STATE OF TEXAS



COUNTY OF WILLIAMSON

SUPPLEMENTAL CONTRACT NO. 1 TO CONTRACT FOR ENGINEERING SERVICES

FIRM:PLUMMER AND ASSOCIATES, INC.("Engineer")ADDRESS:6300 La Calma Drive, Suite 400, Austin, TX 78752PROJECT:BCRWWS East WWTP Tertiary Filters Preliminary Engineering
Report (PER)

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This Supplemental Contract No.1 to Contract for Engineering Services is made by and between the City of Round Rock, Texas, hereinafter called the "City" and Plummer and Associates, Inc., hereinafter called the "Engineer."

WHEREAS, the City and Engineer executed a Contract for Engineering Services, hereinafter called the "Contract," on the 8th day of September, 2022 for the BCRWWS East WWTP Tertiary Filters Preliminary Engineering Report (PER) Project in the amount of \$506,672.00; and

WHEREAS, it has become necessary to amend the Contract to modify the provisions for the scope of services and to increase the compensation by \$788,073.00 to a total of \$1,294,745.00;

NOW THEREFORE, premises considered, the City and the Engineer agree that said Contract is amended as follows:

I.

<u>Article 2, Engineering Services and Exhibit B, Engineering Services shall be amended as set forth</u> in the attached <u>Addendum to Exhibit B</u>. <u>Exhibit C, Work Schedule</u> shall be amended as set forth in the attached <u>Addendum to Exhibit C</u>.

II.

<u>Article 4, Compensation</u> and <u>Exhibit D, Fee Schedule</u> shall be amended by increasing by \$788,073.00 the maximum amount payable under the Contract for a total of \$1,294,745.00, as shown by the attached <u>Addendum to Exhibit D</u>.

IN WITNESS WHEREOF, the City and the Engineer have executed this Supplemental Contract in duplicate.

[signature pages follow]

Supplemental Contract 0199.202236; 4867-0291-1866

PLUMMER AND ASSOCIATES, INC.

Stephen J. Coonan, P.E. Digitally signed by Stephen J. Coonan, P.E. DN: C=US, E=scoonan@plummer.com, O=Plummer, CN="Stephen J. Coonan, P.E." Reason: I have reviewed this document Date: 2023.08.25 10:19:36-05'00'

By: ____

8/25/2023

Date

CITY OF ROUND ROCK

APPROVED AS TO FORM:

By:_____

Craig Morgan, Mayor

Stephanie L. Sandre, City Attorney

Date

Scope of Work Brushy Creek Tertiary Filters Project



ADDENDUM TO EXHIBIT B Engineering Services

Background

The Brushy Creek East Regional Wastewater Treatment Plant (Plant) is owned by the Brushy Creek Regional Wastewater System (BCRWWS), who are the Cities of Round Rock, Cedar Park, and Austin (Partners). The City of Leander will become a part owner on completion of the current 10 MGD expansion project to the Plant. The engineering team, led by Prime consultant Plummer Associates, consultants Freese & Nichols, and K. Friese & Associates (Engineer) designed the most recent 10 MGD expansion, which is currently in the construction phase.

The purpose of this scope of services is to provide design and bidding professional services for additional effluent filter treatment, with a 48 MGD peak flow capacity. This scope is an amendment to the Effluent Filter PER project. The Effluent Filter PER Project scope had an undefined \$200,000.00 set aside for continuing work into detailed design. The scope defined below is the entire detailed design scope. The previously authorized \$200,000.00 is deducted from the design fee.

BAISC SERVICES

Plummer shall provide the Services in accordance with the tasks described herein.

Task 1. Project Management
Task 2. Design
Task 3. Equipment Preselection
Task 4. Field Surveys
Task 5. State and Local Approvals
Task 6. OPCC and Construction Schedule
Task 7. Quality Review
Task 8. Bidding Assistance
Task 9. Supplemental Services

Treatment Areas:

900 Effluent Filters:

Design a new clarified effluent filtration system to handle effluent from Trains 1, 2 and 3. The project is proposing to use two (2) of the Aqua-Aerobics Megadisk, 24 disk arrangements as the basis of the design. The design will include filtration equipment, auxiliary and backwashing pumping, a concrete basin, vault and other supporting structural features. In addition to the treatment structure new yard piping to convey flow, as well as process recycling and waste streams are required, along with some modifications to existing junction boxes. Supporting electrical and control infrastructure and instrumentation design will be included.



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The operating limitations and key design points discussed in the PER dated March 3rd, 2023 are providing the process basis of design for this scope.

Task 1. Project Management

CONSULTANT shall manage the services required to complete the Project tasks from start of the design phase through the end of Bidding services. Project management consists of project administration, coordination and supervision of the project team and other internal resources, external project coordination and quality management for project milestones and deliverables to meet the project schedule and budget.

1.1. Project Execution Plan and Kickoff Meeting

Project Management Planning: The purpose of this task is to update the Project Management Plan (PMP) that will be used during the execution of this PROJECT. The PMP update will include the following:

- Scope
- Schedule
- Communications Plan
- Resources Plan
- Quality Control Plan

Kickoff Meeting: Initial kickoff meeting was held at the start of the PER phase of the project. Detailed design kickoff will be facilitated during a regular progress meeting:

Meetings: N/A facilitated in a progress meeting Deliverables: Updated Baseline schedule, kickoff meeting materials and notes.

1.2. Monthly Monitoring, Administration and Status Reporting

The CONSULTANT will establish internal PROJECT controls to monitor PROJECT status, budget, staffing, and schedule on an on-going basis. Budget and schedule status will be reviewed by the CONSULTANT weekly. The CONSULTANT will prepare monthly status reports within 10 working days after the close of the CONSULTANT's accounting month.

Monthly status reports and invoices will be submitted electronically to PARTNERS. CONSULTANT shall submit monthly invoices in the approved format for PARTNERS review and approval. Each invoice package shall comply with the requirements of the Contract.

The Project Progress report shall include the following elements:

- Invoice
- Project progress update (previous, current and following month)
- Financial progress
- Outstanding issues/concerns requiring discussion or resolution
- Decision log

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- Project scope elements added/removed
- Project schedule

Meetings: N/A

Deliverables: Progress Report in pdf format

1.3. Subconsultant Management

CONSULTANT shall manage, coordinate, and be responsible for efforts of its subconsultants participating in the Project. This includes distribution and coordination of work among the subconsultants, coordination of meetings/workshops and site visits, review and payment of monthly billing, and quality assurance and control of the work and documents submitted by the subconsultants.

The following are the subconsultants involved in the Project and their area of responsibility:

Subconsultant Services KFA - Site/civil and Yard Piping FNI – Structural

Both FNI and KFA

Raba Kistner - Geotechnical

TBD - Subsurface Utility Survey (as supplemental services)

Meetings: Internal Task Kickoff meetings, Internal design coordination meetings Deliverables: N/A

1.4. Coordination with Other Projects

Elements of the Project may be affected by the decisions made on PARTNERS projects currently under evaluation, design or construction. CONSULTANT shall participate in one design coordination meeting for each project to review design information and incorporate the appropriate design element(s) of the Project into this Project.

At this time the following projects are anticipated for coordination:

- Reuse Water Storage Tank (location of pipe routes and electrical services)
- Reuse high service pumps and second utility lines (conveyance and electrical coordination)
- Brushy Creek Expansion to 40 MGD (hydraulics and master planning of future treatment train)

Other PARTNERS and non-PARTNERS projects may require coordination at the site and will require additional services.

If and when notified by PARTNERS PROJECT MANAGER, CONSULTANT shall attend meeting(s) for coordination of work with these other ongoing PARTNERS projects. Two meetings are assumed for this coordination task. If additional meetings are requested, then additional services shall apply.

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Meetings: Two coordination meetings Deliverables: Meeting materials and notes

1.5. Progress Meetings

The team shall conduct progress meetings with the partner agencies and separate coordination meetings with operations staff. These meetings are in addition to the workshops and meetings referenced in other tasks.

Meetings: 9 progress/operations meetings Deliverables: Meeting materials and notes

Task 2. Design

2.1. 30% Design

30% design includes preliminary discipline design tasks. The focus of the 30% design set will be finalization of process details, treatment unit sizing, equipment sizing, and controls concepts. The purpose of this task is to use the data and guidelines developed in the Preliminary Engineering Report, and further develop the approved design concepts, develop the PROJECT design to achieve a true "design freeze" at the conclusion of 30% Design. The end products from this task will consist of 30% Discipline Design Basis of Memoranda with a set of drawings which will provide sufficient information for PARTNERS and agency review and design team coordination and review. Specific work activities and deliverables from this task are as identified below.

2.1.1. Civil and Site Development

30% Design work will consist of the following activities.

- Coordinate with disciplines and confirm the following (1) structure size, location, and orientation; (2) layout roadways/truck access corridors and define maneuvering requirements (design vehicle); (3) size and locate parking lots for employees and visitors to the facility; (4) determine emergency vehicle access requirements. (4) locate utility and piping corridors (horizontal and vertical).
- Set initial finished floor levels for new structures. Establish initial finished grades for overall major surfaces and road profiles.
- Prepare cover sheet and vicinity/location map; list of drawings; design criteria sheet; pipe materials schedule; and abbreviations and symbols.
- Coordinate with geotechnical engineer on boring locations; record boring locations on site drawings.
- Review concepts and draft work products with and seek approval from quality control reviewer.

2.1.2. Process Mechanical

30% Design for process mechanical will consist of the following:

1. Modelling- Update hydraulic profile calculation and prepare hydraulic profile for process flow and side streams. Establish maximum and minimum water surface elevations for process tanks.

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- Select equipment type and determine size/capacity/redundancy of treatment unit processes and ancillary systems.
- Select process mechanical piping, sizes and materials.
- Review capacity of existing processes and equipment to remain in service. Assign capacity to existing processes.
- Coordinate with I&C to prepare process flow diagrams and P&IDs.
- Prepare solids balance.
- Update process flow diagrams for liquid treatment process and solids treatment process.
- Develop process control narratives.
- Develop schematics for plant water system and drain system.
- Develop system curves for the following pumping applications prior to equipment preselection:
 1. Filter Backwash Pumps
- Develop process mechanical criteria and code requirements.
- Develop process mechanical building/structure plans and sections.
- Update equipment list with sizing for major equipment. Coordinate with the PARTNERS on preferences of equipment manufacturer and processes.
- Prepare equipment arrangements.
- Review concepts and draft work products with and seek approval from quality control reviewer.

2.1.3. Structural

30% Design work for structural will consist of the following activities.

- Perform a structural evaluation of existing facilities that require retrofit/rehabilitation to identify areas where the facilities may need additional reinforcement or modifications.
- Develop initial structural demolition plans.
- Consult with lead process mechanical engineer on building/structure layouts.
- Select design concepts and materials for canopies, handrails, stairs, and gratings.
- Develop building foundation and structure concepts based on schematic building layouts.
- Review concepts and draft work products with and seek approval from quality control reviewer.

2.1.4. Geotechnical

30% Design work for geotechnical will consist of the following:

- Review Geotechnical Report for site specific geotechnical subsurface conditions for each facility and structure.
- Review Geotechnical Report for specific foundation requirements.
- Using results of investigations, prepare foundation and corrosion control recommendations.
- Review concepts and draft work products with and seek approval from quality control reviewer.
- Field survey is provided in Task 4.1.

2.1.5. Electrical

30% Design work for electrical will consist of the following:

- Prepare skeleton one-line diagram for power feeds for proposed facilities.
- Determine quantity and locations of electrical distribution equipment, including motor control centers and panelboards.





- Coordinate with lead process mechanical engineers to validate equipment motor sizing.
- Prepare load calculations. •
- Review electrical site plan •
- Coordinate with other disciplines (architectural, process/mechanical) to resolve code compliance issues specific to these disciplines.
- Develop schedule of hazardous and corrosive locations.
- Review conceptual design and draft work products and seek approval from quality control reviewer. •

2.1.6. Instrumentation and Control

30% Design work for instrumentation and control will consist of the following activities:

- Document and develop the existing controls system architecture, including fiber optic routing, network configuration, the location of PLCs etc.
- Document existing control system panel layout, including Input/Output terminal locations, panel door mounted control stations and internally mounted field instruments.
- Determine and generally develop a control system architecture that includes the existing and proposed control system panels, including routing of a fiber-optic network cabling.
- Document and develop Process & Instrumentation Diagrams (P&IDs) of the existing processes that will remain in service. For those modified processes the P&IDs will reflect the modifications, including new instrumentation and equipment.

2.1.7. Construction Sequencing

- Develop construction sequencing for the project.
 - Existing Effluent Tie-in.
 - Tie-ins on non-potable.
 - Tie-ins to site drainage.
 - Tie-ins to existing electrical systems.

2.1.8. 30% Design Document Completion

- Prepare 30% Discipline Design Basis Memoranda (including drawings).
- Complete 30% OPCC See Task 6. •
- Complete 30% quality review See Task 7. •

2.1.9. 30% Design Workshop

CONSULTANT will conduct a two-hour workshop with the PARTNERS's personnel to review the work products from subtasks 2.1.1 through 2.1.11, as defined above. The workshop will be held at the Plant. Final notes from the workshop and the work products as defined above will be assembled in the 30% Design report and submitted to the PARTNERS.

Meetings: 30% Design Review Workshop

Deliverables:

- Meeting materials and notes •
- 30% Discipline Design Basis Memoranda including Drawings (electronic) Draft and Final ۰

2.2. 60% Design



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The purpose of this task is to use the data and guidelines developed in the 30% Design Report and Drawings, and further develop the approved design concepts, develop the PROJECT design to achieve a true "design freeze" at the conclusion of 60% Design. The focus of the 60% design information will be major architectural concepts, structural development, major electrical arrangements, concepts, and additional refinement of the Civil and Process Mechanical designs. The designs of individual treatment units will be tailored around the equipment selected in the equipment preselection process. The end products from this task will consist of 60% drawings and major equipment specifications which will provide sufficient information for PARTNERS and agency review and design team coordination and review. Specific work activities and deliverables from this task are as identified below.

2.2.1. Civil and Site Development

- Structures, vaults, roads, and major site element horizontal locations are finalized. Structure floor/control levels and finished grades are finalized.
- Define CONTRACTOR staging, storage, access, and off-site access corridors.
- Prepare site grading drawings.
- Set final building and structure elevations.
- Develop yard piping and plant drain layouts. Identify corridors for smaller piping and other utilities. Coordinate with electrical duct bank layout and odor piping layout.
- Show storm water control concepts (swales, curb, and gutter) on the Design drawings.
- Incorporate corrosion control recommendations into design.
- Prepare first draft of technical specifications not already included in the pre-selection process.
- Review 60% Design and draft work products with and seek approval from quality control reviewer.

2.2.2. Process Mechanical

- Finalize major equipment sizing calculations.
- Finalize the hydraulic profile for major gravity process pipelines and hydraulic structures. Finalize maximum and minimum water surface elevations for process tanks.
- Coordinate with I&C on completion of P&IDs.
- Coordinate with I&C on development of process control narratives.
- Prepare 3-D electronic models, building and structure layouts (plans and major section(s)).
- Prepare preliminary mechanical equipment demolition plans.
- Assemble catalog cuts for major process equipment. Complete equipment data sheets or equipment list on major equipment items.
- Incorporate corrosion control recommendations into design.
- Coordinate with I&C in the finalization of P&IDs
- Final ancillary equipment sizing and line sizing calculations.
- Final equipment selection (type, size, weight, arrangement).
- Select piping materials.
- Prepare first draft of technical specifications not already included in the pre-selection process.
- Review 60% Design and draft work products with and seek approval from quality control reviewer.

2.2.3. Structural



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- Coordinate with geotechnical engineer to establish foundation design criteria for proposed facilities. Review geotechnical report and discuss foundation design approach with geotechnical engineer and senior structural reviewer.
- Document structural design concept for each building (room by room) and structure. Finalize materials of construction (cast-in-place versus precast concrete, roof structures, etc.).
- Preliminary framing plan for buildings and other structures.
- Incorporate corrosion control recommendations into design.
- Prepare 3-D electronic models, preliminary floor plan for major structures.
- Prepare first draft of technical specifications not already included in the pre-selection process.
- Review 60% Design and draft work products with and seek approval from quality control reviewer.

2.2.4. Electrical

- Prepare detailed electrical load calculations and finalize equipment sizing.
- Identify rights-of-way and routing methods for electrical conduit. Lay out duct bank system (major runs/manholes). Locate manholes and hand holes. Coordinate with civil yard piping
- Prepare electrical site plan.
- Prepare duct bank details.
- Prepare electrical riser diagrams.
- Define hazardous locations (NFPA 820) and document. Define corrosive locations and documents.
- Prepare first draft of technical specifications not already included in the pre-selection process.
- Review 60% Design and draft work products and seek approval from quality control reviewer.

2.2.5. Instrumentation and Control

- Finalize the of control system architecture that includes the existing and proposed control system panels, including routing of a fiber-optic network.
- Finalize PLC Input/Output list for proposed control system panels.
- Update P&IDs for proposed processes, including instruments, equipment, panel fronts and input/outputs into PLC.
- Develop draft I&C specifications.

2.2.6. 60% Design Document Completion

- Draft project specific Division 0 and 1 documents including draft bid forms, bidder requirements, temporary field office, temporary utilities, testing, site security requirements.
- Prepare 60% Design drawings (using the same disciplines as shown in Task 2.1).
- Prepare draft technical specifications.
- Prepare revised calculations.
- Complete 60% OPCC See Task 6.
- Complete 60% quality review See Task 7.

2.2.7. 60% Design Workshop

CONSULTANT will conduct a 1/2-day workshop with the PARTNERS's personnel to review the work products from subtasks 1.2.1 through 1.2.10 defined above. The workshop will be held at the Plant. Final notes from the workshop and the work products as defined above will be assembled in the 60% Design report and submitted to the PARTNERS.

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Meetings: 60% Design Review Workshop Deliverables:

• Meeting materials and notes,

• 60% Design Drawings and Specifications (electronic)

2.3. 90% Design

The purpose of this task is to utilize the conceptual decisions of the PROJECT that were made during 60% and to complete and finalize the Design preliminary calculations and progress design to approximately 90% completion. Structures, equipment, major plant piping, process, site plan are finalized to allow final detailing during 90% Design. Specific activities, and work products from this phase are described in the following subtasks:

2.3.1. Civil and Site Development

- Finalize site drawings.
- Finalize road and piping plans, profiles and details.
- Prepare miscellaneous civil drawings, details and standard details.
- Finalize technical specifications.

2.3.2. Process Mechanical

- Finalize calculations.
- Update hydraulic calculations to design confirm early design assumptions.
- Finalize plans and sections.
- Prepare details and standard details.
- Prepare final equipment schedules.
- Finalize technical specifications.

2.3.3. Structural

- Finalize models, plans and sections.
- Prepare details and standard details.
- Finalize calculations
- Finalize technical specifications.

2.3.4. Electrical

- Finalize project electrical drawings.
- Finalize electrical and lighting plans.
- Develop miscellaneous electrical drawings, details and standard details.
- Finalize electrical riser diagrams.
- Prepare final electrical schedules.
- Finalize technical specifications.

2.3.5. Instrumentation and Control

- Develop data sheets for field mounted instrumentations.
- Finalize system architecture.
- Finalize instrumentation details.

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2.3.6. Construction Sequencing

• Revise and finalize construction sequencing.

2.3.7. 90% Design Document Completion

- Finalize specification front-end documents, including General Conditions, General Requirements, bidding documents, bonds, and Instruction to Bidders. PARTNERS input is required at this point to determine construction contract requirements and insurance requirements.
- Prepare 90% Design drawings (using the same disciplines as shown in Task 2.2).
- Prepare draft technical specifications.
- Prepare final calculations.
- Complete 90% OPCC See Task 6.
- Complete 90% quality review See Task 7.

2.3.8. 90% Design Workshop

CONSULTANT will conduct two-hour design workshop to review the work products with the PARTNERS's staff. The workshop will be held at the Plant.

Final workshop notes, documenting key decisions and the work products produced through subtasks above will be submitted to the PARTNERS.

Meetings: 90% Design Review Workshop

Deliverables:

- Meeting materials and notes
- 90% Design Drawings and Specifications (electronic)
- Final Design Basis Memoranda (electronic)

2.4. 100% Design

The purpose of this task is to develop the final contract drawings, specifications, and schedules for competitive bidding as well as the Final Design Report summarizing the design criteria and assumptions. Key activities will consist of:

2.4.1. Final Contract Document Completion

CONSULTANT will modify the contract documents to reflect agreed upon final review comments from the PARTNERS, applicable regulatory agencies and CONSULTANT's quality control review team. The final documents will then be submitted to the PARTNERS.

- Prepare final construction drawings (using the same disciplines as shown in Task 2.3).
- Prepare final technical specifications.

2.4.2. Final Design Report Completion

The Design Report will be finalized based on updates made during the design process. Draft and Final Design Reports will be submitted. As this is not part of the contract documents, it will be submitted after the conformed documents are submitted.



Meetings: N/A

Deliverables: 100% Signed and Sealed Design Drawings and Specifications (electronic)

Task 3. Equipment Preselection

Equipment preselection task will include development of one equipment preselection package. The task will be kicked off with an Equipment Identification effort followed by developing front-end documents and technical specifications and supporting drawings, as well as bidding assistance. The equipment preselection package will likely include the following equipment.

• Cloth filters system sole sourced to Aqua Aerobics)

Equipment preselection kickoff meeting will be held with operations, maintenance, electrical and I&C staff.

3.1. Preselection Front Ends

Contractual and front-end documentation will be provided by the City of Round Rock purchasing department. Coordination with any funding agency will also be taken on by the City.

3.2. Preselection Specifications

Develop equipment specifications for the above equipment items. Develop performance requirements and information necessary for evaluating proposal with Partner's input. Specifications will identify acceptable manufacturers based on project experience and needs. Equipment will be evaluated based on experience, reliability, operation and maintenance requirements, power usage, as well as equipment and construction costs, and other non-cost factors as part of a life cycle cost evaluation.

3.3. Preselection Drawings

Develop supporting drawings for the equipment pre-selection package. Drawings will include process and instrumentation diagrams as well as site layouts. The drawings are intended to provide suppliers with information concerning the environment in which their equipment will be placed and the role that the equipment will play in the overall treatment process.

3.4. Preselection Proposal Assistance

- Engineer will review proposal for conformance to the technical specifications.
- Prepare proposal review summary and discuss any concerns with the City.

Meetings:

- Workshop 1 Draft Preselection Document Review,
- Preselection Proposal Acceptance.

Deliverables:

- Meeting materials and notes,
- Draft and Final Preselection Package Documents,

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• Proposal Review Memorandum,

Task 4. Field Surveys

Field Surveys shall be conducted to further define the existing conditions. Field surveys include geotechnical survey. Topographical Survey and SUE are Additional Services which are not expected to be required.

4.1. Geotechnical

CONSULTANT shall perform field investigations/testing to determine the existing site conditions and proper methods of demolition and construction. CONSULTANT shall provide geotechnical investigation services to characterize the subsurface soils for the areas affected by the Project. The results shall be formalized in a report and sealed by a registered professional engineer.

CONSULTANT shall submit an electronic copy of the report to PARTNERS PROJECT MANAGER. The Geotechnical Data Report supplied by the Geotechnical sub-consultant will be reviewed and evaluated.

From this basis, CONSULTANT will prepare a Geotechnical Design Report for the specific focus of application of trenchless technologies. This document interprets the geotechnical data for specific application to the methods of underground trenchless pipe installations and will be provided for inclusion in the Bid Documents for the pipeline.

Geotechnical borings shall include the following:

• Up to 2 geotechnical bores up to 35 foot depth.

Meetings: Site Drilling Coordination Meeting Deliverables: Final Geotechnical Report

Task 5. State and Local Approvals

State and Local Approvals activities are assumed to be minimal and limited to correspondence with TCEQ and City of Round Rock regarding design review and permission to construct. *5.1.* TCEQ

5.1.1. Correspondence with TCEQ regarding a Letter of Summary Transmittal (217 Letter).

5.2. City of Round Rock

The City of Round Rock project manager will take the lead on City permitting. Additional permitting support will require additional services.

Meetings: 1 meeting with TCEQ Deliverables: Meeting materials and notes, Construction Letter to TCEQ.

Task 6. OPCC and Construction Schedule



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The Opinions of Probable Construction Cost (OPCC) for this Scope of Work will be prepared in accordance with the cost estimate classes defined by the Association for the Advancement of Cost Engineering (AACE). Construction schedule will be estimated at the same time and include results of the Construction Sequencing task. Estimates will be developed according to the following:

- 6.1. Equipment Preselection "Class 3" level estimate
- 6.2. 30% Design "Class 4" level estimate
- 6.3. 60% Design "Class 3" level estimate
- 6.4. 90% Design "Class 2" level estimate
- 6.5. 100% Design "Class 2" level estimate

The OPCC developed for the 100% design will be the CONSULTANT's final estimate of project construction cost prior to project Bid Advertisement.

Meetings: N/A Deliverables: Equipment Preselection, 30%, 60%, 90%, and 100% OPCC

Task 7. Quality Review

The objective of this task is to develop and implement procedures to obtain the highest quality deliverables. The majority of the quality control review and approval will occur prior to the finalization of the work products from each design task. Each of the subtasks below is performed following development of the technical deliverables. The relevant review points are listed under each of the subtasks. A Quality Assurance Audit Log will be used to track the progress of reviews.

7.1. Technical Review

A Quality Team will be established by the CONSULTANT consisting of three experienced engineers familiar with similar projects. An internal meeting will be held at the end of 30%, 60%, 90% Design and prior to completion of the 100% documents. The purpose of these reviews is to confirm that the design will accomplish the PROJECT objectives.

7.2. Intradiscipline Review

Detailed intradiscipline review will be conducted at the completion of 30%, 60%, 90% and prior to the completion of 100% Design. These reviews will be conducted for each discipline by a person not involved in preparing the plans or specifications for this PROJECT.

7.3. Interdiscipline Review

Interdiscipline checking will be conducted at completion of 60%, 90% and prior to the completion of 100% for agreement and coordination among the design disciplines and the specifications.

7.4. Constructability Review

Constructability reviews will be conducted at the completion of 30%, 60%, 90% and prior to the completion of 100% Design for facility constructability.

7.5. Operability Review



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Operability reviews will be conducted simultaneously with the interdiscipline reviews for consistency with the PARTNERS's operations practices.

7.6. OPCC Review

The Engineer's Opinions of Probable Construction Cost will be reviewed by the Project Engineers and Project Manager to confirm that the cost estimating team understood the work and conditions associated with the portions of the PROJECT. The cost estimates will be reviewed at the end of 30%, 60%, 90% and prior to 100% Design.

7.7. Final Back Check

The Construction Document proof set will be checked to confirm that internal and external comments have been appropriately addressed and incorporated.

Meetings: Internal Quality Review meetings for 30%, 60%, 90% Design Deliverables: Executed Quality Control Plan

Task 8. Bidding Assistance

Bidding assistance including contractor prequalification, bid opening/recommendation and conformed document development will be provided.

8.1. Contractor Prequalification

- Develop Prequalification requirements to include in RFQ and use as the basis for scoring criteria.
- Prepare Contractor RFQ advertisement notice.
- Prepare Contractor RFQ documents.
- Perform evaluation of submittals and summarize scoring along with Partner's scores and meet to review Contractor Qualifications Evaluation Memorandum.

Meetings: Contractor Prequalification Workshop 1 Deliverables:

- Draft and Final RFQ Advertisement Notice
- Draft and Final Contractor Request for Qualifications
- Contractor Qualifications Evaluation Memorandum

8.2. Advertisement

- The Partner's purchasing department will advertise for bids. Consultant shall provide technical information required for advertisement.
- Participate in pre-bid conferences.
- Provide technical response to bidder's technical questions and prepare addenda for Partners to issue. Partners shall provide responses to non-technical questions.

Meetings: Prebid Meeting

Deliverables: Responses to Bidders' technical questions; Addenda

8.3. Bid Opening/Recommendation

• Assist the Partners in opening, tabulation, and analyses of the proposals received for the project and



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- Furnish recommendations on the award or the appropriate actions to be taken by the Partners.
- Participate in proposal review and assessment meetings.

Meetings: Proposal Review Meeting

Deliverables: Award Recommendation Letter

8.4. Conformed Documents Preparation

Prepare conformed specifications and drawings for each project based upon addenda issued during advertisement.

Meetings: N/A

Deliverables: Furnish Partners two (2) full-size (22" x 34") sets, ten half-size (11" x 17") sets of "conformed" plans and specifications, and one electronic copy.

Task 9. Supplemental Services

[None included.]

LIST OF ASSUMPTIONS

The following assumptions were used when developing the scope of service and estimating the compensation to CONSULTANT. These assumptions are in addition to the scope and additional services set forth in the scope of work.

1. The next Discharge Permit issued by TCEQ is assumed to be for Final Phase 40 MGD with 0.5 mg/L Phosphorous and the existing TSS, BOD_5 and NH_3 limits. Changes from this assumption will require reevaluation and rework.

2. City of Round Rock will process City permits and may use progress sets at the identified design levels to support permit applications. CONSULTANT is not providing any additional "permit sets" or permit applications. Consultant will meet with code officials as detailed in the scope to identify and review code requirements.

3. The design will be based on the federal, state, and local codes and standards in effect on the effective date of the authorization to proceed. Changes in these codes may necessitate a change in scope. This includes the current FEMA adopted 100 year (1% annual chance) flood plain for the Plant site.

4. The design work on this PROJECT will last 12 months from authorization to proceed and be completed prior to a bidding period, which is assumed to be 3 months.

5. CONSULTANT's design delivery process will be employed. With the exception of the final review, the PROJECT team will not stop during formal reviews of submittals.

6. The design documents will be prepared for a single construction contract.

7. PARTNERS specifications will be used as the basis for the Division 0 specifications. CONSULTANT master specifications will be used as the basis for other technical specifications and Division 1 documents.

8. The drawings will follow CONSULTANT CAE/CAD standards. AutoCAD will be used to develop the drawings.

9. Investigation and remediation of possible hazardous waste, asbestos, lead paint or other types of contamination will be conducted by others if needed.



Brushy Creek Tertiary Filters Project

10. No existing buildings, equipment, treatment units, or facilities will be modified except as specifically noted above.

- 11. Storm water management facilities are assumed to not be required.
- 12. Power coordination/Arc Flash Study is not included in the Scope of Work.

The following assumptions are technical in nature:

Civil/Geotechnical

- 1. Legal, easement or plat surveys of the existing site will not be required.
- 2. Site drawings will only be prepared for those areas of the plant where new facilities are to be constructed or involving significant disturbance to existing grading.
- 3. The only new roadway work required is in the immediate area of new and modified facilities and existing road rehabilitation.

Structural/Architectural/Geotechnical

1. Conventional spread foundations will be required for new facilities. Over excavation, preload, piles, or underdrain systems are not required. Uplift due to high groundwater levels, if any, will be addressed with thickened base slabs or pressure relief valves in slabs. No underdrain systems or tension systems will be required.

Process/ Mechanical

- Only hydraulic assessments required for the design of the new or modified facilities are included. The basis of the hydraulic design is outlined in the submitted PER for this project, dated March 3rd, 2023. This also includes the flow limitations of the gravity component and within the treatment units themselves.
- 2. The necessary process design, liquids/solids balance and energy balance calculations will be performed.
- 3. Design concerning "plant-wide" utility systems such as basin drainage, water, and in-plant waste collection/disposal will be limited to extensions and/or changes in existing piping. No new structures or equipment will be needed.
- 4. No corrosion control provisions will be required other than materials selection and coatings.

HVAC and Plumbing

1. N/A

Electrical and Instrumentation & Controls Systems

1. CONSULTANT will not perform the work of developing process control system software for either the PLC or the PC interface as part of the design phase services.

ADDITIONAL SERVICES

- 1. Additional Field Surveys for topography, SUE and geotechnical
- 2. Outside funding grant applications assistance
- 3. Updates to the plans and specifications for value engineering.

PARTNERS PROVIDED SERVICES

Brushy Creek Tertiary Filters Project



- 1. PARTNERS will provide to CONSULTANT all data in PARTNERS's possession relating to CONSULTANT's services on the Project. CONSULTANT will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the PARTNERS.
- 2. PARTNERS will make its facilities accessible to CONSULTANT for performance of its services and will provide labor and safety equipment for such access. PARTNERS will perform, at no cost to CONSULTANT, such tests of equipment, machinery, pipelines, and other components of PARTNERS's facilities as may be required in connection with CONSULTANT's services.
- 3. PARTNERS will give prompt notice to CONSULTANT whenever PARTNERS observe or become aware of development that affects the scope or timing of CONSULTANT's services, or of defect in the work of CONSULTANT or the CONTRACTOR.
- 4. The PARTNERS shall examine information submitted by CONSULTANT and provide comments in writing and provide decisions in a timely manner.
- 5. The PARTNERS shall furnish required information and approvals in a timely manner.
- 6. The PARTNERS shall cause all agreements with the CONTRACTOR to be consistent with CONSULTANT's Agreement.

TIME OF COMPLETION

Plummer is authorized to commence work on the Services upon execution of this Agreement and agrees to complete these Services in accordance with the schedule below. If the execution of this Agreement is beyond the start date of the schedule below, the schedule will be adjusted.

Project Milestones	Duration	Start Date	End Date
Notice to Proceed		April 18, 2023	
Design: Pre-procurement Filter Design	3 months	April 2023	June 2023
Equipment Proposals & Selection	1 months	June 2023	July 2023
Design 30% - 90%	5 months	Aug 2023	Dec 2023
TCEQ Document Submission/	2 months	Dec 2023	Jan 2024
100% Documents			
Construction Bid & Award	2 months	Jan 2024	April 2024
Construction	10 months	Mar 2024	Jan 2025

COMPENSATION

Tasks shall be Lump Sum. Fee for services is outlined in Exhibit D – Fee Schedule





06/02/2023

ADDENDUM TO EXHIBIT C Work Schedule

Attached Behind This Page

BRUSHY CREEK EFFLUENT FILTER DESIGN PROPOSED SCHEDULE

Mechanical 1100 weeks 7/31/2023 101/6/2023 Civil 11.00 weeks 7/31/2023 101/6/2023 Structural 900 weeks 8/14/2023 101/6/2023 Structural 900 weeks 8/14/2023 101/6/2023 Be&C 10.00 weeks 8/17/2023 101/6/2023 Be% besign 0.00 weeks 101/6/2023 12/14/2023 Mechanical 8.43 weeks 101/6/2023 12/14/2023 Mechanical 8.43 weeks 101/6/2023 12/14/2023 Mechanical 8.57 weeks 101/6/2023 12/14/2023 Structural 8.57 weeks 101/6/2023 12/14/2023 Structural 8.57 weeks 101/6/2023 12/14/2023 Be/S weeks 101/6/2023 12/14/2023 12/14/2023 Be/S weeks 101/6/2023 12/14/2023 12/14/2023 Be/S weeks 101/6/2023 12/14/2023 12/14/2023 <th>Mechanical Mechanical Cond Structural Elac 28 28 28 28 28 28 28 28 28 28 28 28 28</th> <th>OC Deadline 10/2/3 OC Deadline 10/2/3 QACC 10/2/23 - 10/13/23 QACC 10/2/23 - 10/13/23 Updates 10/9/23 - 10/13/23 QACC 12/4/23 - 12/8/23 Innetural QC Deadline 12/4/23 Inclural QC Deadline 12/4/23 Inclural QC Deadline 12/4/23</th> <th></th>	Mechanical Mechanical Cond Structural Elac 28 28 28 28 28 28 28 28 28 28 28 28 28	OC Deadline 10/2/3 OC Deadline 10/2/3 QACC 10/2/23 - 10/13/23 QACC 10/2/23 - 10/13/23 Updates 10/9/23 - 10/13/23 QACC 12/4/23 - 12/8/23 Innetural QC Deadline 12/4/23 Inclural QC Deadline 12/4/23 Inclural QC Deadline 12/4/23	
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Bidding Assistance 8.00 weeks 4/1/2024 5/27/2024 41	41,48		Bidding Assistance

ADDENDUM TO EXHIBIT D Fee Schedule

Attached Behind This Page

ExHIBIT D Fee Breakdown: Brushy Creek Effluent Filters Design City of Round Rock

					Scop	e of Work									Subcons	sultants	Sub Total	Total Projec	**
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⁺Fee is based on a lump sum effort from the Engineer and its sub consultants, rates and hours are shown in support of the total fee.

Previously Authorized \$ 200,000 Amendment Request Amount \$ 788,073