

AMENDMENT NO. 1
Cholla WTP 2023 Improvements Design and Plant Assessment
Chlorine Dioxide - CA Services
(Contract No. C23-0377)

This Amendment No. 1 (“Amendment”) to the Standard Form of Agreement between Owner and Design Professional (Construction Manager at Risk) (“Agreement”) is made this _____ day of _____, 2024, (“Effective Date”), by and between the City of Glendale, an Arizona municipal corporation (“City”) and Wilson Engineers, LLC, an Arizona Limited Liability Company, authorized to do business in Arizona (“Contractor”).

RECITALS

- A. City and Wilson Engineers, LLC (“Contractor”) previously entered into a Standard Form of Agreement between Owner and Design Professional (Construction Manager at Risk), Contract No. C23-0377 dated April 11, 2023 (“Agreement”); and
- B. City and Contractor wish to modify and amend the Agreement subject to and strictly in accordance with the terms of this Amendment.

AGREEMENT

In consideration of the mutual promises set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the City and Contractor hereby agree as follows:

- 1. **Recitals.** The recitals set forth above are not merely recitals but form an integral part of this Amendment.
- 2. **Term.** The term of the Agreement is extended for a one-year period from April 12, 2024 through April 11, 2025, unless otherwise terminated or canceled as provided by the Agreement. All other provisions of the Agreement except as set forth in this Amendment shall remain in their entirety.
- 3. **Scope of Work.** The Scope of Work shall be revised to include additional construction administration (CA) and inspection services for Chlorine Dioxide improvements.
- 4. **Compensation.** The compensation shall be increased by an additional \$870,180 per the attached Exhibit B.
- 5. **Insurance Certificate.** Current certificate will expire on December 31, 2024. A new insurance certificate must be provided prior to this date to the Materials Manager and the Contract Administrator in order for this Agreement to remain in effect.

6. **Non-discrimination.** Contractor must not discriminate against any employee or applicant for employment on the basis of race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity or expression, genetic characteristics, familial status, U.S. military veteran status or any disability. Contractor will require any Sub-contractor to be bound to the same requirements as stated within this section. Contractor, and on behalf of any subcontractors, warrants compliance with this section.
7. **No Boycott of Israel.** To the extent A.R.S § 35-393 through § 35-393.03 are applicable, the parties hereby certify that they are not currently engaged in, and agree for the duration of the Agreement to not engage in, a boycott of goods or services from Israel, as that term is defined in A.R.S § 35-393.
8. **Uyghur Forced Labor Prevention Act (UFLPA).** Contractor certifies that it does not currently, and during the term of this Agreement, will not use:
 - (a) the forced labor of ethnic Uyghurs in the People’s Republic of China;
 - (b) any goods or services produced by the forced labor of ethnic Uyghurs in the People’s Republic of China; and
 - (c) any contractors, subcontractors or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People’s Republic of China.
9. **Attestation of PCI Compliance.** When applicable, the Contractor will provide the City annually with a Payment Card Industry Data Security Standard (PCI DSS) attestation of compliance certificate signed by an officer of Contractor with oversight responsibility.
10. **Ratification of Agreement.** City and Contractor hereby agree that except as expressly provided herein, the provisions of the Agreement shall be, and remain in full force and effect and that if any provision of this Amendment conflicts with the Agreement, then the provisions of this Amendment shall prevail.

[Signatures on the following page.]

CITY OF GLENDALE, an Arizona
municipal corporation

Kevin R. Phelps, City Manager

ATTEST:

Julie K. Bower, City Clerk (SEAL)

APPROVED AS TO FORM:

Michael D. Bailey, City Attorney

Wilson Engineers, LLC,
an Arizona Limited Liability Company



By: Stephen Todd

Its: Principal

**Water Services Department
SCOPE FOR CONSTRUCTION ADMINISTRATION
(CA) SERVICES**

EXHIBIT B

**Cholla Water Treatment Plant 2023 Improvements
Chlorine Dioxide System**

TASK SERIES SUMMARY

Task Series 100 - General

Task Series 200 - Project Administration Services during Construction

- Task 210 Representation on Behalf of City
- Task 220 Administer the Construction Schedule
- Task 230 Review of Submittals Including Shop Drawings, and Test Results Documentation
- Task 240 Issue Interpretations and Clarifications
- Task 250 Certify Contractor Progress Payments
- Task 260 Substantial Completion and Final Inspection

Task Series 300 - Engineering Services during Construction

- Task 310 Minor Changes, Change Order Requests, and Change Orders
- Task 320 Material Testing
- Task 330 Record Drawings and Project Documents
- Task 340 Manufacturer Operation and Maintenance Manuals

Task Series 400 - Resident Services during Construction

A. General

B. Duties and Responsibilities:

- Task 410 Field Administration
- Task 420 On-Site Inspection and Review of the work
- Task 430 Completion

C. Limitations of Authority

Task Series 500 - Special Services

- Task 510 Warranty
- Task 515 System Training by ENGINEER
- Task 520 Contractor's and Manufacturer's Equipment Training Coordination
- Task 530 Stormwater Permit for Construction Activity
- Task 535 Electronic Standard Operating Procedures Manual
- Task 540 Update Computerized Maintenance Management System
- Task 545 Instrumentation and Control System
- Task 550 Commissioning

Task Series 700 – Allowances and Subconsultants

| | |
|--------------------------|---------------------------------------|
| Task 701 Subconsultant 1 | NACE III Coating Inspections |
| Task 702 Allowance 1 | Architectural Subconsultant Allowance |
| Task 703 Allowance 2 | Additional Field Inspection Allowance |
| Task 704 | Reimbursable Expenses |
| Task 704.1 Allowance 3 | Printing Costs |
| Task 705 Allowance 4 | Owner’s Allowance as Directed |

CONSTRUCTION ADMINISTRATION

SCOPE OF SERVICES

Project Title: Cholla Water Treatment Plant 2023 Improvements
Chlorine Dioxide System

TASK SERIES 100 - GENERAL

This Scope of Services describes engineering services to be provided by Wilson Engineers, LLC (ENGINEER) for the City of Glendale (CITY). The engineering services are related to the construction and post construction phases of the Project and will consist of the following:

Section 200 - Project Administration Services During Construction

Section 300 - Engineering Services During Construction

Section 400 - Resident Services During Construction

Section 500 - Special Services

Section 700 – Allowances and Subconsultants

The level of effort associated with these services is proposed in Exhibit B.

This Scope of Services will be performed during the construction and post-construction phases of the Project. The duration of the construction phase services is approximately May 2024 through May 2025 (12 months). Post-construction services will last up to 24 months after final completion of the construction agreement and are prescribed as Special Services, in Section 500.

The ENGINEER acknowledges that the CITY may have retained other consultants, engineering and otherwise, and that coordination between other consultants and the ENGINEER may be necessary from time to time to ensure proper performance of these services. The ENGINEER agrees to provide such coordination as necessary within the scope of services.

Construction contract documents (Construction Documents) are defined as the agreement, general conditions, supplemental conditions, drawings, standard details, specifications, addendum, and executed change orders prepared for construction of the Project.

TASK SERIES 200 - PROJECT ADMINISTRATION SERVICES DURING CONSTRUCTION

Task 210 - Representation on Behalf of City

The ENGINEER will consult with and advise CITY and act as its representative during construction. The extent and limitations of the duties, responsibilities and authority of ENGINEER as assigned herein shall not be modified, except as ENGINEER may otherwise agree in writing. All CITY instructions to Contractor(s) will be issued through ENGINEER who will have authority to act on behalf of CITY to the extent provided in this scope of services except as otherwise provided in writing.

ENGINEER will not be responsible for the means, methods, techniques, sequences or procedures of construction selected by Contractor(s) (unless otherwise specified in the construction contract documents) or the safety precautions and programs associated with the work of Contractor(s).

ENGINEER shall furnish the services of a competent inspector during the progress of construction. ENGINEER shall coordinate the inspection, facilitate the work in general, and perform miscellaneous inspection work as required to assure that the work is constructed in accordance with the Contract documents and accepted standards of the construction industry. ENGINEER shall not have the direct control of the individual workmen and their work. The direct control shall be solely the responsibility of the contractor (referred to as "Construction Manager at Risk" or "CMAR"), to the extent provided by the contract between the City and the CMAR.

ENGINEER will make site(s) visits appropriate for the size of Project and type of construction at periods appropriate to the various stages of construction to inspect, as an experienced and qualified professional, the progress and quality of the executed work of Contractor(s) and to determine if such work is proceeding in accordance with the Construction Documents.

On the basis of on-site examination of materials, equipment, and workmanship, ENGINEER will keep CITY informed of the progress of the work, will endeavor to guard CITY against defects and deficiencies in such work and will disapprove or reject work failing to conform to the Contract Documents. This task shall include the following items:

- 1) Conduct preconstruction conference: the ENGINEER will conduct a preconstruction conference. At the conference, the ENGINEER will identify field services to be provided by the ENGINEER and discuss appropriate coordination procedures. The ENGINEER will prepare an agenda for the meeting and will prepare and distribute the meeting minutes. The ENGINEER's Resident Project Representative (RPR) will conduct the meeting.
- 2) Provide construction administration, quality control, and coordination: the ENGINEER will provide construction administration and quality control services during the course of construction to assure that the overall technical correctness of the construction phase services and that specified procedures are being followed and that schedules are being

met. The ENGINEER will provide coordination functions during the construction phase as follows;

- A) Hold coordination meetings with the CITY as appropriate;
 - B) Coordinate with regulatory and approving agencies and utilities as required;
 - C) Manage asset information for Central Systems (Lucity)
 - D) Coordinate the work of specialty subconsultants assigned to the Project; and
 - E) Verify Contractor's Safety Data Sheets (SDS) are on file at the job site.
- 3) Provide Project Records and Documentation: The ENGINEER will maintain and provide the following detailed Project Records and documentation during the construction phase:
- A) The Project Records shall include correspondence, schedules, submittals, test data, project data, payments, change orders, meeting minutes, clarifications, mark-ups of drawings and specifications, control system documentation and other such documentation. Project records shall be delivered to the CITY upon completion of the construction contract. Records shall be maintained under Section 400. Project Records shall be maintained in the ENGINEER's Office.
 - B) Status reports for the construction contract shall be provided under Task 410.

Task 220 - Administer the Construction Schedule

The ENGINEER's opinions concerning the various scheduling documents produced or used by the Contractor are for information and are not controlling on the Contractor. It is the Contractor's responsibility to continue to exercise its independent judgment concerning means, methods and sequences of construction it employs. The Contractor remains solely responsible for meeting contract time(s) given in the Construction Documents.

- 1) Review progress schedule: The ENGINEER will review and critique the Contractor's progress schedule in accordance with the Construction Documents. The ENGINEER will examine the work sequence, durations, interim milestones, and other appropriate scheduling features in accordance with the requirements of the Construction Documents. The ENGINEER will prepare a summary of the review comments and will meet and discuss the schedule comments with the Contractor and the CITY's representative.
- 2) Review progress schedule updates: The ENGINEER will review the Contractor's progress schedule updates to the construction schedule in accordance with the Construction Documents. The ENGINEER will perform a review of progress accomplished during the period and compare to planned schedule and discuss significant discrepancies with the

Contractor. The ENGINEER and Contractor will establish, based on the data, the percent of Project completion. ENGINEER will meet with Contractor on monthly basis to review and update the schedule data. Based upon the schedule update, the ENGINEER will recommend processing progress payments. The primary performance of the task will be performed under Task 400.

Task 230 - Review of Submittals Including Shop Drawings, and Test Results Documentation

The ENGINEER will receive, review, evaluate, and distribute (or take other appropriate action in respect of) shop drawings, samples, test results, and other data which Contractor is required to submit. The ENGINEER's review shall be for conformance with the design concept of the Project and compliance with the information given in the Construction Documents. Such review or other action shall not extend to means, methods, sequences, techniques or procedures of construction selected by Contractor(s), or to safety precautions and programs associated thereto.

The ENGINEER will receive and review (for general contents as required by the Construction Documents) guarantees, and certificates of inspection which are to be assembled by Contractor(s) in accordance with the Construction Documents and Task 535 and 540.

The ENGINEER will maintain a submittal log showing dates of all submittals, transmittal action to other subconsultants, dates of return and review action. Copies of the log shall be furnished to the CITY and the Contractor monthly. The ENGINEER will promptly and in accordance with Project schedule requirements, review and approve, reject or take other appropriate action on the Contractor's request for substitutions. The ENGINEER will not approve any proposed substitution unless such substitution is approved by the CITY.

Submittal review efforts are based upon a maximum of two (2) reviews per submittal and that no more than fifty percent (50%) of the total number of first submittals will require two (2) reviews. For this task, it is assumed that approximately 80 total submittals will be submitted for review. The total submittal quantities include approximately 60 original submittals plus 30% of the original total resubmitted as revise and resubmitted shop drawings.

Task 240 - Issue Interpretations and Clarifications

The ENGINEER will issue the CITY's instructions to Contractor(s); issue necessary interpretations and clarifications of the Construction Documents; have authority, as CITY, to require special inspection or testing of the work; act as initial interpreter of the requirements of the Construction Documents and judge the acceptability of the work thereunder, and make decisions on all claims of CITY and Contractor(s) relating to the acceptability of the work or the interpretation of the requirements of the Construction Documents pertaining to the execution and progress of the work. The ENGINEER will render interpretations or decisions in good faith and in accordance with the requirements of the Construction Documents.

The ENGINEER will respond to the CITY and/or Contractor to clarify and/or interpret technical or design related questions. Routine technical interpretations shall be responded to under Task 410. The ENGINEER will respond to issues raised during construction regarding interpretation and clarification of the contractual administrative and technical requirements of the Construction Documents. The ENGINEER will serve as the CITY's advisor in resolution of these issues. Clarifications shall be issued to the Contractor under Task 410. Approximately 50 RFIs are anticipated.

Task 250 - Certify Contractor Progress Payments

The ENGINEER will review, prepare comments, and reach agreement with the Contractor on the progress represented in the Contractor's schedule of values. The monthly schedule update, schedule of values, in combination with the ENGINEER's field inspections, and the progress schedule shall be used by the ENGINEER to determine the appropriateness of the Contractor's request for payment.

The ENGINEER, on review of applications for payment and the accompanying data and schedules, verifies the amounts owed to Contractor and recommends in writing to CITY payments to Contractor. Recommendations of payment will constitute a representation to CITY, based on such inspections and review, that;

- 1) The work has progressed to the point indicated;
- 2) To the best of ENGINEER's knowledge, information and belief, the quality of such work is in accordance with the Contract Documents (subject to an evaluation of such work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Construction Documents, and to any qualifications stated in the recommendation); and
- 3) Payment of the amount recommended is due and owed to the Contractor.

The overall construction schedule is anticipated to be twelve (12) months. Effort is assumed to be for review and approval of 12 payment applications.

Task 260 – Substantial and Final Completion Inspections

Following notice from the Contractor, the ENGINEER and the CITY will conduct an inspection to determine the status of completion. If the ENGINEER does not consider the project or work substantially complete, the ENGINEER will notify the Contractor in writing. If the ENGINEER considers the work substantially complete, the ENGINEER will deliver to the CITY a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. Attached will be a tentative list of items to be completed or corrected before final payment. After CITY reviews and approves the tentative certificate of Substantial Completion, the ENGINEER will

deliver to the CITY and Contractor a definitive certificate of Substantial Completion and punch list.

The ENGINEER and the CITY will, upon completion of the punch list items as notified by the Contractor, make final inspection to determine if the finished work has been completed to the standard required by the Construction Documents, determine whether required inspections and approvals for permit compliance have been satisfactorily completed, and Contractor has fulfilled their contractual obligations so ENGINEER may recommend, in writing, final payment to Contractor and may give written notice to CITY and the Contractor that the work is acceptable, subject to any conditions therein expressed and in consultation with the CITY whether the work is finally complete

After the work is determined to be finally complete and the ENGINEER determines that the Contractor has properly submitted the items required for final inspection, the ENGINEER will determine whether the Contractor is entitled to final payment and, if so, will so certify to the CITY.

The ENGINEER's certification that the Contractor is entitled to final payment constitutes the ENGINEER's representation to the CITY that;

- 1) The work complies with (a) the construction contract documents, (b) applicable building codes, rules or regulations of all governmental authorities having jurisdiction over the Project, and (c) applicable installation and workmanship standards;
- 2) The Contractor has submitted proper Final Completion close-out documents; and
- 3) The Contractor is entitled to final payment.

The ENGINEER will provide to the CITY, at the time it submits a signed final payment request from the Contractor, all Final Completion close-out documents.

ENGINEER will not be responsible for the acts or omissions of any Contractor, or subcontractor, or any of the Contractor(s)' or subcontractor(s)' agents or employees or any other persons (except ENGINEER's own employees and agents) at the site(s) or otherwise performing any of the Contractor(s)' work; however, nothing contained in Tasks 210 through 260, inclusive, shall be construed to release ENGINEER from liability for failure to properly perform duties in accordance with this scope of services.

TASK SERIES 300 - ENGINEERING SERVICES DURING CONSTRUCTION

Task 310 - Minor Changes, Change Order Requests, and Change Orders

The ENGINEER, without the CITY's prior approval, may authorize or direct minor changes in the Work which are consistent with the intent of the construction contract documents and which do

not involve a change in Project cost, time for construction, Project scope, aesthetics, or approved design elements. Any such minor changes shall be implemented by written field order. Except as provided in this paragraph, the ENGINEER shall not have authority to direct or authorize changes in the Work without the CITY's prior written approval; however, the ENGINEER shall provide a copy of any written field order to the CITY.

The ENGINEER will promptly consult with and advise the CITY concerning, and shall administer and manage, all change order requests and change orders.

The ENGINEER will prepare, when requested by the CITY, required drawings, specifications and other supporting data regarding minor changes, change order requests and change orders.

The ENGINEER will prepare and submit change order requests explaining the merits for the change and a recommendation for the CITY's approval and acceptance.

The ENGINEER will negotiate an agreement with the Contractor as to scope of work and cost, time or both associated with the change in Work. The change order shall include a written justification for the cost of the Work.

The ENGINEER will administer and manage minor changes, change order requests, and change orders on behalf of the CITY. Change orders shall be prepared on a standard form provided by the CITY.

Should a change order request be accepted by the CITY in the absence of an agreement with the Contractor as to cost, time, or both, the ENGINEER will;

- 1) Receive and maintain all documentation pertaining to the change order request required of the Contractor;
- 2) Examine such documentation on the CITY's behalf;
- 3) Take such other action as may be reasonably necessary or as the CITY may request; and
- 4) Make a recommendation to the CITY concerning any appropriate adjustment in the construction cost and/or time and prepare a change order for Contractor's acceptance and City approval.

Changes and substitutions shall be limited to the scope of the Project as defined by the Construction Documents or additional work as may be requested by the CITY.

Task 320 – Material Testing

The ENGINEER will review conformance material testing services performed by an independent testing laboratory to monitor the Quality Control (QC) efforts performed by the CONTRACTOR.

Material testing shall remain the responsibility of the CONTRACTOR as outlined in the contract documents.

ENGINEER will review laboratory reports and reports of inspection and testing activities describing the tests and inspections made and maintain files of this documentation to be turned over to the CITY. The laboratory shall itemize any changes in specifications or acceptance criteria authorized by the ENGINEER and report the actual condition of all items tested and inspected. The laboratory shall report directly to the ENGINEER's Resident Project Representative and shall receive direction with respect to work activities, duties, duration, reporting procedures, etc., from the ENGINEER's Resident Project Representative.

The ENGINEER's laboratory (and its technician(s)) will perform Quality Assurance (QA) inspection and testing for the following:

- 1) Soils Testing: Select backfill, backfill and subgrade materials under and around structures, paved areas, pipe trenches, and duct bank/conduit, etc., for compaction to the appropriate percentage of the moisture-density specified for each material. Selection of areas to be tested shall be made by the ENGINEER. Placement of select backfill shall be periodically monitored by the technician for compliance with project materials quality specifications. Field moisture-density tests shall be conducted by the technician at the frequency directed by the ENGINEER. In-place density tests and sampling shall be conducted by the Technician on the compacted asphalt pavement at the frequency designated by the ENGINEER. Moisture-density relationships shall be determined in accordance with the moisture-density specifications specified for this Project, utilizing the appropriate method for each material type. Optimum moisture and maximum density remolded swell and plasticity index testing as required for each sample submitted. Soil sieve analyses shall be conducted prior to placement of select backfill, and embedment and all granular fill materials.

- 2) Concrete Placements: The laboratory's technician shall monitor the concrete materials, as delivered to the Project site, for compliance with the requirements of the Construction Contract Documents. These requirements include temperature, slump, air content, time of delivery and composition as delivered. The technician shall report any deviations from the Construction Document requirements to the ENGINEER's Resident Project Representative. ENGINEER's Representative will determine the acceptability of the products. The technician shall prepare and deliver (to the laboratory for testing) the concrete test cylinders in accordance with the Construction Contract Documents and appropriate American Concrete Institute (ACI) Standards.

Deliver to the laboratory, from the construction site, the concrete test cylinders prepared by the Technician. Provide test cylinder control system in accordance with the Laboratory's standard control procedure.

- 3) Testing of Hot Mix Asphaltic Concrete: Bitumen extraction, aggregate gradation, bitumen content, laboratory density and stability test shall be performed for paving operations.

- 4) Additional Testing: Additional testing services that may be required throughout the life of the construction period will be provided at the ENGINEER's request. Fees for these services will be invoiced through the ENGINEER to the CITY at the laboratory's standard unit rates in effect at the time these services are provided.

Written reports of all testing results which identify the required data and identify conformance or non-conformance with the Construction Documents will be maintained by the ENGINEER and provided to the CITY at the completion of the Project. The ENGINEER will take appropriate action on all such testing and inspection reports, including acceptance, rejection, requiring additional testing or corrective work, or such other action the ENGINEER deems appropriate. The ENGINEER will promptly reject Work which does not conform to and comply with testing requirements.

Task 330 – Record Drawings and Project Documents

Record Drawings

The ENGINEER will prepare a set of Record Drawings showing those changes made during construction per the current version of the City of Glendale Water Services Department Engineering Standards. Record drawing information shall be based on marked-up prints, drawings, and other data furnished by Contractor(s) to ENGINEER which ENGINEER will review for accuracy and completeness. Use the original cover sheet with all the signatures and ENGINEER'S seal for the Record Drawings.

The ENGINEER will prepare the following:

- Flash Drives with the CADD and pdf files of Record Drawings – 4 each
 - One for Infrastructure Records Services for the Facility Drawings
 - One for Infrastructure Records Services for Record Drawings
 - One for the Facility Supervisor
 - One for the CITY Project Manager

- Full Size Sets – 2 each
 - One to be submitted for Record Drawings
 - One for the CITY Project Manager

- Half Size Sets – 2 each
 - One for Infrastructure Records Services
 - One for CITY Project Manager

The ENGINEER'S Resident Project Representative will review and coordinate work associated with the Record Drawings. The Record Drawings shall be available to the CITY within thirty (30)

days of receipt of all data in its entirety from the Contractor.

Project Documents -

As stated in paragraph 1 of Section V, Subsection J of the Construction Administration Services Contract between the Owner and ENGINEER, the Project Documents are required to be delivered to the Project Manager. The Project Documents shall be delivered in pdf format on electronic media acceptable to the CITY.

The project documents shall include, but is not all inclusive, the following documents, organized by folders on approved electronic media:

- General Correspondence
- Test Results
 - Equipment (pumps, motors, etc.)
 - Electrical/I&C
 - Bacteriological
 - Asphalt
 - Concrete
 - Compaction
 - Pressure
 - Leak
 - Continuity
 - Adhesion/Bond
 - Coating Thickness
- Asset Tagging Spreadsheet
- Work Change Directives (WCD)
- Change Orders
- Final Shop Drawings
- Green Tags/Permits/ATC/AOC
- Photos
- Pre and post inspection video
- Schedules
- Public Outreach
 - Notices
 - Letter to Residents

Task 340 – Manufacturer Operation and Maintenance Manuals

Within 60 days of construction NTP, the ENGINEER will provide a preliminary list of Operation and Maintenance (O&M) Manuals required by the Construction Documents to be approved by the CITY. The ENGINEER shall verify that all required manufacturer or supplier furnished O&M

manuals that have been prepared and submitted per the Construction Documents. It is expected that the Contractor will furnish manufacturer's manuals prior to installation of the respective equipment. A list of manufacturer operation and maintenance manuals will be maintained by the ENGINEER as the information is submitted by the Contractor.

The review of manufacturer operations and maintenance manuals will occur under Task 230. The development of facility operation and maintenance manual will occur under Task 535 Electronic Standard Operating Procedures Manual (ESOPM) and Task 540 Update Computerized Maintenance Management System (CMMS).

TASK SERIES 400 - RESIDENT SERVICES DURING CONSTRUCTION

A - General

A Resident Project Representative will be furnished and will act as directed by ENGINEER, in order to assist ENGINEER in inspecting performance of the work of the Contractor(s). Through more extensive on-site inspections of the work in progress and field checks of materials and equipment by the Resident Project Representative and Inspector(s), ENGINEER will endeavor to provide further protection for CITY against defects and deficiencies in the work of Contractor(s); but the furnishing of such resident project representation will not make ENGINEER responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions or programs, or for Contractor(s) failure to perform their work in accordance with the Contract Documents.

Resident Project Representative, as ENGINEER's agent, will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER. Resident Project Representative's dealings in matters pertaining to the on-site work shall in general be only with ENGINEER and Contractor, and dealings with subcontractors shall only be through or with the full knowledge of Contractor. Written communication with CITY will be only through or as directed by ENGINEER, and when appropriate, may be through the Resident Project Representative.

B – Duties and Responsibilities

Task 410 - Field Administration

Schedules: Review the progress schedule, schedule of Shop Drawing submissions and schedule of values prepared by Contractor, and consult with ENGINEER concerning their acceptability.

Meetings: Conduct preconstruction conferences and periodic construction progress meetings. Prepare and distribute minutes of such meetings.

Liaison: Serve as ENGINEER's liaison with Contractor, working principally through Contractor and assist the Contractor in understanding the meaning of the Construction Documents. Assist ENGINEER in serving as CITY's liaison with Contractor, when Contractor's operations affect CITY's on-site operation. As directed by ENGINEER, assist in obtaining from CITY additional details or

information, when required at the job site for proper execution of the work.

Shop Drawings and Samples: Shop drawings and samples which are furnished by Contractor will be received and reviewed as defined in Task 230. Advise ENGINEER and Contractor prior to the commencement of any work requiring a Shop Drawing or sample submission if the submission has not been approved by ENGINEER.

Interpretation of Construction Documents: Receive and transmit clarifications and interpretations of the Construction Documents to/from the Contractor and ENGINEER as described in Task 240. Resident Project Representative will notify CITY of the ENGINEER's decision prior to issuance to the Contractor.

Changes: Consider and evaluate Contractor's suggestions for changes in drawings or specifications and report suggestions with recommendations to ENGINEER. Notify the CITY of changes or alterations believed to be in the CITY's best interest. Provide the CITY with support information of proposed changes. Prepare drawings, details, and specifications needed to describe and justify the change. Prepare an estimate of the cost and time impact of the change and negotiate scope, cost, and schedule with the Contractor.

Records: Maintain files for correspondence, reports of job conferences, shop drawings and sample submissions, Construction Documents including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the construction contract, ENGINEER's clarifications and interpretations of the Construction Documents, progress reports, and other Project related documents.

Prepare daily reports recording Contractor's work performed on the job site, major construction equipment on-site, weather conditions, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, on-site equipment, subcontractors on-site, inspections in general and specific inspections in detail as to inspecting test procedures. Send record copies to ENGINEER.

Record names, addresses and telephone numbers of the Contractor's staff, subcontractors and major suppliers of materials and equipment.

Maintain notes to be capable of cross referencing the Contractor's record drawing information for accuracy and completeness.

Receive, review and process daily inspection reports.

Maintain a digital photographic file of the progress of the construction activities throughout the duration of the Project. This photo file will consist of color photographs taken to document specific construction activities where the information may be of future value. The photographs will be labeled as to the subject, and date of the photo and the photos will be indexed by date and clearly identify specific construction area of the Project.

Reports: Each month, furnish ENGINEER and CITY the Project progress meeting minutes (as the construction contract status report) describing the progress of the work and Contractor's compliance with the approved progress schedule and schedule of shop drawing submissions.

The report will include as a minimum;

- 1) Total Project cost to date;
- 2) Total Project cost during the period;
- 3) Planned versus actual progress;
- 4) Actual and/or potential defaults or violations of the Construction Documents;
- 5) Remedies to the above;
- 6) Change order/work change directive activity summary (Task 320); and
- 7) Site visit by regulatory agencies;
- 8) Other Project issues.

Consult with ENGINEER in advance of scheduled major tests, inspections or start of important phases of the work.

Promptly notify the ENGINEER of any accident relating to the Project.

Contractor Pay Applications: Review applications for payment as described in Task 250 with Contractor(s) for compliance with the established procedure for their submission and forward those with recommendations to ENGINEER, noting particularly their relation to the schedule of values, work completed, and materials and equipment delivered at the site but not incorporated in the work.

Certificates, Operation and Maintenance Manuals: During the course of the work, review and determine that certificates, operation and maintenance manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed; and deliver this material to ENGINEER for review and forwarding to CITY prior to final acceptance of the work.

Start-up Assistance: Start-up services shall be sufficient to transfer finished work from a construction status to operating, functional system(s). Such services may include review of contractor's start-up plan, prepare and coordinate a start-up plan and procedures for City personnel use, supervise during start-up procedures, and assist CITY during initial operation.

Special Inspection: During the course of the work, arrange and coordinate Special Inspections for structural, mechanical, and electrical work as required by the Special Inspection Certificates issued by the City's Planning and Development Department.

Task 420 - On-Site Inspection and Review of Work

The Resident Project Representative shall maintain a presence at the Project site with sufficient frequency to be knowledgeable about the progress and quality of the work to:

- 1) Conduct on-site inspections of the work in progress to assist ENGINEER in determining if the work is proceeding in accordance with the Construction Documents and that completed work conforms to the Construction Documents.
- 2) Report to ENGINEER whenever it is believed that any work is unsatisfactory, faulty or defective or does not conform to the Construction Documents, or does not meet the requirements of inspections, tests or approval required to be made, or has been damaged prior to final payment; and advise ENGINEER when it is believed work should be corrected or rejected or should be uncovered for inspection, or requires special testing, inspection or approval.
- 3) Verify that tests, equipment and systems start-up are conducted and witnessed in accordance with the Construction Documents. Verify all associated reports, tests and documents including the operation and maintenance manuals, are maintained and provided as required by the Construction Documents. Resident Project Representative shall witness all test and equipment startups and report to ENGINEER appropriate details relative to the test procedures and start-ups.
- 4) Accompany visitors to the job site representing public or other agencies having jurisdiction over the Project, record the outcome of these inspections and report to ENGINEER.

It is anticipated that the CMAR construction schedule will have a construction duration of twelve (12) months, however, it is assumed that the on-site inspection efforts will consist of some full time and some part time efforts throughout the construction period. This equates to, on an average throughout the construction phase, an inspector (civil, mechanical, structural, or CWI) to be on-site approximately 40 hrs/wk for eight (8) months (35 weeks), and an E, I&C inspector on-site an average of 50 hrs/month for eight (8) months out of the twelve (12) month duration. The total hours for the task include the total engineer effort to support the field administration tasks.

Task 430 - Completion

- 1) Before ENGINEER issues a Certificate of Substantial Completion, submit to Contractor a list of items requiring completion or correction in accordance with the requirements of the Construction Documents.

- 2) After the Contractor has completed the work on the list of Subtask 430.1 and upon request of the Contractor, Resident Project Representative will conduct an inspection to verify with the ENGINEER, CITY and Contractor. If necessary, prepare a final list of items to be completed or corrected in accordance with the requirements of the Construction Documents for Substantial Completion.
- 3) After the Contractor has completed the work on the list of Subtask 430.2 and upon written notice from the Contractor, review and determine that items on the final list have been completed or corrected and make recommendations to ENGINEER for Substantial Completion.

C - Limitations of Authority

Except upon written instructions, Resident Project Representative:

- 1) Will not authorize any deviation from the Contract Documents or approve any substitute materials or equipment;
- 2) Will not undertake any of the responsibilities of Contractor or subcontractors or expedite the work;
- 3) Will not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Construction Documents;
- 4) Will not advise on or issue directions as to safety precautions and programs in connection with the work; and
- 5) Will not authorize CITY to occupy the Project in whole or in part.

TASK SERIES 500 - SPECIAL SERVICES

Task 510 - Warranty

Services after completion of the construction phase, including inspections upon request during the 24-month warranty period (typical for most CITY projects), reporting discrepancies under guarantees in the construction contract documents, and providing assistance for resolution of defects to be corrected under warranty.

ENGINEER will record and track all warranty repair requests and repairs during the 24-month warranty period. ENGINEER will record the activities associated with any repairs on the Warranty Repair Request form submitted by CITY.

Task 515 – Systems Training by ENGINEER

ENGINEER will provide instruction to CITY personnel on the Project objectives, design intent, and system operational procedures. ENGINEER will provide training on the design and operation of the major process systems to the CITY prior to substantial completion.

Specific training services shall consist of the following:

- 1) Review the contractor developed training outline, schedule and lesson plan format for review and approval by CITY. Review with CITY and have comments incorporated by contractor as appropriate.
- 2) Review training lesson plans and presentation materials including training guides for the major process systems and submit to CITY for review before finalizing by the contractor. The lesson plans shall include the following subjects;
 - a. purpose and design intent of system;
 - b. process operations and principles;
 - c. system controls and control strategies (Note: if requested by CITY or coordinate with other consultant.);
 - d. specific safety procedures and hazards;
 - e. specific sampling, monitoring, and process calculations; and
 - f. system orientation and hands-on demonstration.
- 3) Conduct training on the major process systems. Training may consist of classroom training for each system, followed by field orientation or hands-on instruction.

Task 520 – Contractor’s and Manufacturer’s Equipment Training Coordination

The ENGINEER will review and coordinate Contractor's training plan and instruction materials for compliance with Construction Documents. Contractor or Manufacturer training presentations shall be scheduled and coordinated with CITY and facility operation.

ENGINEER will coordinate and monitor the Contractor’s and manufacturer’s training of CITY personnel.

- 1) Discuss the preliminary course and lesson plan development with the Contractor and the manufacturer/supplier. Meet with CITY’s operational staff and the Contractor for these discussions.
- 2) Review and approve lesson plans and course materials.
- 3) Liaison between CITY and Contractor.
- 4) Monitor training sessions;
 - a. monitor attendance;
 - b. evaluate course; and
 - c. assist classroom discussions.
- 5) Follow up with CITY for each training class conducted.

Task 530 - Stormwater Permit for Construction Activity

The ENGINEER will review and monitor the Contractor’s general stormwater pollution prevention plan (SWPPP) covering construction activities for this Project. ENGINEER will verify the Project Notice of Intent and Notice of Termination has been properly filed by the Contractor.

Task 535 – Electronic Standard Operating Procedures Manual (ESOPM)

The Water Services Department has implemented a computerized, web-based, Department wide SharePoint platform, which contains Standard Operating Procedures and Operation and Maintenance Manuals for water and wastewater treatment facilities. The ENGINEER will develop additional content to be added to the current facility ESOPM. In addition, the ENGINEER will update the current ESOPM content to reflect modifications to existing facilities.

The content development process is designed to meet CITY goals and objectives for content that meets user needs and is presented in an understandable, easy-to-read style. The content level of detail, format, and organization will comply with format and layout to mirror that of the CITY’s standards.

Additions and modifications to the facility ESOPM will cover new, modified and upgraded treatment processes and major auxiliary systems included in the Project. New areas of the facility will be created as new sections of the ESOPM and will be completed in conjunction with the specific completion milestones of construction. Areas of the facility that are being modified or upgraded will be updated in the current ESOPM.

The specific ESOPM chapters to be developed with the assistance of CITY staff include:

Cholla WTP Chlorine Dioxide System

The specific existing ESOPM chapters to be updated with the assistance of CITY staff include:

Electrical and Instrumentation

Each chapter for the major systems will consist of the following sections:

- Background
- Theory
- Operating Strategies
- Equipment & Control Description
- Procedures
- Design Criteria
- Troubleshooting
- Safety
- Alarms
- Figures

The facility ESOPM will compliment equipment manufacturer’s O&M Manuals. The ESOPM will cover each process and contain a process description in sufficient detail to describe the process to operators in a direct format. Process chemistry and chemical application will also be covered.

The facility ESOPM will cover other operational basics: design criteria, intended operation of the processes, start-up, and shutdown, monitoring and troubleshooting procedures; alternate operations modes; and special process safety considerations. These procedures will be field verified by the ENGINEER with assistance from the facility staff.

The facility ESOPM will be developed using Microsoft Word and tools developed for the platform, which facilitate ease of use and updating of all content within the system (e.g. password-protected and easy to use content editing tools), and also allow integration to other system databases to provide a host of management information. Major features of the Facility Records Library will include “point and click” hyper-linking between topics; graphics and digitized photographs to better portray information, a full text-based search engine for finding topics or graphics directly without manual searching; insertion of scanned documents such as pump curves, CADD drawings and equipment description; summary pages of all graphics for each area of the plant; and capability for future video and multimedia enhancements. The ENGINEER will assist the CITY in developing links to other key areas of source material. This may include areas such as safety, environmental issues, CITY policies, and SDS (Safety Data Sheets). The ENGINEER will update the existing facility site plan to incorporate new facilities.

Workshops will be held with the CITY prior to content development activities to provide an overview of the content to be developed, to identify key CITY staff to review draft chapters, and to establish a review schedule. The CITY will be provided with interim deliverables of completed ESOPM sections as the construction of major areas of the facility are completed. As each chapter is completed, the ENGINEER will submit draft chapters to the CITY for their review and comment. The CITY will provide comments to the ENGINEER for the ENGINEER to incorporate into the final documents. The interim deliverables if available will be installed and operational on the CITY’s Intranet web server prior to start-up of these facilities. A schedule for the interim deliverables will be provided to the CITY early in the construction.

Prior to submitting the final version of the ESOPM and transferring to the CITY, the ENGINEER will conduct a detailed final validation and field verification process. Through this important quality control activity, the ENGINEER will verify that:

- 1) Content has been field-verified and checked at the installation.
- 2) Photographs are current and are reflective of well-maintained and clean conditions.
- 3) Relevant documentation, such as scanned documents, figures and drawings are appropriately categorized for insertion into the database.
- 4) Standard Operating Procedures are accurate and reflect actual “as-operated” conditions.

The ENGINEER will assist in the installation and configuration of the ESOPM on the CITY’s Intranet

web server and confirm its operation within the existing platform.

The ENGINEER will assist in providing orientation training to system users after the system has been installed on the CITY's server. User orientation training will consist of orientation sessions for general system users to learn how to use the SharePoint and navigate to find information.

Task 540 - Update Computerized Maintenance Management System (CMMS)

The goal of this task is to ensure that CMMS and asset registry have been properly updated with new asset information and associated preventive maintenance tasks are documented when the assets are commissioned into service. The Design Engineer should have coordinated with the CITY's Asset Management Team and/or Infrastructure Records Services during the design phase to update the asset registry during the design phase. If there was no coordination effort during the design phase, then the ENGINEER and CITY will meet with Asset Management Team to discuss the project scope, schedule, and potential coordination effort during the construction phase. Based on the design phase coordination effort, the Asset Management Team and/or IRS may have provided an asset registry spreadsheet tailored to this project to document asset information changes resulting from this project.

Vertical Assets: For new or rehabilitated assets associated with a project at a facility such as a lift station, remote facility, or treatment plant:

- 1) During the 30-60% construction phases, the ENGINEER will update the asset registry spreadsheet with asset specification information including but not limited to:
 - Manufacturer
 - Model
 - Size
 - Equipment Vendor Serial #
 - Material
 - Asset Capital cost
 - Year installed
 - Maximum Potential Life
 - Required Warranty Duration

Additional specification information may be required for different asset types. The asset registry spreadsheet provided by the Asset Management Team will clearly identify the required specification information. The Asset Management Team will also assign unique asset ID number for new assets at this time.

- 2) The ENGINEER will be responsible to submit asset preventive maintenance data to the CITY to be loaded into the CITY's CMMS. This task requires the ENGINEER to review and approve preventive maintenance information submitted by the CONTRACTOR and

document the information in both MS WORD and EXCEL file formats. The ENGINEER should coordinate with the Asset Management Team for the specific layout/templates for the data to be submitted. The specific manufacturer's procedure to conduct the preventive maintenance activity should be in WORD format while the following information required to document the preventive maintenance should be in EXCEL format:

- Preventive maintenance (PM) task description
 - Task Frequency
 - Estimated hours to perform the task
 - Estimated number of staff to perform the task
 - Manufacturer's procedure to conduct the preventive maintenance
 - Identify all unique asset IDs for which this PM task is required
- 3) The ENGINEER will submit all requested asset information, including preventive maintenance, for assets associated with an approved shop drawing to the Asset Management Team prior to commissioning. The Asset Management Team will load all new asset information and preventive maintenance tasks into the CMMS before the assets are to be commissioned into service.

Linear Assets: For new or rehabilitated assets associated with a project:

- 1) The ENGINEER will document asset specification information which may be included but not limited to:

New Assets

- Maximum Line pressure (for potable or reclaimed water pipes only)
- Ground cover type (pavement, native, concrete, DG, etc.)
- Environment of buried asset (native, concrete encased, etc.)
- Depth of cover over asset
- New asset location using GPS coordinate system
 - Coordinate System: US State Plane 1983
 - Zone: Arizona Central 0202 (Grid) 3. Datum: NAD 1983 (2011)
 - Elevation: NGVD 29
 - Altitude Units: feet
 - Coordinate Unit: International feet
 - Coordinate order: North/East
 - Projection: Transverse Mercator
- Elevation to top of asset
- Number of turns to open valve
- Maximum recommended valve open torque
- Size (Diameter)
- Length of pipe asset

- Sewer: linear feet of pipe from center of manhole to manhole
- Material
- Type of corrosion protection (liner or coating)
- Corrosion protection product
- Manufacturer
- Year Installed
- Year Rehabilitated
- Project Cost
- Installed Unit Cost
- Warranty Period

Rehabilitated Assets

- Rehabilitation Type (WWE are working on a definition of this in GIS)
- Rehabilitation Material/Product
- Rehabilitation Material/Product Manufacturer
- Rehabilitation Contractor
- Rehabilitation Install Date
- Rehabilitation Project Cost
- Rehabilitation Unit Cost
- Warranty Period

Additional specification information may be required for different asset types and the asset registry spreadsheet provided by the Asset Management Team will clearly identify the required specification information.

- 2) The ENGINEER will ensure the Contractor is recording the GPS coordinates per the Construction Documents and spot-check a number of locations before the assets are buried.
- 3) The ENGINEER will submit the final asset spreadsheet with all requested asset information to the WAM Team and the Record Drawings to the IRS group.

Task 545 – Electrical, Instrumentation and Control System

The Water Services Department (WSD) has incorporated Electrical, Instrumentation and Control (EI&C) Systems Testing and Inspection Services to support the WSD Water and Wastewater Design and Construction Management Divisions and the Operations and Maintenance (O&M) staff. The services are to support the construction project phases and Arc Flash Hazard Analysis.

The objective of the EI&C Systems Testing and Inspection Services project is to have a qualified inspection firm participate in the design, construction, start-up, and commissioning phases of projects associated with the WSD. The inspection firm will provide communications and coordination between the Design Engineers and General Contractors with the Water Design and Construction Management Division, WSD O&M, Computer, Electrical and

Instrumentation staff on the WSD standards for Instrumentation, Electrical, and WSD Guide Specifications and Drawings.

The ENGINEER will schedule construction activities with the WSD assigned EI&C Inspection Firm to assist with the following:

- **Construction Support:**
 - The construction support consists of reviewing equipment submittals, conducting reviews on the equipment installation and providing field observations reports. The Consultant will participate in factory testing, reviewing the completeness of required equipment testing documentation and witnessing the instrumentation calibrations and loop checks.
- **Start-up Testing:**
 - Start-up of a site consists of functional testing of individual pieces of equipment and systems that make up the site as a whole. Once these tests are complete, the equipment will be tested as part of an entire operating system.
- **Commissioning Support:**
 - The commissioning support consists of providing assistance on computer control strategy checkout, tuning of control loops, and performing loop tests and troubleshooting for the computer control system programmers. The Consultant will maintain designated instruments through final acceptance, educate the plant staff on the systems, support the maintenance staff on developing maintenance procedures for designated equipment, conduct submittal reviews of the Standard Operations Procedures and review the accuracy of the as-built documentation for Electrical plans and the Process & Instrumentation Diagrams.
- **Arc Flash Hazard Analysis:**
 - If a site requires an overhaul of the electrical equipment, a study firm under GENERAL CONTRACTOR will perform an Arc Flash Hazard Analysis. The study is referred to in Specification 16951 – Short Circuit, Coordination, and Arc-Flash Hazard Report. The Power Study includes recommended breaker settings for each main and feeder breakers to coordinate the trip settings to mitigate the fault current in case of a fault. The breaker settings will require witnessing and sign-off on a form provided by the study firm. Additionally, the Arc Flash Hazard labels are applied at the time of the breaker settings and application will be witnessed. The EI&C Firm will incorporate the Power Study documentation into the WSD Arc Flash maintenance documents for the site.

Task 550 - Commissioning

The ENGINEER will provide the CITY with start-up and operations services during commissioning of the facilities. Commissioning is defined as the process in which the newly constructed facility

will be placed into routine operation. The commissioning process will include a planned, systematic approach to verify that facility systems operate as intended and there is an orderly transition from construction phase to routine operation. Commissioning will include four phases with estimated durations as follows:

Phase I - Initial start-up in manual operating mode.

Phase II - Transition into computer operating mode.

Phase III - Transition from ENGINEER to CITY operation.

Phase IV - Extended ENGINEER operating assistance.

Commissioning will begin no later than substantial completion of the facilities and coordination of programming effort with the CITY.

Start-up Plan: ENGINEER will prepare a start-up plan and procedures for the CITY and Contractor. The plan will be approved by the City. ENGINEER will ensure properly certified staff will conduct start-up activities as necessary. The ENGINEER will work with the Contractor to provide necessary information required to provide an acceptable Manual Equipment Setup/System Testing Plan. This document is required to be completed by the Contractor prior to start-up and commissioning. The start-up plan will include identification of key milestone activities necessary for orderly start-up of the facilities. The milestone activities will include coordination of chemical deliveries, completion of any construction activities required for substantial completion, coordination of required Contractor maintenance activities, etc. The plan shall identify the time required for each commissioning phase.

Phase I - Manual Start-up: The objective of Phase I is for ENGINEER to verify proper operation of equipment and facilities in manual mode in accordance with the design concept. Phase I will consist of the following activities:

- A) The ENGINEER will provide an operations team to independently operate the new facilities. Following a sequentially coordinated initial start-up of the facility, the facility will be operated continuously. Phase I operation is anticipated to require continuous (24 hours per day) operation, providing time for Contractor access for maintenance, troubleshooting and correcting malfunctions.
- B) The ENGINEER's operations team will verify that each process, associated mechanical equipment, associated hydraulic control devices, and conveyance components operates properly under actual operating conditions. This includes the verification that all hardwired electrical control interlocks and safeguards are functioning properly.
- C) The ENGINEER's inspection staff will maintain documentation of the areas of operational concern encountered during the manual start-up phase with a determination of whether

the item of concern is a Contractor warranty issue or requires a design modification. The ENGINEER will monitor the documented concerns and promptly notify the Contractor of all warranty issues.

- D) Design modifications will be promptly evaluated by the ENGINEER and recommendations shall be presented to the CITY for a determination of the necessity for implementation.
- E) The ENGINEER's instrumentation support staff will complete the necessary check out of the instrumentation system components and initial loading of the control software simultaneously with the completion of the Phase I activities.

Phase II - Transition to Computer Operation Mode: The objective of Phase II is for the ENGINEER to verify the proper remote control and operation (to the degree of automation included in the instrumentation system design) of the facility in accordance with the design concept. Phase II will consist of the following activities:

- A) The ENGINEER will provide an operations team to independently operate the facility using the instrumentation and control system. Following a sequentially coordinated initial start-up of each component, the entire facility will be operated continuously. It is anticipated that Phase II operation will require continuous (24 hour per day) operation. The schedule shall be coordinated to accommodate Contractor and/or ENGINEER access for maintenance, troubleshooting and correcting malfunctions.
- B) The ENGINEER's operations team will verify that each system, associated mechanical equipment, and instrumentation system components operate properly under actual operating conditions. This includes the verification that all software based electrical/process control monitoring, interlocks, automatic control logic, alarms, and report generation subroutines are functioning properly.
- C) The ENGINEER's instrumentation staff will maintain documentation of the areas of operational concern encountered during Phase II with a determination of whether the item of concern is a Contractor warranty issue or requires a design modification. The ENGINEER will monitor the documented concerns and promptly notify the Contractor of all warranty issues.
- D) Design modifications will be promptly evaluated by the ENGINEER and recommendations shall be presented to the CITY for a determination of the need to implement.

Phase III - Transition from ENGINEER to CITY Operation: The objective of Phase III is for the ENGINEER to assist the CITY in the satisfactory transition of the remote control operation from ENGINEER to CITY staff operation. Phase III will consist of the following activities:

- A) It is anticipated Phase III will require a twostep process.
 - a. ENGINEER will provide an operations team to operate the facilities with support

from the CITY's operating staff.

- b. ENGINEER's operations team will be available to support the operation performed by the CITY.

It is anticipated that Phase III operation by the ENGINEER's operations team will require continuous (24-hour per day) operation for the first step and 8-hour per day operation for the second step.

- B) The ENGINEER will continue to document areas of operational concern encountered during the transition to CITY operation with a determination of whether any item of concern is a Contractor warranty issue or requires a design modification. The ENGINEER will monitor the documented concerns and promptly notify the Contractor of all warranty issues.
- C) Design modifications will be promptly evaluated by the ENGINEER and recommendations shall be presented to the CITY for a determination of the need to implement.

Phase IV - Extended Operational Assistance: The objective of Phase IV is for the ENGINEER to provide "on-call" assistance to the CITY's operational staff for an extended period of reasonable duration.

- A) The ENGINEER will document the resolution of operational issues unique to the facility in the Electronic Operations Manual. The ENGINEER will document the final operational procedures of process associated mechanical equipment and instrumentation and control system components.
- B) The ENGINEER will continue to document warranty issues, issue warranty requests to the Contractor, and follow up that warranty requests are satisfactorily resolved. Refer to Task 510.

TASK SERIES 700 – Allowances and Subconsultant Services

Task 701 Subconsultant 1 – NACE III Coatings Inspections (RFI Consultants)

ENGINEER will retain a NACE Coatings Inspection firm to provide 3rd Party inspection of coatings for concrete containment areas, piping, equipment, building, and miscellaneous areas requiring coatings.

Task 702 Architectural Subconsultant Allowance –

ENGINEER will retain an architectural firm on an as needed basis that will be available for review of shop drawings, RFIs, change orders, and other tasks during construction that require an architect's review and input.

Task 703 Allowance for Additional Field Inspection –

Additional field inspection services may be required during construction. This effort will be provided on an as needed basis, and with approval by the City.

Task 704 Reimbursable Expenses –

Task 704.1 Allowance 1 – Printing Costs

As required.

Task 705 Allowance for Additional or Extended Services -

Additional services in connection with the Project, including services normally furnished by CITY and services not otherwise provided for in this scope of services.

The CITY and ENGINEER agree that there may be certain additional or extended services required to be performed by the ENGINEER during the contract period that cannot be defined sufficiently at the time of execution of this contract. Such services shall be authorized in writing in accordance with applicable contract provisions.

END OF DOCUMENT