TASK ORDER No. 4 3

Dated this 25 day of January, 2017

FORT LAUDERDALE PUBLIC WORKS DEPARTMENT

WASTEWATER SYSTEM VALVES ASSESSMENT PROGRAM

PROFESSIONAL SERVICES

This Task Order between the City of Fort Lauderdale, a Florida municipal corporation ("CITY") and CH2M HILL Engineers Inc., a Delaware corporation authorized to transact business in Florida, ("CONSULTANT") in accordance with the terms of the agreement for professional services dated September 7, 2011 between CITY and CONSULTANT ("MASTER AGREEMENT") and approved by City Commission on September 7, 2011.

PROJECT BACKGROUND

The City of Fort Lauderdale maintains a network of wastewater collection, pumping, transmission and treatment systems. Because of the age of the City and its infrastructure, routine operation and maintenance is essential. This project will focus on the wastewater transmission systems isolation and air release/vacuum valves. The City estimates it has approximately 750 isolation valves and 300 air release/vacuum valves throughout its wastewater force main system.

This Task Order will provide services for a Wastewater System Isolation Valve and Air Release/Vacuum Valve Assessment. The goal of this project is to manage and execute an assessment program for audit, inspection, exercising, and documentation of required repairs for valves in the wastewater transmission system.

GENERAL REQUIREMENTS

Design Standards

The CONSULTANT shall be solely responsible for determining the standards the work shall meet and obtain all the requisite regulatory approvals. The design shall include, but is not limited to, the plans and specifications, which describe all systems, elements, details, components, materials, equipment, and any other information necessary for construction. The design shall be accurate, coordinated between disciplines, and in all respects, adequate for construction, and shall be in conformity, and compliance, with all applicable laws, codes, permits, and regulations.

Quality Control

The CONSULTANT is responsible for the quality control (QC) of their work and of its sub-consultants. The CONSUTLANT shall provide to the City the list of sub-consultants which shall be used for this project. This list shall not be changed without prior approval of the CITY. All sub-consultant documents and submittals shall be submitted directly to the CONSULTANT for their independent QC review. The City shall only accept submittals for review and action from the CONSULTANT.

The CONSULTANT shall be responsible for the professional quality, technical accuracy, and coordination of all pre-design services, designs, drawings, specifications, and other services

furnished by the CONSULTANT and their sub-consultant(s). It is the CONSULTANT's responsibility to independently and continually QC their plans, specifications, reports, electronic files, progress payment applications, schedules, and all project deliverables required by this task order. The CONSULTANT shall provide the CITY with a marked up set of plans and/or specifications showing the CONSULTANT's QC review. Such mark-ups shall accompany the CONSULTANT's scheduled deliverables. The submittal shall include the names of the CONSULTANT's staff that performed the QC review for each component (structures, roadway, drainage, etc.).

TASK 1: SCOPE DEVELOPMENT / PROJECT MANAGEMENT

The CONSULTANT has developed a preliminary scope (herein) by way of meetings with the City stakeholders and has conducted a partial desktop assessment of the project. As part of our program discovery we expect to request further data (including record drawings and valve details), conduct remote project meetings with Q&A in order to reach alignment with the CITY on the program scope and data plan prior to startup of field services. In our experience, this review will be revisited 2 weeks after project startup to address any field findings not anticipated or included in our initial discovery and scope alignment meetings. This ensures that the project stays on track and achieves every program objective.

Project Scheduling / Project Reporting

As part of Task 1, the CONSULTANT will prepare a formal project schedule for review and approval by the CITY. The CONSULTANT uses two primary methods to communicate project planning and project management. Project plans are formally prepared using MS Project and distributed to the project team for approval and coordination. If the project includes geographic assignments, the project schedule is updated to include this information for stakeholders inside and outside the Agency. This information could be communicated to the City's customer service office and used to address potential customer questions regarding the CONSULTANT's staff and field personnel performing assigned activities in the field.

Deliverables

As part of Task 1, the CONSULTANT will deliver a formal project schedule upon approval along with dashboard log-in information for stakeholders to access the CONSULTANT operations dashboard for the project. As part of ongoing field operations the CONSULTANT will deliver weekly and monthly schedule updates for review and approval by the CITY. **TASK 2: ASSET INVENTORY / IMPROVEMENT**

The CONSULTANT will conduct field operations to inventory and provide minor repairs of force main assets starting at a point to be determined, and working continuously until program completion. The following are the scope details for field operations for Task 2:

Locate Assets (Valves and Air Release Valves)

The CITY will provide a minimum of two copies of the most current force main maps for the project area and copies of as-builts or standard details for all types of air release valves in the force main network. The CONSULTANT will locate all program assets using the following guidelines:

- The CONSULTANT will search for all assets visually using the maps provided.

- The CONSULTANT will search for assets shown, but not identified by visual inspection, using a magnetic locator, probing rods and other tools.

- If the asset cannot be located after searching for fifteen minutes, it will be identified in the database as "Cannot Locate", documented as a work order, creating a mapping grade (sub-foot) GPS position at the location where searched.

Identify Assets

Each asset record will be identified by its corresponding City of Fort Lauderdale identification number. In cases where Asset ID's are not available (Found Assets), The CONSULTANT will create a temporary asset identification number that will be agreed with the City in advance of project startup.

Accessing Assets

Valves

The valve cover shall be removed by the CONSULTANT in order to access the valve. If, after attempting to remove the valve cover, it is clear that the cover is "stuck" the cover will be broken, the valve accessed and the cover replaced. Replacement covers are to be provided by the CITY.

Confined Space Entry – In the event confined space entry is required to complete the evaluation requirements in the scope of the CONSULTANT's services for this Agreement, the CITY shall be responsible for rendering these areas safe for the services included in this Proposal. Further, all confined space entry safety standards and equipment requirements will be met by the CONSULTANT throughout the project and each entry billed on an hourly crew rate basis.

Clean Out Valve Box

The CONSULTANT will vacuum out debris or pump out water from the valve structure in order to allow access to the valve operating nut and bonnet bolts where possible. In every case the operating nut must be exposed and clearly visible when the valve is tested. The CITY will provide a location for discarding materials vacuumed out of the valve structures.

Inspection

The CONSULTANT will execute a visual inspection of the asset from above ground and document attribute data prior to operation of the asset and by agreement with the CITY of the data to be collected for each asset.

Operational Testing

The CONSULTANT will operate all assets such as valves by fully exercising and testing, and performing minor repairs, as defined on page 6 (Minor Asset Repairs), while documenting condition data and location information. Data is to be documented by pre-approved attribute list and combined with mapping grade (sub foot) GPS data. The CONSULTANT will work closely with Operations staff during this effort. However, due to the potential condition or deterioration of assets that may or may not have been maintained, The CONSULTANT will not be held liable for any assets that fail or break or the consequences of such failures during the operating process

due to pre-existing conditions. Any assets that fail or break during operation will be repaired or replaced by others.

Found Assets

The CONSULTANT will document all assets found on maps and fully operationally tested and document these assets including GPS coordinate data. The naming convention will be agreed with the CITY in advance of field operations.

Asset Maintenance

Valves

The CONSULTANT will exercise each valve a minimum of two full cycles (from open to shut to open) and continue until operating torque stabilizes without measurable decreases and valve turn count stabilizes without measurable increases. For Smaller and potentially fragile valves as designated by the City, valve operation shall be by manual means only to avoid damage to the operator. Valve exercising begins at the lowest operational torque and only increased up to the maximum torque by manufacturer specs if necessary and torque will be documented whenever possible. Torque limits, operating procedures and valve turning equipment utilization for each size and type of valve will be agreed with the CITY prior to project startup.

Other Asset Considerations:

1. Frozen Valves: The CONSULTANT crews will work to free frozen valves in concert with the designated City Utilities Staff Member presiding

2. Out of Position Valves: City Utilities Staff will be notified immediately and asset put into proper position as directed by City Operations Staff

3. Valve Marking: Valve lid covers will be marked with green marking paint after inspection

Minor Asset Repairs

The CONSULTANT will complete minor repairs as they are encountered in this program as requested by the CITY. Minor repairs are defined as repairs that can return an asset to full operability or functionality and does not require excavation or breaking the pressure barrier of the pipe system. While many different repairs may be necessary in order to restore full operability, The CONSULTANT is to only complete the minor repairs noted below, or as requested by the CITY at the agreed upon hourly crew rate.

Minor Valve Repairs

1. Raise valve boxes in asphalt or concrete

Locate the paved over valve, small cut the asphalt/concrete, jackhammer down to the cover, apply a riser to raise to street level, backfill with compacted material and patch with asphalt (cold) patch or concrete mix material as needed. Materials will be provided by the CITY.

2. Raise valve boxes in dirt, sand, grass or gravel

Locate the buried valve, dig down to the cover, apply a riser to raise to ground level, backfill with compacted soil. Materials will be provided by the CITY.

3. Re-aligning valve boxes in dirt, sand, grass or gravel

Locate the misaligned valve and re-adjust misaligned valve boxes to make the valve operable by digging in dirt, grass, sand or gravel up to 24" in depth and re-adjust or replace the valve box as necessary, and backfill with compacted soil or material. Materials are to be provided by the CITY.

4. Asset Revisits

In the event City's Utilities Staff determines a found closed/found open valve should be in the opposite position, THE CONSULTANT will mobilize and revisit the asset, access, retest for position, and attempt to put the asset in the correct position.

5. Frozen Valves

The CONSULTANT valve specialists will work to free frozen valves in concert with the City's Utilities Staff by using controlled increases in torque while cycling the valve through a full range of motion. Any increase above manufacturers maximum suggested torque will be approved by the City's Utilities Staff in a fail or free it effort to return the valve to full usability and saving the cost of replacement. Utilities Staff must be present to witness frozen valve opening/closing.

Deliverables

As part of Task 2, The CONSULTANT will deliver on a bi-monthly basis a work orders list of inoperable Isolation Valve and Air Release Valves. This work order list will be comprised of valves not repairable under this agreement's "minor repairs" section. Additionally, on a monthly basis The CONSULTANT will deliver with an invoice a list of all assets assessed during the work period.

TASK 3: MAPPING / INFORMATION MANAGEMENT / WORK ORDERS

The CONSULTANT will document each asset including GPS mapping (sub foot) data and use all available information to create a draft model map of the pipe network (geometric design) incorporating asset location information captured in Task 2. Here are the specific details of Task 3:

Information Management Approaches

The data captured during this program will be one of the factors utilized in risk and CIP prioritization models, as well as utilized to create a draft geometric design of the force main network. The critical aspects to this project are field collection and data management between the field crews and The CONSULTANT and the replication of collected data between The CONSULTANT, and the CITY. To assure smooth, low impact, data deliverables The CONSULTANT will hold 'GIS data alignment meeting(s)' to obtain and review the current asset database structure, also known as 'data-model'. This review will focus on The CONSULTANT's internal data workflow processes and identifying possible data-model revision recommendations for the City to consider prior to the beginning of field operations.

Data Deliverables Format

The CONSULTANT is flexible regarding project data deliverables and will work with the CITY to determine the most efficient delivery format. These proven GIS data deliverables can range from simple Personal Geodatabase, ArcSDE to XML exports, to ArcSDE versioned database replication:

- Personal Geodatabase deliverables provide a simple, single file, format of GIS data that can be reviewed in ArcMap prior to migrating this data into the CITY's enterprise GIS. Manual or Model-builder geoprocessing tools can then be employed to append deliverable data in the CITY's enterprise GIS.

- ArcSDE to XML export creates a small foot-print file that retains SDE (Spatial Database engine) properties. This file would need to be 'Imported' into a staging SDE geodatabase for review in ArcMap prior to migrating this data into the CITY's enterprise GIS. Manual or Model-builder geoprocessing tools can then be employed to append deliverable data in the City's enterprise GIS.

- ArcSDE Versioned Database Replication provides a more direct connection between the CITY's enterprise GIS and the CONSULTANT's GIS. Two-way replication has been used by the CONSULTANT's programs to ensure that control of information is maintained between the client and the CONSULTANT. Using this process the CITY would provide the initial source data in xml to be imported into an ArcSDE database.

Information Integration into CMMS (Computerized Maintenance Management System)

The CONSULTANT will work with the CITY to properly plan for the capture and assimilation of asset information into the City's CMMS Enterprise Solution (Hanson). Specific standards, protocols, and techniques will be discussed and agreed upon by the CITY and the CONSULTANT upon contract execution. These agreements will be based upon the technical and programmatic requirements of the CITY to ensure 100% compliance with existing standards and desired outcomes. The CONSULTANT will work with the CITY to properly model the data definitions for field collection, the ESRI geodatabase, and the CITY's CMMS System.

Minimum Data Deliverable Quality Assurance & Quality Control

The CONSULTANT's Quality Assurance Program is a formal methodology designed to assess and continually monitor the quality of services provided to ensure the services are within specifications of the contract scope. Our quality assurance includes formal review of processed and data, problem identification, corrective actions to remedy any deficiencies and evaluation of actions taken.

Quality Control involves defining the standard means and methods that data will be captured and then reviewed for accuracy. This includes automated tests for adherence to domain values, maintaining integrity of database schemas, and validating data based on best practices established by The CONSULTANT for field inspections of asset features. The CONSULTANT will perform these tests as a combination of programmatic geoprocessing tools and manual review prior to submission to the CITY.

Data delivered from the field is processed through the CONSULTANT' standardized QA/QC ModelBuilder scripts to evaluate data against established CONSULTANT program queries for

asset data discrepancies. All data that is identified as exception data is reviewed by the program Operations Manager and reported to the Data Auditor prior to being released to the field for correction. Reflective of our commitment to data accuracy, the CONSULTANT employs a dedicated Data Auditor to support our Project Managers and GIS analysts.

Auditing services include:

- The CONSULTANT shall randomly select a percentage of each month's field production, and the work performed during this period will have coordinate points re-collected by our field team and reviewed by the Data Auditor to ensure compliance with our standards for GPS accuracy.

- If the work is greater than or equal to 98% accurate, no further additional auditing will be required for the month. If the work is less than 98% accurate, the CONSULTANT shall correct any known discrepancies in the work and have the work re-audited by the data auditor once the issues are resolved.

- The CONSULTANT will perform this QA/QC analysis on all data recorded before the data is submitted to the CITY.

- The CONSULTANT will also review, prior to each submission, the accuracy of the billing.

- All non-conforming audit findings will be documented with Corrective Action Requests as appropriate.

Documentation

Documentation data will be collected for each asset and will be agreed upon with the CITY in advance of work start up. Data documentation will include, at a minimum:

- Location data - Mapping grade GPS coordinate data parameters as noted in the GPS mapping section.

- Discrepancies - Details on discrepancies so that a work order (as described below) can be concisely created.

Valve: Physical data (example)

- Unique identification number
- Map or grid number
- Valve size
- Type of valve
- Use of valve
- Valve structure
- Depth of valve operating nut
- Date of operation
- Number of turns
- Close direction

- Valve discrepancies
- Box/vault discrepancies
- Boolean indicating whether vacuumed/pumped

Deliverable Database – Assets and Inventory Feature Classes

The CONSULTANT will provide applicable asset data in a spatially accurate format compliant with the CITY's existing data structure in a format that will fully integrate into ESRI systems. Before field operations commence, a meeting to be attended by the CONSULTANT and the CITY will be held to reach alignment on specific data schemas to be employed. It is at this juncture that the CONSULTANT and the CITY will reach agreement on which specific features will be collected, the format this feature data will conform to, and the final resting place for all collected information within the City of Fort Lauderdale data infrastructure so that it can be appropriately mapped and accessed by the CITY staff.

Asset Work Order Data

The CONSULTANT will create a report documenting repairs completed in order to bring the assets in the system up to 100% operability. All repairs not completed will be turned over to the CITY for execution in a prioritized plan agreed with the CITY in advance of project start-up. On a bi-monthly basis all work orders will be delivered to the CITY's Utilities Staff for turnaround in support of the force main assessment project.

Pipeline Network Mapping

The CONSULTANT will provide mapping (geometric design) of the force main network and inspected assets and deliver it in an ESRI platform GIS product. All network pipeline will be referenced to existing assessed appurtenance points.

Work Orders for Repair of Assets by the City

The CONSULTANT will deliver to the CITY work orders for all non-functional assets as a result of the Inventory and Assessment activities in Task 2. This data will be delivered on a bi-monthly basis and as a final deliverable. The bi-monthly work orders are to focus on repairs necessary to support the concurrent force main assessment program. Not all assets will require immediate repair (As prioritized in Task 3). However, all asset repairs will be prioritized by type and project priority. Assets that create high risks in the wastewater system will be clearly marked in the work order database. The CITY will be notified of any non-working critical assets as they are encountered so they can be repaired as a high priority on a bi-monthly basis. All other project repairs will be delivered to the CITY upon conclusion of the program (Task 4).

Deliverables

As part of Task 3, the CONSULTANT will deliver interim asset and mapping data in GIS and CMMS formats for integration into the CITY's enterprise systems. In a data alignment meeting prior to field services the format of the GIS database and CMMS database will be determined, as multiple methods can be deployed. Additionally, at the data alignment meeting the asset attribute data to be collected and the work order format for deliverables will be agreed. The list of deliverables includes:

1. GIS database – typically a personal geodatabase with asset attributes and mapping location data.

2. CMMS database – typically an MS Access database with importable asset attributes and mapping data for integration into the CITY's CMMS solution.

3. Work Orders – typically in printed and .pdf format with asset ID, known attributes and defects.

TASK 4: TECHNICAL MEMORANDUM / FINAL DELIVERABLES

The CONSULTANT will conduct a final deliverable meeting and provide a final report and database in which we will summarize the project results and findings, highlight the assets (isolation valves and air release valves) that are not functioning or need repair/rehab, and provide preliminary costing for these items. Further, will share comparison data of asset testing results to other programs from around the country and provide insights for the ongoing, long-term asset management strategy for force main assets.

Deliverables

As part of Task 4, The CONSULTANT will deliver a final report and asset and mapping data in GIS and CMMS formats for integration into the CITY's enterprise systems. The list of deliverables includes:

1. Final Report – Results and findings from the project, and comparison data of asset testing results with other programs from around the U.S. with recommendations for ongoing asset management strategy for Isolation Valve and Air Release Valves.

2. GIS database – a personal geodatabase with asset attributes and mapping location data.

3. CMMS database – an MS Access database with importable asset attributes and mapping data for integration into the CITY's CMMS solution.

4. Work Orders – printed and .pdf format with asset ID, known attributes and defects. Includes a list of recommended repairs and estimated costs.

ADDITIONAL PROGRAM CONSIDERATIONS

KNOWLEDGE OF ACCEPTED AND LATEST PROFESSIONAL ENGINEERING PRACTICES FOR THE OPERATION AND REPAIR OF DIFFERENT TYPES OF VALVES

The CONSULTANT will bring to the Force Main Asset Inventory, Mapping and Improvement Program a vast amount of experience and knowledge and will bring full appreciation in the importance of these appurtenances with the overall context of wastewater transmission systems.

When operating valves, the CONSULTANT will adhere to a strict methodology involving the following principles:

- Work in an orderly and safe manner to insure protection of the local residents, Utility employees, and the Field Staff so that no avoidable accidents occur. Use confined space practices to ensure safe entries when required.

- To the extent possible, prioritize the evaluation of assets associated with the most critical force mains, the Repump A and B force mains.

Employ a combination of recorded information, manual and technical testing techniques as needed to establish the location of valves.

- Attempt to operate the valve manually.

- If the valve cannot be operated manually by one person, then employ a hydraulic operator with torque control.

- The valves will then be exercised from full open to full closure until such time as this can be done without further turn range improvement or no further reduction in the required operating torque is noted, through a minimum of two consecutive ranges of operations.

- Use the lowest hydraulic torque (turning force or rational force) setting.

- If there is reasonable evidence that a valve might fail during the exercising process, the CITY will be notified immediately and a decision will be made to attempt or not to attempt the process.

- Broken valves will be reported immediately to the CITY so that notations can be made for future potential emergency situations.

ASSUMPTIONS

1. It is assumed by the CONSULTANT that the air release valves to be encountered in this program are standard ARV's and not a specialized valve. At the time of this proposal as-built data for each type of ARV is not currently available for review. Therefore, the CONSULTANT has made the following assumptions:

    - Each Air Release Valve is of a standard design and is consistent with ARV's assessed previously by HUSA

    - Each Air Release Valve is housed in a manhole or is on an aerial crossing

    - If in Task 1, the CONSULTANT finds during the pre-project planning that the ARV's are varied in design and outside the scope of standard AWWA design, we reserve the right to revisit our per asset pricing for assessment and documentation of potential non-standard ARV's.

2. Confined Space Entry may be required to complete the evaluation of an ARV and the CITY shall be responsible for rendering these areas safe for the services included in this Proposal. CONSULTANT personnel will be confined space entry trained.

3. The project valves have not been operated or tested recently and condition is unknown, therefore should any valve fail as a result of evaluation, testing or operation, the CONSULTANT assumes no responsibility for damage or repairs, and any repairs necessary as a result of this project shall be completed by others.

4. A wastewater discharge occurrence as a result of the evaluation, testing or operation of force main ARV's is not the responsibility of the CONSULTANT personnel. Occurrences of wastewater discharge will be reported to the CITY per agreement in advance of field services.

5. Complex Traffic Control, defined as high traffic and requiring a traffic blocking vehicle, traffic control personnel and/or more, will be provided by the City.

PROJECT ASSUMPTIONS

- CITY shall provide access to sites.
- City shall provide existing electronic CAD and GIS files, if available.
- It is the CONSULTANT's responsibility to verity existing geometry is acceptable to all permitting agencies.

ADDITIONAL SERVICES

If authorized in writing by the CITY, as an amendment to this Task Order, the CONSULTANT shall furnish, or obtain, Additional Services of the types listed in the MASTER AGREEMENT. The CITY, as indicated in the MASTER AGREEMENT, will pay for these services.

PERFORMANCE SCHEDULE

The CONSULTANT shall perform the services identified in Tasks 1-4 within 150 days of the written Notice to Proceed.

PROJECT FUNDING

Performance of this project is at the CITY's discretion and may be contingent upon the CITY receiving funding and work shall not begin until the CITY provides a Notice to Proceed to CONSULTANT.

METHOD OF COMPENSATION

The services performed will be accomplished using the Not-to-Exceed method of compensation for CONSULTANT'S services, and Lump Sum for Sub-consultant's services. The total hourly and unit rates payable by the CITY for each of CONSULTANT's employee categories, and reimbursable expenses, are shown on **Exhibit A** attached hereto and made a part hereof. Exhibit A is an estimation of the hours and staff anticipated to be used by the CONSULTANT and may vary without exceeding the overall Task Order amount. The sub-consultant shall be paid on a lump sum bases for each Task as outlined in **Exhibit A**. Pay application requests shall be prepared on the CITY's approved pay application request form. The CONSULTANT shall submit the pay application request to the CITY's Project Manager for review and approval. Once the CITY's Project Manager approves the CONSULTANT's pay application request, the CONSULTANT may submit it to the CITY's account payable department via email (AcctsPayable@fortlauderdale.gov). Pay application requests shall be submitted monthly. A project location map has been provided as **Exhibit B**.

TERMS OF COMPENSATION

Services will be provided for the following Not-to-Exceed amounts:

Task 1 – Valve Assessment Program Management	$30,880
Task 2 – Asset Inventory/Improvement	$166,815
Task 3 – Mapping, Information Management, and Work Orders	$14,787
Task 4 – Summary Technical Memorandum	$31,286
Reimbursable Expenses	$1,000
Grand Total	**$244,768**

CITY CONTACTS

Requests for payments should be directed to City of Fort Lauderdale Accounts Payable via e-mail to AcctsPayable@FortLauderdale.gov after getting approval from the CITY's Project Manager. All other correspondence and submittals should be directed to the attention of *Luis Oliveira, Project Manager I*, at the address shown below. **Please be sure that all correspondence refers to the CITY project number and title as stated above.**

Luis Oliveira
Project Manager I
Public Works
City of Fort Lauderdale
City Hall, 4th Floor Engineering
100 North Andrews Avenue
Fort Lauderdale, FL 33301
(954) 828-5877
Loliveira@fortlauderdale.gov

Jorge Holguin
Senior Project Manager
Public Works
City of Fort Lauderdale
City Hall, 4th Floor Engineering
100 N. Andrews Ave.
Fort Lauderdale, FL 33301
(954) 828-5675
JHolguin@fortlauderdale.gov

CONSULTANT CONTACTS

Jane Early
Project Manager
CH2M
550 W. Cypress Creek Road
Suite 400
Fort Lauderdale, FL 33309
(561) 723 5076
Jane.Early@ch2m.com

Walt Schwarz
Project Consultant
CH2M HILL
550 W. Cypress Creek Road
Suite 400
Fort Lauderdale, FL 33309
(954)480 7365
wschwarz@ch2m.com

IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first written above.

CITY

ATTEST:

CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida.

JEFFREY A. MODARELLI
City Clerk

LEE R. FELDMAN, City Manager

(SEAL)

Approved as to form:

RHONDA MONTOYA HASAN
Assistant City Attorney

CONSULTANT

Francois Didier Menard
Vice President 2/10/17
Print Name

By _____
Francois Didier Menard, P.E.
Vice President

DANIEL BOHORQUEZ
YORG A. KUHNE
Print Name

STATE OF FLORIDA:
COUNTY OF BROWARD:

Francois Didier Menard, P.E., Vice President and Area Manager of CH2M HILL Engineers, Inc., a Delaware corporation authorized to transact business in Florida, acknowledged the foregoing instrument before me this 10 day of February 2017, on behalf of the corporation who is ☒personally known to me or ☐.Produced _____as identification.

STACEY ROBIN SMITH
Notary Public - State of Florida
Commission # FF 216281
My Comm. Expires Apr 1, 2019

Exhibit A – Work Breakdown Fee Schedule

EXHIBIT A - TASK ORDER 4								
	FORT LAUDERDALE VALVE ASSESSMENT PROGRAM							
		CH2MHILL (prime)					SUBCONSULTANT	
Task	Description	Senior Consultant (VP)	Senior Consultant (Snr Man.)	Senior technical consultant	Office	Sub-Total Hours / Fee	Hydromax USA	Total Fees
	Hourly Rate	$225.00	$206.00	$128.00	$65.00			
1	**Scope Development/Project management**	**8**	**75**	**15**	**14**	112		
	Sub-Total Labor Hours	*8*	*75*	*15*	*14*	112		
	Sub-Total Labor Fee	*$1,800.00*	*$15,450.00*	*$1,920.00*	*$910.00*	*$20,080.00*	*$10,800.00*	*$30,880.00*
2	**Asset Inventory/Improvement**		**40**	**50**				
	Sub-Total Labor Hours	*0*	*40*	*50*	*0*	90		
	Sub-Total Labor Fee	*$0.00*	*$8,240.00*	*$6,400.00*	*$0.00*	*$14,640.00*	*$152,175.00*	*$166,815.00*
3	**Mapping/Information Management/Work Orders**	**1**	**2**	**10**				
	Sub-Total Labor Hours	*1*	*2*	*10*	*0*	13		
	Sub-Total Labor Fee	*$225.00*	*$412.00*	*$1,280.00*	*$0.00*	*$1,917.00*	*$12,870.00*	*$14,787.00*
4	**Technical Memorandum/Final Deliverables**	**8**	**60**	**92**	**30**			
	Sub-Total Labor Hours	*8*	*60*	*92*	*30*	190		
	Sub-Total Labor Fee	*$1,800.00*	*$12,360.00*	*$11,776.00*	*$1,950.00*	*$27,886.00*	*$3,400.00*	*$31,286.00*
	Estimated Expenses (Travel for Sr. subject matter expert meeting attendance)					*$1,000.00*	*$0.00*	*$1,000.00*
	Totals Hours	*17*	*177*	*167*	*44*	*405*		
	TOTAL NTE FEE TASK ORDER	**$3,825.00**	**$36,462.00**	**$21,376.00**	**$2,860.00**	**$65,523.00**	**$179,245.00**	**$244,768.00**

Exhibit B – Location Map