

PROJECT AGREEMENT

Between

THE CITY OF SUNRISE

And

Hazen & Sawyer, P.C.

For

Project Agreement No. 17-003-HS

Preparation of Plant O&M Manual Chapters and Operator Training For Southwest WWTP HLD Facilities Project

Pursuant to the provisions contained in the Continuing Services Agreement between the City of Sunrise and Hazen & Sawyer, P.C. for General Professional Engineering Services (hereinafter referred to "CONTINUING SERVICES AGREEMENT") dated **October 28, 2010**, this Project Agreement authorizes the CONSULTANT to provide the services as set forth below:

The CITY and the CONSULTANT agree as follows:

SECTION 1 DEFINITIONS

1.1 **Change Order**: Change Order shall mean a written order to the CONSULTANT executed by the CITY, issued after execution of a Project Agreement or other agreement, authorizing and directing an addition, deletion or revision in the Work or an adjustment in the Contract Price or Contract Times, issued on the effective date of the Agreement.

1.2 **Contract Documents**: The Contract Documents establish the Rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), Contractor's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and Engineer's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic format of text, data, graphics, and the like that may be furnished by the CITY, the CONSULTANT or the Engineer to the Contractor are not Contract Documents.

1.3 **Defective Work**: The word "Defective", when modifying the word "Work", refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by the CITY).

1.4 **Drawings:** That part of the Contract Documents prepared or approved by the CONSULTANT which graphically shows the scope, extent, and character of the Work to be performed by the Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

1.5 **Field Order:** A written order issued by the CONSULTANT which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

1.6 **Specifications:** That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

1.7 **Subconsultant:** An entity having a direct contract with the CONSULTANT or with any other Subconsultant for the performance of a part of the Work.

1.8 **Work:** The entire completed construction or the various separately identifiable parts thereof required to be provided under this Project Agreement. Work includes and is the result of performing or providing all labor, services, and documentation necessary to complete the Work, all as required by this Project Agreements.

SECTION 2 SCOPE OF SERVICES

2.1 The CONSULTANT shall provide engineering services to the CITY for the Project as described in the "Project Description" attached as **EXHIBIT "1"**.

2.2 The "Scope of Services" and tasks to be provided by the CONSULTANT for this Project are those services and tasks as listed in **EXHIBIT "2"**.

2.3 The CITY may request changes that would increase, decrease, or otherwise modify the Scope of Services. Such changes must be contained in a written change order executed by the parties in accordance with the provisions of the Continuing Services Agreement, prior to any deviation from the terms of the Project Agreement, including the initiation of any extra Work.

SECTION 3 DELIVERABLES

As part of the Scope of Services the CONSULTANT shall provide to the CITY the Deliverables as listed in **EXHIBIT "5"**.

SECTION 4 TERM / TIME OF PERFORMANCE / DAMAGES

4.1 **Term:** This Project Agreement shall commence on the date this instrument is fully executed by all parties and shall continue in full force and effect through **July 30, 2017** unless otherwise terminated pursuant to Section 7 or other applicable provisions of this Project Agreement. The CITY'S City Manager, in his sole discretion may extend the term of this Project Agreement through written notification to the CONSULTANT. Such extension shall not exceed **one hundred eighty (180) days**. No further extensions of this Project Agreement shall be effective unless authorized by the City Commission.

4.2 **Commencement:** The CONSULTANT'S services under this Project Agreement and the time frames applicable to this Project Agreement shall commence upon the date provided in a written Notification

of Commencement ("Commencement Date") and receipt of a fully executed Purchase Order provided to the CONSULTANT from the CITY. The CONSULTANT shall not incur any expenses or obligations for payment to third parties prior to the issuance of the Notification of Commencement. The CONSULTANT must receive written notice from the CITY'S Director of Utilities or designee prior to beginning the performance of services in any subsequent phases of this Agreement. Prior to granting notice for the CONSULTANT to proceed to a subsequent phase, the CITY'S Director of Utilities or designee may, at its sole option, require the CONSULTANT to submit the itemized deliverables/documents identified in **EXHIBIT "5"** of this Agreement for the Director's review.

4.3 **Contract Time:** Upon receipt of the Notification of Commencement and the fully executed Purchase Order, the CONSULTANT shall commence services to the CITY on the Commencement Date, and shall continuously perform services to the CITY, without interruption, in accordance with the time frames set forth in the "Project Schedule," a copy of which is attached and incorporated into this Agreement as **EXHIBIT "3"**. The number of calendar days from the Commencement Date, through the date set forth in the Project Schedule for completion of the Project or the date of actual completion of the Project, whichever shall last occur, shall constitute the Contract Time.

4.4 **No Damages For Delay:** The CONSULTANT shall not be entitled to any claim for damages including, but not limited to, loss of profits, loss of use, home office overhead expenses, equipment rental and similar costs, on account of delays in the progress of the Project from any cause whatsoever including an act or neglect of the CITY, adverse weather conditions, an act of God, strike, war or national disaster or emergency, unusual delay in deliveries, unusual delay in procuring permits, differing site conditions, unavoidable casualties or other causes beyond the CONSULTANT'S control, or by delay authorized or caused by the CITY, or by other causes which the CONSULTANT determines may justify delay. The CONSULTANT'S sole remedy for any such delay shall be a reasonable extension of time and a revision to the Project Schedule as determined by the CITY. The CONSULTANT will not be entitled to damages for delay, howsoever caused. However, additional costs to the CONSULTANT or delays in the CONSULTANT'S performance caused by improperly timed activities shall not be the basis for granting a time extension. If the CONSULTANT wishes to make a claim for an increase in time of performance, written notice of such claim shall be made to the CITY within thirty (30) calendar days after the occurrence of the event, or the first appearance of the condition giving rise to such claim. The CITY'S representative, shall determine whether or not the CONSULTANT is entitled to a time extension for the delay. The failure of the CONSULTANT to give such notice shall constitute a waiver of any claim under this section.

4.5 Notwithstanding the provisions of Paragraph 4.4, in the event that the Contractor fails to substantially complete the Project on or before the substantial completion date specified in the Contract for Construction or the Contractor is granted an extension of the time to complete performance under the Contract for Construction, and the CONSULTANT'S contract administration services are materially extended by the CITY as a direct result thereof and through no fault of the CONSULTANT, the CONSULTANT shall be entitled to additional compensation at the rates shown in the Continuing Services Agreement **EXHIBIT "A"**, Salary Costs. The amount of compensation due by the CONSULTANT under this paragraph shall be pursuant to an approved Change Order.

4.6 All limitations of time set forth in this Agreement are of the essence.

SECTION 5 AMOUNT, BASIS AND METHOD OF COMPENSATION

5.1 The basis and method of compensation to the CONSULTANT for the services rendered pursuant to this Project Agreement shall be in conformance with **EXHIBIT "E"** of the Continuing Services Agreement.

5.2 Not Used

5.3 **Lump Sum Compensation.** CITY agrees to pay CONSULTANT as compensation for performance of all services as related to the Project a **Lump Sum of \$151,290.00**. It is understood that the method of compensation is that of Lump Sum which means that CONSULTANT shall perform all services set forth for total compensation in the amount stated above. Said Lump Sum includes but is not limited to, compensation for all fees, expenses, and out-of-pocket costs of the CONSULTANT

SECTION 6 BILLING AND PAYMENTS TO THE CONSULTANT

Billing and payments to the CONSULTANT shall be in accordance with **EXHIBIT "E"** of the Continuing Services Agreement and **EXHIBIT "4"** of this Agreement.

SECTION 7 TERMINATION / SUSPENSION

7.1 Termination shall be in accordance with Section 6 of the Continuing Services Agreement.

7.2 Suspension in accordance with Section 43 of the Continuing Services Agreement.

7.3 **Assignment Upon Termination:** Upon termination of this Project Agreement, the work product of the CONSULTANT shall become the property of the CITY and the CONSULTANT shall within ten (10) working days of receipt of written direction from the CITY, transfer to either the CITY or its authorized designee, all work product in its possession, including but not limited to, designs, specifications, drawings, studies, reports and all other documents and data in the possession of the CONSULTANT pertaining to this Project Agreement. Upon the CITY'S request, the CONSULTANT shall additionally assign its rights, title and interest under any subcontractor's agreements to the CITY. All Work product provided under this Section shall be used solely for its intended purpose.

SECTION 8 PERSONNEL ASSIGNED TO PROJECT

8.1 The CONSULTANT shall assign only qualified personnel to perform any services concerning this Project Agreement. At the time of execution of this Agreement, the parties anticipate that the following named individuals will perform those supervisory or primary functions indicated:

NAME	FUNCTION
Kurt Pfeffer	Senior Principal Professional/Project Manager
Rob Taylor	Company Officer
John Koroshec	Senior Principal Professional

<u>NAME</u>	<u>FUNCTION</u>
Alonso Griborio	Technical Expert/Process
Jerry Ratasky	Technical Expert/Electrical
Monique Durand	Senior Professional
Alexandra Smith-Prance	Assistant Professional
Briana LeTourneau	Assistant Professional
Brad Pickett	Professional/Electrical Engineer
David Reed	Assistant Professional/Electrical Engineer
Evan Curtis	Principal Professional/Instrumentation and Controls Engineer
Fran Bennett	Senior Designer/CADD Designer
Teresa McNally	Administrative Assistant

So long as the individuals named above remain actively employed or retained by the CONSULTANT, they shall perform the functions indicated next to their names. Furthermore, the CITY reserves the right to reject any proposed substitution for any of the above named individuals, and the CITY shall have the further right to require that any individual assigned to the Project by the CONSULTANT be removed from the Project and reassigned for good cause.

SECTION 9 INCORPORATION OF CONTINUING SERVICES AGREEMENT

All terms and conditions of the "Continuing Service Agreement" between the CITY and the CONSULTANT dated, **October 28, 2010** not specifically modified by this Project Agreement shall remain in full force and effect and are incorporated into and made a part of this Project Agreement by this reference as though set forth in full.

SECTION 10 SEVERABILITY

If any term or provision of this Project Agreement or its application thereof to any person or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this Project Agreement or the application of such terms or provisions to persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected, and every other term and provision of this Project Agreement shall be deemed valid and enforceable to the extent permitted by law.

SECTION 11 GOVERNING LAW

This Agreement shall be governed by the laws of the State of Florida. Should the Parties be involved in legal action against each other arising under, or connected to, this Agreement, each party will be responsible for their own attorney's fees and costs. The venue for any litigation will be Broward County, Florida. Both Parties hereby agree to waive a jury trial, and will proceed to a trial by judge if necessary.

[SPACE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement on the respective dates under each signature: The CITY, signing by and through its Mayor, attested to by its City Clerk, duly authorized to execute same and by Hazen & Sawyer, P.C. by and through its Vice President, duly authorized to execute same.

CITY

CITY OF SUNRISE, FLORIDA

By: _____

Mayor Michael J. Ryan

_____ day of _____, 2016.

AUTHENTICATION:

Felicia M. Bravo
City Clerk

(SEAL) Seal

Approved as to form:

Kimberly A. Kisslan, City Attorney
City of Sunrise
10770 W. Oakland Park Blvd.
Sunrise, Florida 33351
Telephone: (954) 746-3300

By: _____

Kimberly A. Kisslan
City Attorney

CONSULTANT

Hazen & Sawyer, P.C.

By: Patricia A. Carney
Patricia A. Carney, P.E.
Vice President

23 day of September, 2016.

AUTHENTICATE:

[Signature]
Secretary

Robert B. Taylor, Jr. P.E
(Please type name of Secretary)



WITNESSES:

James T. Grogan
Marta Alonso
[Signature]

EXHIBIT "1"

TO

PROJECT AGREEMENT

**Preparation of Plant O&M Manual Chapters and Operator Training
For Southwest WWTP HLD Facilities Project**

P R O J E C T D E S C R I P T I O N

The principal features of the construction of the City of Sunrise Southwest WWTP HLD project include the following:

- a. Demolition of the headworks facility, including demolition and removal of all mechanical, electrical and instrumentation, wet well, master lift station and filling a portion in place.
- b. Construction of new headworks facility (approximately 1,263 sq. ft. cast-in-place concrete structure) and installation of the following: one mechanically cleaned bar screen, one manual bar rack, one vortex grit chamber, grit pumps, grit cyclone and classifier, odor control, master lift station (12 ft. diameter), piping, all associated materials, equipment and elements to complete the headworks facility and all civil, mechanical, electrical, instrumentation and structural work required for a complete and operating facility.
- c. Rehabilitation of the existing oxidation ditches, including crack repair, epoxy injection, concrete coating, replacement of brush aerators and splash baffles and all associated materials, equipment and elements to complete the repair of the oxidation ditches.
- d. Rehabilitation of the existing secondary clarifiers, including concrete coating, replacement of clarifier mechanisms and bridges, exterior stairs, weirs, addition of aluminum grating, toe plates, regrouting gate frames and all associated materials, equipment and elements to complete the repair of the secondary clarifiers.
- e. Demolition of the interior of the existing tertiary clarifier including removal of all piping, clarifier mechanism, clarifier bridge, weirs, effluent trough, baffle walls, instrumentation, electrical, exterior stairs, and exterior piping to the limits shown on the Drawings. Application of a new coating system to the remaining exterior above grade portions of the tertiary clarifier walls and piping.
- f. Demolition of the existing effluent flow metering structure and splitter box, including all equipment, piping, instrumentation, electrical and other elements to complete the demolition and removal of the existing flow metering structure and splitter box.
- g. Demolition and removal of the existing abandoned liquid filled pad mounted transformer.
- h. Repair of the existing chlorination building, including updates to meeting current Florida Building Code (doors and windows), concrete coating and all associated materials, equipment and elements to complete the repair/conversion of the existing chlorination building.

- i. Construction of the filter feed pump station (approximately 350 sq. ft. cast-in-place concrete structure), including the piping, pumps and all associated civil, mechanical, electrical, instrumentation and structural work required.
- j. Construction of the deep bed filters (approximately 1,817 sq. ft. cast-in-place concrete structure), including piping, backwash supply pumps, backwash waste pumps, deep bed filters and backwash supply/waste storage tanks and all associated civil, mechanical, electrical, instrumentation and structural work required.
- k. Construction of the chlorine contact basins (approximately 1,100 sq. ft. cast-in-place concrete structure), including piping and all associated civil, mechanical, electrical, instrumentation and structural work required.
- l. Construction of the sodium hypochlorite facility (approximately 650 sq. ft. pre-engineered metal building system), including piping, storage tanks, metering pumps as well as all civil, mechanical, electrical, instrumentation and structural work required for a complete and operating facility.
- m. Construction of the RAS/WAS pumping station (approximately 420 sq. ft. cast-in-place concrete structure), including piping, pumps, and all associated civil, mechanical, electrical, instrumentation and structural work required.
- n. Construction of the main electrical and headworks electrical buildings (approximately 1,965 sq. ft. and 722 sq. ft., respectively, concrete masonry unit structures) that will house VFD's, PLC's, MCC's and serve as distribution centers for new power to all of the new facilities and refeeding power to all of the existing equipment that will remain in service. Electrical facilities will include an emergency generator, diesel fuel storage tank, and automatic transfer switch to provide 100 percent standby power for both new and old facilities.
- o. Installation of new FPL underground distribution facilities (i.e., new FPL power supply)
- p. Installation of the SCADA system, including but not limited to new programmable automation controllers, communications network, field instrumentation, network server system, human-machine interface system hardware and programming

The purpose of this Project Agreement is to commission the preparation of a new chapters for the City's Southwest WWTP Plant Operations and Maintenance (O&M) Manual and operator training workshops to incorporate the new facilities described above.

EXHIBIT "2"

TO

PROJECT AGREEMENT

**Preparation of Plant O&M Manual Chapters and Operator Training
For Southwest WWTP HLD Facilities Project**

SCOPE OF SERVICES

SECTION 1 DESIGN SERVICES - DELETED

SECTION 2 BIDDING SERVICES - DELETED

SECTION 3 CONSTRUCTION CONTRACT ADMINISTRATION SERVICES - DELETED

SECTION 4 THE INSPECTION PROJECT REPRESENTATIVE - DELETED

SECTION 5 SPECIAL SERVICES OF THE CONSULTANT - DELETED

SECTION 6 SERVICE SCHEDULE - DELETED

SECTION 7 MISCELLANEOUS SERVICES

The scope of services shall be as follows:

Task 1 Preparation of Plant O&M Manual Chapters

Operation and maintenance (O&M) manual chapters shall be developed for the following new and upgraded facilities constructed at the Southwest WWTP under the HLD Project:

1. Plant Overview
2. Headworks (including Master Lift Station)
3. Oxidation Ditches, Clarifiers and RAS/WAS pumping/piping
4. Deep-Bed Filters
5. Disinfection (including hypochlorite, chlorine contact and percolation ponds)
6. Ancillary support systems
7. Electrical Power Distribution

8. Instrumentation and Controls

Services to be provided for preparation of O&M manual chapters are presented below:

1. Develop an electronic operation and maintenance manual geared toward operations personnel. Each section of the operation manual shall contain single-colored process schematics and diagrams for operator reference. Isometric diagrams shall also be utilized when necessary to provide better understanding of the process.
2. Based upon review comments received from the City, the Operation and Maintenance Manual chapters will be updated, and final Operation and Maintenance Manual chapters will be presented to the City.
3. The Operation and Maintenance Manual chapters shall be provided in hard copy original and electronic PDF format. Printing of the text for the Final Manual chapters will be on both sides of the paper. All of the pages will be dated at the lower left hand corner of the page to identify the latest date of word processing input to the text material.
4. Standard Operating Procedures (SOP's) - Standard Operating Procedures shall be developed for each of the processes identified in the Operation and Maintenance Manual chapter. The SOP's will be incorporated into the Operation and Maintenance Manual as a separate subsection of each major Section.
5. Each Standard Operating Procedure shall consist of the following sub-sections:
 - a. Pre-Startup Procedures
 - b. Startup Procedures
 - c. Routine Operations
 - d. Troubleshooting
 - e. Shutdown Procedures
 - f. Abnormal Conditions Response
 - g. Safety and Housekeeping
6. Single-colored schematic diagrams and isometric drawings shall be incorporated into the Standard Operating Procedures as necessary to understand the system operation.
7. Based upon review comments received from the City, the SOP's shall be updated and final SOP's will be submitted. These SOP's shall be utilized during Operator Training in Task 2.

Task 2 Operator Training

Consultant will conduct up to four workshop meetings (four hours each) with the facilities operational staff to provide operational training for new and modified treatment processes and support systems (e.g., electrical, SCADA). Workshops shall include classroom training and hand-on field training. Written training materials and workshop outlines shall be prepared and submitted to the City at least two weeks prior to any workshop.

In addition to training workshops, Consultant shall review operational data, observe trends, and correlate system performance observations with collected operational data. This task will focus on optimizing system performance. Written results of evaluations and operational recommendations shall be provided to the City.

Task 3 Convert Deep-Bed Filters Chapter to Dynamic Electronic Format

Consultant will convert the Deep-Bed Filters chapter (produced in Task 1) to a dynamic electronic operations and maintenance (eOM) manual format using commercially available, off-the-shelf software. The software will be nonproprietary and provide multiple publishing options.

3.1 Data Gathering and Content Workshop

CONSULTANT will perform a data gathering step that will include collecting the following types of documents to be included in the eOM:

- Vendor O&M manuals and vendor shop drawing submittals
- Record drawings
- Design reports
- Operator plant inspection forms and field data collection forms
- Operations data management system (e.g. Hach Wims)
- Interviews with plant operators to identify daily duties to be documented in plant inspection SOPs

A workshop will be held with stakeholders to develop the layouts and architecture of the eOM manual pilot chapter. A sample eOM chapter created by the Consultant for another client will be navigated online during the workshop to serve as a starting point. The workshop will use the eOM pilot chapter as the starting point to discuss the needs of each group of stakeholders for the eOM manual. The input from the stakeholders will be used for Task 3.2: eOM Manual Pilot Chapter Content Development. At a minimum, stakeholders should include City Utilities staff members, City IT staff, Sawgrass WWTP superintendent and lead O&M staff.

Task 3.1 Deliverables:

- Workshop 3.1 to brainstorm the eOM manual content requirements with stakeholders
- Meeting minutes from Workshop 3.1
- Electronic PDF copies of vendor O&M manuals and vendor shop drawing submittals
- Repository of gathered data to be included in the eOM manual

3.2 eOM Manual Pilot Chapter Content Development

CONSULTANT will develop the eOM manual pilot chapter using Help + Manual (H&M) software. H&M provides multi-publishing capabilities which will allow the CITY to view the manual on a website, PDF, eBook and other useful formats. H&M uses a single source file to preserve the integrity of the eOM manual

data, while providing conditional and customized output features that enable the user to include variant content versions for different output formats and purposes.

CONSULTANT will tailor the eOM manual pilot chapter to meet the requirements and needs of CITY staff. The publishing application will provide a user friendly interface, similar to Microsoft Word, and will allow CITY staff to easily import updates from Microsoft Word or Adobe PDF files once the manual is turned over to CITY. CONSULTANT will develop the high level architecture of the eOM manual to define the structure and organization following the outcome of Workshop 3.1. The proposed content to be included in the eOM manual pilot chapter is listed in Table 1 below.

Table 1 – Proposed eOM Manual Content per Type of Page (per Unit Process)	
Unit Process	
Description	A short description of the unit process.
Design Criteria	Design criteria specific to given unit process. Normal operating parameter ranges.
Process Equipment	Tabular listing of equipment sizes, number, loadings and other design criteria. Hyperlink to equipment pages.
Process Flow Diagram	Process flow diagram hyperlinked to PDF format.
Process Control	List and description of Key Performance Indicators (KPIs) and KPI targets. List and description of control parameters (parameters that can be manipulated by operators to adjust processes to meet KPI targets).
Process Monitoring	Description of sample points. List of parameters to be trended. Applicable calculations.
Standard Operating Procedures	<u>Process SOP</u> : A list of duties to be performed by operators when making daily process checks. <u>Mechanical SOPs</u> : Detailed mechanical operating procedures for each process. These typically include: Pre-Startup, Startup, Shutdown, Long-term Shutdown, Bypass. The mechanical SOPs will include a gate and valve schedule similar to what is in the existing operations manual. Note that the list of mechanical SOPs per process may not apply to all processes. Only applicable SOPs will be written/included.
Photos	Hyperlinks to photos pertaining to each unit process. CONSULTANT will use an existing repository of photos from previous construction and training projects as well as existing eOM if applicable. CONSULTANT will take new photos only where existing photos do not exist.

Table 1 – Proposed eOM Manual Content per Type of Page (per Unit Process)	
Troubleshooting	List of common problems associated with each unit process with protocol for mitigating each problem.

Equipment Pages	
Description	Short narrative describing purpose of equipment.
Design Criteria	Design criteria for the equipment (e.g., max and min flow rates, pump size, pump head, overflow rates etc.).
Equipment Specs	List of pertinent information including manufacturer, model number, motor information etc.
Instrumentation and Control Descriptions	A description of manual and automatic controls.
O&M Manuals	Hyperlinks to equipment manuals provided by equipment vendors in PDF format.
Troubleshooting	Hyperlink to Vendor O&M manual troubleshooting if available; otherwise, a list of process alarms showing possible causes and suggested responses.

CONSULTANT will develop the material to populate the eOM manual pilot chapter for the following process:

- Deep-Bed Filters

SOPs will be developed as stand-alone Word documents and then imported into the eOM manual via H&M. The process SOPs are defined as documents that detail the required procedure and key performance indicators for the operation of a given unit process. CONSULTANT will produce one detailed process SOP per unit process to include:

- Pre-Startup Procedures
- Startup Procedures
- Routine Operations, including key performance indicators (KPI) and targets; control parameters and description of how each is used to adjust the process to meet KPIs; monitoring requirements – sampling and data trending; description of calculations which may be required for data trending; and list of operator duties to operate the unit process broken up by frequency requirement
- Shutdown Procedures
- Troubleshooting – list of most common issues encountered and description of how to address each ailment
- Abnormal Conditions Response

- Safety and Housekeeping

In addition, mechanical SOPs will be developed as stand-alone Word documents and will be imported into the eOM manual pilot chapter.

CONSULTANT will develop the draft eOM manual pilot chapter on a CONSULTANT server that will be available to CITY staff via the Internet for review.

Task 3.2 Deliverables:

- Finalized eOM manual structure
- eOM manual content as listed above

Task 4 Project Management

Project management will include quality control review of deliverables by senior technical personnel, monitoring and control of project schedule, direct coordination with CITY staff and administrative tasks required to complete the project.

EXHIBIT "3"

TO

PROJECT AGREEMENT

**Preparation of Plant O&M Manual Chapters and Operator Training
For Southwest WWTP HLD Facilities Project**

P R O J E C T S C H E D U L E

CONSULTANT will submit deliverables to the CITY as follows:

Task/Description	Task/Completion In Days Following Authorization
Task 1 – Plant O&M Manual Chapters	
Draft O&M Chapters	90
Final O&M Chapters*	150*
Task 2 – Operator Training	
Written Training Materials	120
Training Workshops*	150*
Task 3 – Convert Deep Bed Filters Chapter to Dynamic Electronic Format	
Data Gathering and Content Workshop	120
Pilot Chapter Content Development**	180**
Task 4 – Project Management	N/A (no deliverable)

*Based on receipt of CITY review comments 30 days after receipt of draft deliverables

**Based on commencing this task following acceptance of final Deep-Bed Filters chapter in Task 1 and following data gathering and content workshop in Task 3.1

EXHIBIT "4"

TO

PROJECT AGREEMENT

**Preparation of Plant O&M Manual Chapters and Operator Training
For Southwest WWTP HLD Facilities Project**

PAYMENT SCHEDULE

Task/Description	Percent of Total Fee	Fee
Task 1 – Plant O&M Manual Chapters	59.0	\$89,240.00
Task 2 – Operator Training	28.8	\$43,541.00
Task 3 – Convert Deep-Bed Filters Chapter to Dynamic Electronic Format	8.8	\$13,371.00
Task 4 – Project Management	1.4	\$2,171.00
Expenses	2.0	\$2,966.00
Total	100.0	\$151,290.00

EXHIBIT "5"

TO

PROJECT AGREEMENT

**Preparation of Plant O&M Manual Chapters and Operator Training
For Southwest WWTP HLD Facilities Project**

DELIVERABLES

- Draft Plant O&M Manual Chapters - ten printed copies and one electronic copy (PDF format).
- Final Plant O&M Manual - ten printed copies and one electronic copy (PDF format).
- Written materials for operator training workshops - ten printed copies and one electronic copy (PDF format).