Still Water Industries, Inc.
- ◆ Thyssen-Krupp Elevator
- ◆ Top Notch Concrete
- ◆ Triton Electric
- ◆ Triton Electric Co.
- ◆ US Construction Supply
- ◆ West Gate Sheet Metal, Inc.
- ◆ West Palm Machine & Welding



**HASKELL** **CDM**  
JOINT VENTURE **Smith**



**Tab 8 | SBE/M/WBE Forms**

## 8. SBE/M/WBE Forms

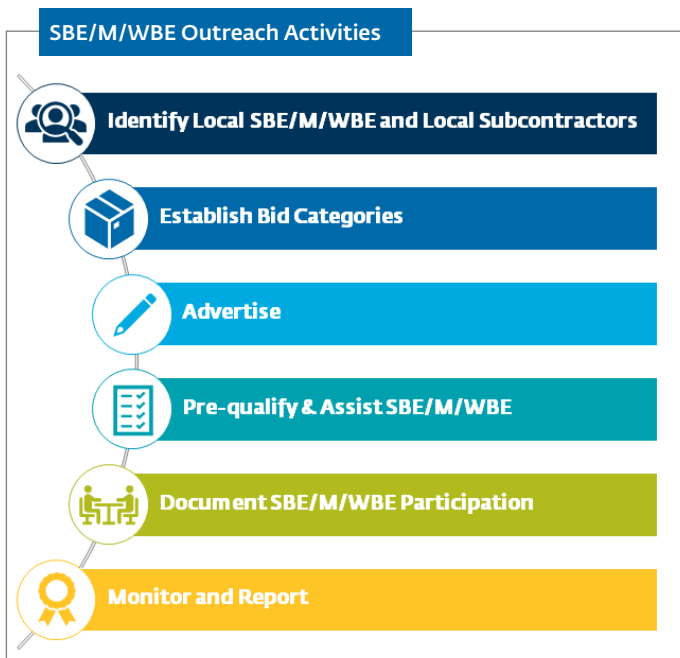
### Enlisting Small, Women, Local, and Minority Owned Enterprises

*Describe how your team members enlists small, women, local, and minority owned business enterprises and involve them in your project.*

The Haskell-CDM Smith Team understands the invaluable contribution small, women, local and minority owned business enterprises (SBE/M/WBE) contribute to projects and the local community. Our successful continuance depends upon perpetual dedication to diversity and a responsibility to provide equitable opportunities for SSBE/M/WBE concerns. We continually seek diverse suppliers and subcontractors to provide value-added services in support of our client's objectives. This in turn ensures our Team supports and cultivating relationships in the Riviera Beach community.

We place emphasis on local economic stimulation for every project awarded in a balanced bid development strategy that supports the scheduled milestones. Our Team is focused on meeting or exceeding your goals for both local vendors and subcontractors that include small, women, local and minority enterprises located in Riviera Beach city limits.

To enlist SBE/M/WBE firms for this project, our supplier diversity team, lead by Teri Williams, will advertise for project awareness and engagement.



Once we identify interested local subcontractors and suppliers we host project informational forums to further engage and involve SBE/M/WBEs.

- ◆ We will provide opportunities for SBE/M/WBE concerns to be identified through the process of reviewing and carefully analyzing the value of potential subcontracting scopes and our knowledge of qualified SBE/M/WBE businesses in the Riviera Beach area.
- ◆ Our project team will work to establish bid categories of the size and scope applicable to interested and qualified SBE/M/WBE businesses.
- ◆ We will solicit and collaborate with local SBE/M/WBE businesses identified through Riviera Beach supplier diversity and Palm Beach County official websites.
- ◆ Teri and her team will perform local outreach to firms. Introduce firms to our team, discuss capabilities, identify potential areas of opportunity, and facilitate the exchange of ideas for forming bid packages.
- ◆ Once we identify interested local subcontractors and suppliers, we will host project informational forums to further engage and involve SBE/M/WBEs.

After selection, and during both Phase I and Phase II of the project, we will maintain statistics on the utilization of SBE/M/WBE and provide monthly subcontractor/supplier utilization report to the District.

As detailed in Tab 7, once selected, our team will support mentoring the SBE/M/WBE firms to build capacity in underutilized service areas. Mentor-Protégé Programs are developed based on the needs of the selected SBE/M/WBE firm.

We provide training in:

- ◆ Project management
- ◆ Managing field operations
- ◆ Technical Support
- ◆ Business Development
- ◆ Fiscal Responsibility

Our team understands the importance of SBE/M/WBE participation and keeping revenue local. The focus on local SBE/M/WBE and community stimulation is an imperative factor for all project awards and is an integral part of the way we conduct business.




## Past Efforts

Our Team has extensive experience, a strong track record and a proud history of SBE/M/WBE achievement. Our success for the projects in the table below were the result of aggressive MBE, WBE and SBE outreach.

### SBE/M/WBE | Past achievements

	SBE	MBE	WBE
Boynton Beach Downtown Development	37.8%	6.1%	10.5%
Venice WTP	44.4%	-	-
Lower Poplar and Rocky Creek WRF Upgrades	26.6%	-	-
Southwest Water Reclamation Facility Upgrades	27.7%	7.1%	8.4%

## Globaltech



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

August 21, 2018

REGISTERED VENDOR NO.: 102030

Mr. Troy L. Lyn, Executive Vice President  
Globaltech, Inc.  
6001 Broken Sound Parkway NW Ste 610  
Boca Raton, FL 33487

CERTIFICATION EXPIRATION DATE  
August 21, 2021

Dear Mr. Lyn:

Congratulations, the South Florida Water Management District (District) has certified your firm as a Small Business Enterprise (SBE). This certification is valid for three (3) years and may only be applied when business is conducted in the following area(s):

**Professional Engineering & General Contracting Services**

*Your submittal of bids or proposals to supply other products or services outside of the specialty area(s) noted above will not count toward SBE participation. If you require certification in other specialty areas, please contact the Procurement Bureau, SBE Section, for additional information.*

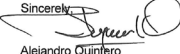
Renewal is required every three (3) years and should be requested a minimum of 45 days prior to the above expiration date.

If any changes occur within your company during the certification period such as ownership, affiliate company status, address, telephone number, licensing status, gross revenue, or any information that relates to your SBE Certification status, you must notify this office in writing immediately. It is imperative that we maintain current information on your company at all times. **FAILURE TO REPORT CHANGES MAY RESULT IN DECERTIFICATION.**

Certification is not a guarantee that your firm will receive work, nor an assurance that your firm will remain in the District's vendor database.

We look forward to a mutually beneficial working relationship.

Sincerely,



Alejandro Quintero  
Sr. Contract Compliance Specialist  
Procurement Bureau

/aq:se

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8900 • 1-800-432-2045  
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

## Schedule 1-4 Forms

For each of the listed firms in the table below, we have included the appropriate Schedule 1-4 forms at the end of this tab.

### Haskell-CDM Smith Team Roles

Globaltech	Plant Operations Continuity and Transition
Radise	Geotechnical Engineering
Acuity Design Group (ADG)	Community Outreach
Brown Electrical Solutions	Electrical Construction
HBC Engineering	Civil/Site Engineering Design
Cooper Construction Management	Maintenance/ Accessory Building(s) General Contractor

## SBE/M/WBE Letters and Certifications

Below and on the following pages, we have also submitted the SBE/M/WBE Letters and Certifications for the above firms.

### Radise



**Woman & Minority Business Certification**

**RADISE International, L.C.**

Is certified under the provisions of  
287 and 295.187, Florida Statutes, for a period from:

07/11/2019 to 07/11/2021



Jonathan R. Satten, Secretary  
Florida Department of Management Services



Office of Supplier Diversity  
4050 Esplanade Way, Suite 380  
Tallahassee, FL 32309  
850-487-0915  
www.dms.myflorida.com/osd

### Acuity Design Group (ADG)

*State of Florida*

**Woman & Minority Business Certification**

**Acuity Design Group**

Is certified under the provisions of  
287 and 295.187, Florida Statutes, for a period from:

01/21/2020 to 01/21/2022

  
Jonathan R. Satter, Secretary  
Florida Department of Management Services


 Office of Supplier Diversity  
4050 Esplanade Way, Suite 380  
Tallahassee, FL 32399  
850-427-0915  
www.dms.myflorida.com/od


### Brown Electrical Solutions

**Palm Beach County**  
**Office of Equal Business Opportunity**  
Certifies That  
**Brown Electrical Solutions, LLC**  
Vendor # VS0000006518

is a Small / Minority Business Enterprise as prescribed by section 2-80.20 – 2-80.40 of the Palm Beach County Code for a three year period from  
**January 30, 2020 - January 29, 2023**  
The following Services and/or Products are covered under this certification:

**Electrical**  
Wiring and other Electrical Maintenance and Repair Services  
Lighting Services for Parks, Athletic Fields, Parking Lots, etc.  
Lighting Fixtures Maintenance and Repair

  
Allen F. Gray, Manager  
1/18/20

 Palm Beach County Board of County Commissioners  
Dave Kerner, Mayor  
Robert S. Weinroth, Vice Mayor  
Hal R. Valicke  
Gregg K. Weiss  
Mary Lou Berger  
Melissa McKinley  
Mack Bernard  
County Administrator  
Verdenia C. Baker

### HBC Engineering

*State of Florida*

**Minority Business Certification**

**HBC ENGINEERING COMPANY**


Is certified under the provisions of  
287 and 295.187, Florida Statutes, for a period from:  
01/19/2021 to 01/19/2023

  
Jonathan R. Satter, Secretary  
Florida Department of Management Services

 Office of Supplier Diversity  
4050 Esplanade Way, Suite 380  
Tallahassee, FL 32399  
850-427-0915  
www.dms.myflorida.com/od

### HBC Engineering

September 24, 2020



HBC Engineering Company  
Attn: Adebayo Coker, P.E., President  
8935 NW 35th Lane, Suite 201  
Doral, Florida 33172

**Department of Engineering and Public Works**  
P.O. Box 21229  
West Palm Beach, FL 33416-1229  
(561) 684-4000  
FAX: (561) 684-4050  
www.pbcegov.com

**RE: CONSULTANT CERTIFICATION WITH PALM BEACH COUNTY**

Dear Mr. Coker:

Enclosed please find your Notice of Professional Consultant Certification with Palm Beach County.

Notice of certification is not a notice of selection and not a guarantee to be selected. Selection for contracts shall be based on a variety of criteria as outlined in the Countywide Policy & Procedure Manual #CW-O-048 available at <http://www.pbcegov.com/publicaffairs/pbpm/pdf/cw-o-048.pdf>. CCNA certification is only one of these requirements.


Qualification data must be updated, when conditions are altered to either increase or reduce the Consultants capabilities, and/or when requested by the Department.

You are required to report changes of address and any significant changes to your manpower, capabilities, or work category qualifications, and provide us with copies of license renewals (corporate/professional).

We request that firms resubmit their CCNA certification package every three years to keep records current. The application forms and instructions can be found at <http://discover.pbcegov.org/engineering/roadwayproduction/Pages/CCNA.aspx>.

To receive notices of new Requests for Proposals to provide professional services to Palm Beach County, your firm can register with the County's Vendor Self Service (VSS) database and select commodity codes at <https://pbcvss.pco.palm-beach.fl.us/webapp/vssp/AllSelfService>.

Should you have any questions please contact me at (561) 684-4122.

Sincerely,  
  
Holly B. Knight, P.E.  
Contracts Section Manager

*"An Equal Opportunity  
Affirmative Action Employer"*

printed on sustainable  
and recycled paper

Enclosure: Notice of Professional Consultant Certification

F:\ROADWAY\CCNA\CCNA CERTIFIED FIRMS\Active\HBC Engineering Company, 1278\HBC Engineering Company\_Cat Letter\_09\_22\_2020.docx

NOTICE OF PROFESSIONAL CONSULTANT CERTIFICATION FORM 1

In accordance with established procedures, the Deputy County Engineer on Sept 23, 2020 certified that you are qualified to provide consulting services to Palm Beach County in the categories of work checked below. Notice of certification is NOT notice of selection.

Firm Name: HBC Engineering Company  
 Address: 8935 NW 35th Lane, Suite 201  
Doral, FL 33172  
 Phone Number: 305-232-7932  
 Fax Number: 305-232-7933

CONTACT INFORMATION:	
Name	Email
1. <u>Adebayo Coker, PE</u>	<u>acoker@hbcengineer.com</u>
2. <u>Edgardo Diaz, PE</u>	<u>ediaz@hbcengineer.com</u>

TRANSPORTATION PLANNING	HIGHWAY DESIGN BRIDGES
<input checked="" type="checkbox"/> 1.01 Urban Area and Regional Transportation Planning	<input checked="" type="checkbox"/> 4.01 Minor Bridges Design
<input type="checkbox"/> 1.02 Aviation Systems Planning	<input type="checkbox"/> 4.02 Major Bridges Design
<input type="checkbox"/> 1.03 Airport Master Planning	<input type="checkbox"/> 4.03 Movable Span Bridge Design
<input checked="" type="checkbox"/> 1.04 Waterways and Ports Planning	
<input type="checkbox"/> 1.05 Mass and Rapid Transit Planning	<input type="checkbox"/> 5.01 Land Surveying
<input type="checkbox"/> 1.06 Alternate Systems and Corridor Location Planning	<input type="checkbox"/> 5.02 Engineering Surveying
<input type="checkbox"/> 1.07 Environmental Studies	<input type="checkbox"/> 5.03 Geodetic Surveying
<input type="checkbox"/> 1.08 Attitude, Opinion and Community Value Studies	<input type="checkbox"/> 5.04 Aerial Photography
	<input type="checkbox"/> 5.05 Aerial Photogrammetry
	<input type="checkbox"/> 5.06 Remote Sensing
	<input type="checkbox"/> 5.07 Cartography
MASS TRANSIT OPERATION	SOILS AND FOUNDATION
<input type="checkbox"/> 2.01 Environmental Systems Research and Development	<input type="checkbox"/> 6.01 Geological and Geophysical Studies
<input type="checkbox"/> 2.02 Airport Design and Operation	<input type="checkbox"/> 6.02 Bridge Foundation studies
<input checked="" type="checkbox"/> 2.03 Port and Waterway Design and Operation	<input type="checkbox"/> 6.03 Pile Foundation Studies
<input type="checkbox"/> 2.04 Mass and Rapid Transit Design and Operation	<input type="checkbox"/> 6.04 Hydraulic and Hydrologic Studies
	<input type="checkbox"/> 6.05 Soil Testing
	<input type="checkbox"/> 6.06 Materials Testing
HIGHWAY DESIGN ROADWAY	ARCHITECTURAL
<input checked="" type="checkbox"/> 3.01 Two-lane or Multi-lane RURAL General Free Access Highways Design	<input type="checkbox"/> 7.01-05 Architect
<input checked="" type="checkbox"/> 3.02 Two-lane or Multi-Lane with Curb and Gutter Generally free Access Highways Design, Including Storm Sewers	<input type="checkbox"/> 7.06 Landscape Architecture
<input checked="" type="checkbox"/> 3.03 Multi-lane RURAL LIMITED ACCESS Expressway Type Highway Design	<input type="checkbox"/> 7.07 Threshold Inspection
<input checked="" type="checkbox"/> 3.04 Pre-Design Engineering Studies and Design of Urban Expressway and Urban Interstate	
<input checked="" type="checkbox"/> 3.05 Traffic Operation Studies	MECHANICAL ENGINEERING
<input checked="" type="checkbox"/> 3.06 Traffic Operation Studies	<input checked="" type="checkbox"/> 8.01 Waste Water Treatment Systems
<input checked="" type="checkbox"/> 3.07 Traffic Control Systems Analysis, Design and Implementation	<input checked="" type="checkbox"/> 8.02 Waste Water Collection Systems
	<input type="checkbox"/> 8.03 Water Supply Treatment Systems
	<input checked="" type="checkbox"/> 8.04 Water Distribution Systems
	<input type="checkbox"/> 8.05 Heating Systems
	<input type="checkbox"/> 8.06 Cooling Systems
	<input type="checkbox"/> 8.07 Specialized Design

9/4/2020 3:23 PM Page 1 of 2 9/4/2020 3:23 PM

# HBC Engineering

**NOTICE OF PROFESSIONAL CONSULTANT CERTIFICATION** FORM 1

Firm Name: HBC Engineering Company

---

<p><b>ELECTRICAL ENGINEERING</b></p> <p><input type="checkbox"/> 9.01 Institutional Facilities</p> <p><input type="checkbox"/> 9.02 Recreational Facilities</p> <p><input type="checkbox"/> 9.03 Industrial Facilities</p> <p><input type="checkbox"/> 9.04 Residential Facilities</p> <p><input checked="" type="checkbox"/> 9.05 Highway Lighting</p> <p><b>STRUCTURAL ENGINEERING</b></p> <p><input checked="" type="checkbox"/> 10.01 Institutional</p> <p><input type="checkbox"/> 10.02 Recreational</p> <p><input type="checkbox"/> 10.03 Industrial</p> <p><input type="checkbox"/> 10.04 Residential</p> <p><b>OCEANOGRAPHY</b></p> <p><input type="checkbox"/> 11.01 Offshore Sand Studies</p> <p><input type="checkbox"/> 11.02 Beach Restoration</p> <p><input type="checkbox"/> 11.03 Underwater Investigation</p>	<p><b>ENVIRONMENTAL ENGINEERING</b></p> <p><input type="checkbox"/> 12.01 Air Quality Investigation and Air Pollution Control</p> <p><input type="checkbox"/> 12.02 Environmental Audit/Site Investigation</p> <p><input type="checkbox"/> 12.03 Soil and Groundwater Contamination Assessment and Remediation System Design</p> <p><input type="checkbox"/> 12.04 Solid/Hazardous Waste Management</p> <p><input type="checkbox"/> 12.05 Industrial Waste Management</p> <p><input type="checkbox"/> 12.06 Water Resource Evaluation and Development</p> <p><input type="checkbox"/> 12.07 Water and Wastewater Treatment Process Design</p> <p><b>OTHER CCNA SERVICES</b></p> <p><input type="checkbox"/> 13.01</p> <p><input type="checkbox"/> 13.02</p> <p><small>** These categories are only to be for services that fall under the FL CCM Statute</small></p>
---	--

Notes:  
 1. Check boxes of the categories in which certification is requested.  
 2. If category is new for the firm, add a single asterisk on the line to the left of the checkbox.  
 3. If firm had a certification in a category but wishes to delete that certification, add a double asterisk on the line to the left of the checkbox.

<p><b>PALM BEACH COUNTY</b></p> <p>By: <u><i>Tanya N. McConnell</i></u></p> <p><small>Tanya N. McConnell, P.E. Deputy County Engineer</small></p> <p>Date: <u>9/22/2020</u></p>	<p><b>CONSULTANT</b></p> <p>By: <u><i>[Signature]</i></u></p> <p>Date: <u>9/4/2020</u></p> <p>Print Name: <u>Adebayo Coker, PE</u></p> <p>Title: <u>President</u></p>
---	---

9/4/2020 3:23 PM
Page 2 of 2
9/4/2020 3:23 PM

# Cooper Construction Management

**Palm Beach County**  
**Office of Equal Business Opportunity**

Certifies That

**Cooper Construction Management & Consulting, Inc.**  
**Vendor # VC0000134125**

*is a Small/Minority Business Enterprise (S/MBE) as prescribed by section 2-80.21 - 2.80.30 of the Palm Beach County Code for a three year period from August 28, 2020 to August 27, 2023*

The following services and/or products are covered under this certification:  
**Administration of Contracts; Summary of Work; Quality Control; Construction Consulting; Construction Management Services; Outreach Services; Painting Services**

  
**Allen Gray, Manager**  
08/28/2020



**Palm Beach County Board of County Commissioners**

Dave Ferrier, Mayor  
 Robert S. Wanslow, Vice Mayor  
 Gregg K. Weiss  
 Mary Lou Berger  
 Melissa McKinley  
 Mack Bernard  
 County Administrator  
 Verdonia C. Baker



SCHEDULE 1

PARTICIPATION FOR SBE CONTRACTORS/PROPOSERS

BID/RFP TITLE: Design Build Finance of Utility Special District Water Treatment Facilities BID NUMBER: RFQ:1039-21-3

NAME OF PRIME PROPOSER: Haskell-CDM Smith JV BID OPENING DATE: 7/20/2021

CONTACT PERSON: Peter M. Kinsley, DBIA TELEPHONE NO. 904-791-4500 DEPARTMENT: Infrastructure & Transportation

CONTRACT AMOUNT – SBE

Table with 3 columns: NAME, ADDRESS & TELEPHONE NUMBER OF SBE CONTRACTOR; TYPE & DESCRIPTION OF WORK TO BE PERFORMED; CERTIFICATION PALM BEACH COUNTY (PBC). Contains 5 entries for various contractors like HBC Engineering Company, Brown Electrical Solutions, Acuity Design Group, Cooper Construction Management & Consulting, INC, and Radise International.

TO BE COMPLETED BY PRIME PROPOSER:

BID/RFP PRICE: \$ TOTAL % PARTICIPATION: See below

The Haskell-CDM Smith Team is committed to meet or exceed the 25% participation goal for local businesses over the course of the entire project (both phase I design and phase II construction).

"The Best Waterfront City in Which to Live, Work and Play."

**SCHEDULE 3**

**PARTICIPATION FOR LOCAL BUSINESSES AS SUB-CONTRACTOR AT LEAST 25% BID**

**TITLE:** Design Build Finance of Utility Special                      **BID NUMBER:** RFQ:1039-21-3  
District Water Treatment Facilities

**NAME OF PRIME PROPOSER:** Haskell-CDM Smith JV    **BID OPENING DATE:** 7/20/2021

**CONTACT PERSON:** Peter M. Kinsley, DBIA    **TELEPHONE NO.** 904-791-4500    **DEPARTMENT:** Infrastructure & Transportation

**CONTRACT AMOUNT – LOCAL BUSINESSES**

NAME, ADDRESS & TELEPHONE	TYPE & DESCRIPTION OF	% TO BE PERFORMED	ESTIMATED
<u>NUMBER OF LOCAL CONTRACTOR</u>	<u>WORK TO BE PERFORMED</u>	<u>BY LOCAL BUSINESS</u>	<u>DOLLAR VALUE</u>
1. <u>Radise International</u> <u>4152 W Blue Heron Blvd Suite 1114</u> <u>Riviera Beach, FL 33404 561-841-0103</u>	<u>Geotechnical Engineering</u>	<u>% 100</u>	<u>\$</u>
2. <u>Brown Electrical Solutions</u> <u>1421 W 13th St Suite 104</u> <u>Riviera Beach, FL 33404 561-557-2011</u>	<u>Electrical Construction</u>	<u>% 25</u>	<u>\$</u>
3. _____ _____ _____	_____	<u>%</u> _____	<u>\$</u> _____
4. _____ _____ _____	_____	<u>%</u> _____	<u>\$</u> _____
5. _____ _____ _____	_____	<u>%</u> _____	<u>\$</u> _____

**TO BE COMPLETED BY PRIME PROPOSER:**

**BID PRICE:** \$ \_\_\_\_\_    **TOTAL % PARTICIPATION:** 100% + 25%

**SCHEDULE 4**

**BID NUMBER:** RFQ # 1039-21-3

**LIAISON:** \_\_\_\_\_

**LETTER OF INTENT TO PERFORM AS A LOCAL BUSINESS**

**TO:** HASKELL (NAME OF PRIME PROPOSER)

The undersigned intends to perform work in connection with the above BID as (Check one):

       a individual   X   a corporation        a partnership        a joint venture

  X   The undersigned is a qualified Local Business.

The undersigned is prepared to perform the following described work in connection with the above project (specify in detail particular work items or parts thereof to be performed):

Geotechnical

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

as the following price: \$        N/A       .  
(Amount must match subcontractor's quote)

You have projected the following commencement date of such work, and the undersigned is projecting completion of such work as follows:

<u>Items</u>	<u>Projected Commencement Date</u>	<u>Projected Completion Date</u>

       % of the dollar value of the subcontract will be sublet and/or awarded to local contractors and/or local suppliers. The undersigned will enter into a formal agreement for the work with you, conditioned upon your execution of a contract with the City of Riviera Beach.

**RADISE International, LC**  
(NAME OF LOCAL CONTRACTOR)



DATE:   7/15/2021  

BY: \_\_\_\_\_  
(SIGNATURE OF LOCAL CONTRACTOR)

**SCHEDULE 2**

**BID NUMBER:** RFQ 1039-21-3

**LIAISON:** \_\_\_\_\_

**LETTER OF INTENT TO PERFORM AS A SMALL BUSINESS ENTERPRISE**

**TO:** Haskell

**(NAME OF PRIME PROPOSER)**

The undersigned intends to perform work in connection with the above BID as (Check one):

       a individual     a corporation           a partnership           a joint venture

       The undersigned is certified as a SBE.

The undersigned is prepared to perform the following described work in connection with the above project (specify in detail particular work items or parts thereof to be performed):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

as the following price:    \$ TBD  
(Amount must match subcontractor's quote)

You have projected the following commencement date of such work, and the undersigned is projecting completion of such work as follows:

<u>Items</u>	<u>Projected Commencement Date</u>	<u>Projected Completion Date</u>
--------------	------------------------------------	----------------------------------

\_\_\_\_\_  
\_\_\_\_\_

TBD % of the dollar value of the subcontract will be sublet and/or awarded to non-minority contractors and/or non-minority suppliers. The undersigned will enter into a formal agreement for the work with you, conditioned upon your execution of a contract with the City of Riviera Beach.

Acuity Design Group  
(NAME OF SMALL BUSINESS ENTERPRISE CONTRACTOR)

DATE: 07-12-2021

BY: Acuity Design Group

(SIGNATURE OF SMALL BUSINESS ENTERPRISE CONTRACTOR)

**SCHEDULE 2**

**BID NUMBER:** \_\_\_\_\_

**LIAISON:** \_\_\_\_\_

**LETTER OF INTENT TO PERFORM AS A SMALL BUSINESS ENTERPRISE**

**TO:** Haskell-CDM Smith, A Joint Venture

**(NAME OF PRIME PROPOSER)**

The undersigned intends to perform work in connection with the above BID as (Check one):

       **a individual**           **a corporation**           **a partnership**           **a joint venture**

       The undersigned is certified as a SBE.

The undersigned is prepared to perform the following described work in connection with the above project (specify in detail particular work items or parts thereof to be performed):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

as the following price: \$ \_\_\_\_\_  
(Amount must match subcontractor's quote)

You have projected the following commencement date of such work, and the undersigned is projecting completion of such work as follows:

<u>Items</u>	<u>Projected Commencement Date</u>	<u>Projected Completion Date</u>
--------------	------------------------------------	----------------------------------

\_\_\_\_\_  
\_\_\_\_\_

       % of the dollar value of the subcontract will be sublet and/or awarded to non-minority contractors and/or non-minority suppliers. The undersigned will enter into a formal agreement for the work with you, conditioned upon your execution of a contract with the City of Riviera Beach.

\_\_\_\_\_  
(NAME OF SMALL BUSINESS ENTERPRISE CONTRACTOR)

DATE: \_\_\_\_\_

BY: \_\_\_\_\_

(SIGNATURE OF SMALL BUSINESS ENTERPRISE CONTRACTOR)



SCHEDULE 2

BID NUMBER: RFQ #1039-21-3

LIAISON: \_\_\_\_\_

**LETTER OF INTENT TO PERFORM AS A SMALL BUSINESS ENTERPRISE**

TO: Haskell-CDM Smith, A Joint Venture

(NAME OF PRIME PROPOSER)

The undersigned intends to perform work in connection with the above BID as (Check one):

     a individual      X   a corporation         a partnership         a joint venture

  X   The undersigned is certified as a SBE.

The undersigned is prepared to perform the following described work in connection with the above project (specify in detail particular work items or parts thereof to be performed):

Plant Operations, Continuity, Transition  
\_\_\_\_\_  
\_\_\_\_\_

as the following price: \$   2%    
(Amount must match subcontractor's quote)


You have projected the following commencement date of such work, and the undersigned is projecting completion of such work as follows:

<u>Items</u>	<u>Projected Commencement Date</u>	<u>Projected Completion Date</u>
<u>TBD</u>		

\_\_\_\_\_ % of the dollar value of the subcontract will be sublet and/or awarded to non-minority contractors and/or non-minority suppliers. The undersigned will enter into a formal agreement for the work with you, conditioned upon your execution of a contract with the City of Riviera Beach.

Globaltech, Inc.  
(NAME OF SMALL BUSINESS ENTERPRISE CONTRACTOR)

DATE: 07/14/21

BY:   
Bernard P. Gandy, PE, President & CEO  
(SIGNATURE OF SMALL BUSINESS ENTERPRISE CONTRACTOR)



SCHEDULE 2

BID NUMBER: RFQ:1039-21-3

LIAISON: \_\_\_\_\_

**LETTER OF INTENT TO PERFORM AS A SMALL BUSINESS ENTERPRISE**

TO: Haskell-CDM Smith JV

**(NAME OF PRIME PROPOSER)**

The undersigned intends to perform work in connection with the above BID as (Check one):

       a individual            a corporation           a partnership           a joint venture

The undersigned is certified as a SBE.

The undersigned is prepared to perform the following described work in connection with the above project (specify in detail particular work items or parts thereof to be performed):

Assist with the electrical scope of work with the design team. Self perform the electrical scope of work.  
\_\_\_\_\_  
\_\_\_\_\_

as the following price: \$ TBD  
(Amount must match subcontractor's quote)

You have projected the following commencement date of such work, and the undersigned is projecting completion of such work as follows:

<u>Items</u>	<u>Projected Commencement Date</u>	<u>Projected Completion Date</u>
Electrical scope	TBD	TBD

TBD % of the dollar value of the subcontract will be sublet and/or awarded to non-minority contractors and/or non-minority suppliers. The undersigned will enter into a formal agreement for the work with you, conditioned upon your execution of a contract with the City of Riviera Beach.

Brown Electrical Solutions  
(NAME OF SMALL BUSINESS ENTERPRISE CONTRACTOR)

DATE: 7/13/2021

BY: Vincent Brown

(SIGNATURE OF SMALL BUSINESS ENTERPRISE CONTRACTOR)