

Project Understanding

This Amendment No. 4 to the Agreement of 21 March 2005 details the Scope of Services for professional services for final design of improvements to, and expansion of, the City of Arlington's (City's) Wastewater Treatment Plant (WWTP) and Biosolids Composting Facility (BCF). The final design (identified as Phase 4B in the Agreement) will produce final bid documents as well as an Engineer's opinion of probable construction costs and proposed construction schedule (including possible construction phasing) for the WWTP and BCF improvements, as described in the 2007 City of Arlington WWTP Engineering Report. In addition to the final bid documents, the Scope of Services for Amendment No. 4 includes consulting services during bidding. Additional consulting services within this scope necessary to support the final design and construction efforts include surveying, geotechnical investigations, assistance with environmental and construction permitting, assistance with public education and outreach, and support for the City's financial consultant. This amendment does not include any services for construction management, construction support, startup and operations services, and training, which are anticipated to be included in a separate amendment.

Scope of Services

The Scope of Services for Amendment No. 4 consists of the tasks listed below under Phase 4B, Final Design. Phase 4A, which has been recently completed, included a mixing zone study, evaluation of the existing BCF and BCF expansion alternatives, TMDL negotiations with Ecology, and preparation of an Engineering Report for approval by Ecology. As mentioned above, Phase 4B includes final design and bidding support services for two separate bid packages: one for the WWTP improvements and one for the BCF improvements. The anticipated duration of this project is as noted in the discussion of schedule at the end of this document and as shown in the attached schedule.

Phase 4B – Final Design

Task 4.14 – Project Management and Quality Assurance/Quality Control (QA/QC)

- A) Kennedy/Jenks Consultants' project manager will coordinate activities/tasks and will be available for regularly scheduled teleconference meetings to discuss the project with the City, separate from project meetings described in Task 4.21 below. Project management also includes internal/external team member coordination and communications and work necessary to monitor and report progress according to the project plan, schedule, and budget. Project management will extend through final design and bidding support services.
- B) Kennedy/Jenks will provide QA/QC for work under this Amendment, including a quality control review of each deliverable prior to its submission to the City and a concepts and criteria review at completion of the 10% design. A memo summarizing the QA/QC checks performed on the documents and design will be included with each submittal.
- C) Kennedy/Jenks Consultants plans to use Dr. H. David Stensel of the University of Washington as a subconsultant for outside technical review of the WWTP process design. Dr. Stensel is an expert in wastewater treatment and recognized nationally for his work on biological nutrient removal. Dr. Stensel would assist with WWTP data interpretation and wastewater characterization, assist with development of process simulation inputs, review process simulation setup and results, review process recommendations for the schematic design, review 30% process design drawings, and provide technical advice throughout the design. Kennedy/Jenks Consultants also plans to use Engineered Composting Systems (ECS) as a subconsultant for outside technical review of the BCF process design. ECS was involved in design of the existing BCF. ECS would review process recommendations for the schematic design, review 30% process design drawings, and provide technical advice throughout the design.
- D) Kennedy/Jenks Consultants will provide support for the City's external value engineering at the 10% and 30% design review stages. As there is currently no specific instructions as to what support will be required, services for value engineering support are assumed to be limited to the amount budgeted, which includes time for meeting preparation, attendance of up to four Kennedy/Jenks employees at a 10% and 30% value

engineering meeting, and documentation of responses to value engineering suggestions. This task does not include time for significant re-evaluation of design decisions or re-design of project elements that have already been established in the Engineering Report and previously reviewed design submittals. Significant changes resulting from value engineering may result in significant scope changes that will require a budget augmentation.

Task 4.15 – Membrane Equipment and BCF Mixer Selection

- A) Kennedy/Jenks will coordinate with the City to establish appropriate procedures and parameters for the equipment procurement and selection process. Such items include confirmation of the approach for procurement of the membrane equipment package, identification of manufacturers to solicit for proposals, verification of equipment to be included in the membrane equipment package, development of schedule and warranty requirements, confirmation of level of manufacturer field service necessary during the construction and startup/performance validation testing phases, and development of selection criteria that factor in cost, as well as reliability and flexibility of the manufacturers' proposed packages.

As currently envisioned, the recommended pre-selection, pre-negotiation approach would involve five phases for the membrane equipment procurement: 1) preparation of request for proposal, 2) evaluation and pre-selection, 3) shop drawings and assistance with design development, 4) procurement of the equipment, including installation, testing, and standard warranty, and 5) extended warranty on the equipment and other support services. The last two phases could have a separate agreement to establish appropriate responsibilities.

- B) During the membrane technology workshop, Kennedy/Jenks will review and discuss the currently available membrane equipment and technologies and confirm the procurement approach to be utilized for the membrane equipment package. The focus will be on confirming key design and selection criteria as they relate to developing the performance specifications and short-listing manufacturers for proposal requests. Design and selection criteria may include: established technology with relevant and available installations; flexibility for equipment/capacity expansion; and performance in meeting delivery and warranty commitments.
- C) Prepare a draft performance specification based on the established design and selection criteria. Prepare scopes of work and draft terms and conditions to define the agreements and responsibilities for procurement of the membrane equipment. Coordinate with the City for incorporation of appropriate terms into City-prepared procurement packages. Assist in preparation and final review of complete Request for Proposals (RFP) package. The RFP package will be submitted to the City once for review and comment, the City will prepare the "front-end" documents for the RFP package and send out the bid solicitations.
- D) Evaluate manufacturer submitted proposals with the City. Utilize the established selection criteria to identify the preferred equipment manufacturer for the membrane equipment package. Contact selected manufacturer furnished references, if needed. Prepare Letter of Recommendation to the City.
- E) Provide technical assistance to the City in support of contract negotiations with the preferred equipment manufacturers.
- F) Subsequent to contract execution between the City and the membrane equipment manufacturer, coordinate with the manufacturer to clarify design requirements for manufacturer's consideration, facilitate the shop drawing preparation and submittal process, and provide other technical input to information requests made by the manufacturer.
- G) Review the manufacturer's shop drawings for the proposed membrane equipment package and prepare technical comments. Provide final engineering acceptance of shop drawings, after comments are addressed. This task assumes review of one resubmittal following the initial submittal.
- H) Based on the proposal evaluation review, pre-negotiations with the membrane equipment manufacturer, and the shop drawing review process, assist the City in finalizing documents for the construction contractor's execution of the equipment procurement contract.

- I) Unlike the membrane equipment package, procurement of the BCF mixer will be under a single phase that includes costs associated with procurement of the equipment and warranties. Kennedy/Jenks will assist the City to confirm key design and selection criteria as they relate to developing the performance specifications and short-listing manufacturers for proposal requests. Kennedy/Jenks will prepare a draft performance specification based on the established design and selection criteria and draft terms and conditions to define the agreements and responsibilities for procurement of the BCF mixer. Kennedy/Jenks will coordinate with the City for incorporation of appropriate terms into City-prepared procurement packages and assist in preparation and final review of the complete Request for Proposals (RFP) package. The RFP package will be submitted to the City once for review and comment, the City will prepare the “front-end” documents for the RFP package and send out the bid solicitations. Kennedy/Jenks will evaluate manufacturer submitted proposals with the City. Established selection criteria will be utilized to identify the preferred equipment manufacturer for the BCF mixer.

Task 4.16 – Treatment Processes Modeling

- A) The GPS-X process simulator program will be utilized to assist in validating expected performance and sizing of the proposed WWTP improvements, based on the design criteria established in WWTP Engineering Report and historical WWTP influent data. The process simulator will be used to refine the configuration proposed in the WWTP Engineering Report by assessing overall performance and capacity, as well as impacts on sizing and performance of other major unit processes. Refinements to the current configuration may consist of rearrangement, replacement, or addition of proposed processes and/or associated process flow streams. Once the model has been refined, it will be used to evaluate design parameters for major unit processes, assess potential for enhanced phosphorus removal with the addition of coagulant, determine sizing of ancillary unit processes, and confirm overall performance and capacity of the proposed improvements.
- B) The GPS-X process simulator program will also be used develop a model of the existing sequencing batch reactors, UV disinfection, and solids handling processes. The model will be developed as a steady-state model and calibrated using existing WWTP operating data under both historical average day and historical maximum month flow and load conditions. Calibration will include examining and adjusting important input parameters such as wastewater fractions and possibly a few kinetic rate constants. To assist with calibration of the existing WWTP model and improve accuracy of the model for proposed WWTP improvements, Kennedy/Jenks may request that the City run some additional analyses to supplement data that has already been collected. Additional analyses may include, measuring concentrations of calcium and magnesium in the influent, measuring concentrations of volatile fatty acids (VFA) in the influent, measuring chemical oxygen demand and VFA in the recycle streams, measuring refractory dissolved organic nitrogen in the influent, and other important parameters. Kennedy/Jenks will summarize the results of the calibration effort in a brief technical memorandum. Following review by the City, Kennedy/Jenks will perform final adjustments to the existing WWTP model. Results of this calibration work will be considered in developing the model of the WWTP improvements.

Task 4.17 – Schematic Design

- A) Kennedy/Jenks will prepare a schematic design technical memorandum based on process modeling completed in the previous task and proposed improvements, design criteria, and expected NPDES discharge limitations established in the WWTP Engineering Report. Contents of the technical memorandum will consist of a detailed description of the WWTP and BCF improvements using; a narrative description of the proposed process and control strategy for both the WWTP and BCF including control and monitoring schemes, alarm conditions, and process interface using input from the operations staff; a description of proposed construction phasing and schedule; preliminary equipment list; code check; and an updated list of design drawings. Four copies of the draft technical memorandum will be provided for the City’s review. Comments will be incorporated into a final technical memorandum, which will then be distributed to the City and submitted to Ecology for a courtesy review.

- B) Ten percent design documents will be provided as attachments to the technical memorandum. Ten percent design documents will consist of a preliminary process flow diagram, site plans, process and instrumentation diagrams (P&IDs), an updated opinion of probable construction cost, and a preliminary construction schedule. The schedule will identify and incorporate any proposed construction phasing.

Task 4.18 – Site Investigations

- A) Kennedy/Jenks will obtain the services of a subconsultant to update the existing site basemap by conducting a field survey of the project area. The as-built accuracy of previous WWTP and BCF improvements will be verified, benchmarks will be identified, significant objects (structures, trees, etc.) will be located, critical spot elevations will be taken, manholes on the sites will be dipped, existing utilities will be updated through as-built records, and a revised basemap will be assembled. The basemap will show topography, contours, and locations of significant objects and underground utilities (in accordance with available as-built records) within the WWTP and BCF sites. Facilities, pipelines, and other utilities outside the WWTP and BCF sites will not be surveyed, with the exception of the WWTP outfall.
- B) Kennedy/Jenks will obtain the services of a subconsultant to perform a geotechnical evaluation and analysis of the project area using existing borings and geotechnical reports. Up to four additional soil borings will be conducted to determine soil characteristics at locations for proposed new structures, if sufficient information is not already available. A geotechnical report including design recommendations will be prepared and submitted to the City for review. The geotechnical subconsultant will provide technical input to Kennedy/Jenks and review the 30% and 60% design submittals.

Task 4.19 – Permitting and Funding Assistance

- A) Kennedy/Jenks will obtain the services of a subconsultant to perform the primary tasks for permitting requirements for both the WWTP and BCF. Kennedy/Jenks will provide technical input and assistance to the subconsultant in planning, application, and approval phases of the permitting work. Submittal requirements and likely timeframes for obtaining required permits will be determined. Budgeted hours for this task are based on assistance with the following permits: NPDES permit, Biosolids General Permit, building permits and planning review, Department of Labor and Industries electrical review, construction stormwater permit, shoreline permit, hydraulic project approval, and review by the Departments of Natural Resources and Ecology. Effort for this task is limited to the budgeted hours. It is assumed the City will provide assistance with the building, planning, and fire department reviews; a biological assessment will not be required; the work will not involve any wetlands or sensitive areas; no easements or right-of-way will be required; and the City will complete the archaeological inventory at the WWTP site.
- B) Kennedy/Jenks will provide support to and coordination with the City's separately contracted funding and rate analyst, including furnishing of project related construction costs as they are developed.

Task 4.20 – Public Education and Outreach

- A) Kennedy/Jenks will prepare for and attend two community meetings. Display boards will be prepared for use at the meetings. The meetings will be attended by the project manager. It is assumed that the City will organize and facilitate the community meetings.
- B) Kennedy/Jenks has the ability and resources to prepare public education tools such as flyers, website content and interactive graphics. This work is currently not included in the scope and, therefore, would require additional budget.

Task 4.21 – Project Meetings

- A) Before beginning final design, a project kickoff meeting will be held with City staff and the Kennedy/Jenks project team. Agenda items will include introducing the project team, a review of the project memorandum and project requirements, proposed schedule, and preliminary delivery dates and procedures. Project

standards, CAD requirements, required submittals for Code compliance and permits, equipment/vendor preferences, anticipated regulatory agency reviews, project constraints, operational issues, and a proposed construction schedule and sequence will also be discussed at this meeting. Four attendees from Kennedy/Jenks will participate in the kickoff meeting.

- B) At the 10% design level, Kennedy/Jenks will conduct an internal Concept and Criteria Review (C&CR) meeting. In this meeting Kennedy/Jenks project team members will present the proposed project approach and review design documents with senior wastewater personnel for their input. The meeting will include a discussion of project objectives, constraints, assumptions, and design criteria; proposed treatment processes and plant layout; control strategy; design drawing list; major equipment list; and the project scope, budget, and schedule. Participants will have an opportunity to offer ideas and suggestions based on their experiences with similar projects. Meeting minutes will be produced and distributed to the C&CR participants. An 8-hour meeting is assumed.
- C) At the 10%, 30%, 60% and 90% design stages, workshops will be held with City staff to review the design documents and to obtain review comments. A four-hour meeting is assumed at each design stage. Four attendees from Kennedy/Jenks will participate in each design workshop.
- D) During the course of the design, Kennedy/Jenks will attend up to two meetings with Ecology. Two four-hour meetings at Ecology's offices are assumed, with two attendees from Kennedy/Jenks participating in each meeting.
- E) In addition to the meetings described above, it is assumed that additional project meetings will be required to discuss specific project issues during final design. Therefore, two supplementary four-hour meetings with two Kennedy/Jenks personnel in attendance are assumed.

Task 4.22 – WWTP and BCF Final Design Documents, Opinions of Probable Cost, and Schedules

- A) After incorporation of 10% design review comments, Kennedy/Jenks will produce design drawings for 30, 60, 90, and 100% design stages. Design drawings for the WWTP and BCF will be produced as separate packages. Drawings will be prepared using AutoCAD. At the 30, 60 and 90% design stages, four (4) 11" X 17" review sets will be assembled and submitted for review by the City. Kennedy/Jenks will obtain the services of a subconsultant to perform the landscape design for both the WWTP and BCF.
 - 1. The 30% design submittals will consist of the following:
 - Title sheet, updated drawing list, process schematic, hydraulic profile, and design criteria
 - Civil site plan
 - Architectural plans and exterior elevations
 - Process and instrumentation diagrams (P&IDs),
 - Mechanical plans and major mechanical sections
 - Electrical site plan and one-line diagram
 - 2. In addition to those items included in the 30% submittals, the 60% design submittals will consist of the following:
 - Civil grading, drainage, piping, horizontal control, and paving plans
 - Building and process tank structural plans and sections
 - Mechanical sections
 - Electrical power and control plans
 - Network communications diagrams

3. In addition to those items included in the 60% design submittals, the 90% design submittals will consist of the following:
 - Civil details and piping profiles
 - Architectural sections, details and schedules
 - Structural details
 - Mechanical details
 - Electrical lighting plans, elementary wiring and control diagrams, schematics, schedules, and details
 - Instrumentation panel elevations and details
 - Instrument list
 - Equipment list
 - Construction documents required for building permits
 4. 100% design submittals: After incorporation of 90% review comments, Kennedy/Jenks Consultants will prepare 100% design drawings suitable for competitive bidding of the WWTP and BCF designs as separate packages. Kennedy/Jenks Consultants will provide the City with a stamped set of full-size reproducible 100% design drawings plotted on bond, four 11" X 17" copies of the 100% design drawings, and one copy of the AutoCAD files on CD. A Professional Engineer registered in the State of Washington will stamp the 100% design drawings. The stamped and signed hard copy full-size set will be the official project documents. The electronic copies on CD will not be stamped or signed, are for the City's records, and are not intended for distribution to bidders or the contractor.
- B) Project Specifications will be prepared in CSI format. The specifications will be prepared as separate packages for both the WWTP and BCF. At each of the following design stages, four (4) bound sets will be assembled and submitted for review by the City, as follows:
- 60% specifications submittal will consist of a complete Table of Contents; a draft Summary of Work (Section 01110); plus major equipment, electrical, and instrumentation draft specifications.
 - 90% specifications submittal will incorporate 60% review comments and will consist of all technical sections (Divisions 2 – 17) and front end documents (Division 0 and 1). It is assumed that the City's standard Division 0 documents and Kennedy/Jenks Consultants Division 1 specifications will be used. The City will prepare Division 0 and Kennedy/Jenks Consultants will prepare Division 1.
 - 100% Specifications will incorporate 90% review comments and will be stamped and signed by a Professional Engineer registered in the State of Washington. Kennedy/Jenks will provide the City with four bound copies and one loose original set of the 100% specifications, plus one electronic copy of the documents on CD. The stamped and signed hard copy specifications will be the official project documents. The electronic copies on CD will not be stamped or signed, are for the City's records, and are not intended for distribution to bidders or the contractor.
- C) An opinion of probable construction costs will be prepared for both the WWTP and BCF improvements at each design stage, as follows:
- Budgetary (30%) Engineer's opinion of probable construction cost (+30% / –15% accuracy)
 - Updated (60% and 90%) Engineer's opinion of probable construction cost (+15% / –5% accuracy)
 - Final (100%) Engineer's opinion of probable construction costs (+15% / –5% accuracy)
- D) At each design stage, a proposed project schedule that includes both the WWTP and BCF will be produced and submitted for the City's review. The schedule will identify and incorporate proposed construction sequencing/phasing. A final proposed project schedule will be provided for bidding purposes.

- E) During the project design, Kennedy/Jenks personnel will visit the WWTP and BCF sites to observe existing conditions, speak with the operations staff, conduct measurements, and take photographs. For budgeting purposes, six 8-hour site visits (four for the WWTP and two to the BCF) are assumed with two persons each from Kennedy/Jenks.

Task 4.23 – Other Design Documents

- A) A narrative description of the proposed process and control strategy will be produced. Included will be control and monitoring schemes, alarm conditions, and process interfacing. This document will be produced with input from the WWTP operations staff. A draft will be submitted at 60% design completion and a final at 90% design completion. The final version will be incorporated into Division 17 of the technical specifications.
- B) A temporary operation and maintenance plan providing for operation of the WWTP during construction of the WWTP improvements will be produced and submitted at 90% completion. The final version of this plan will be incorporated into Division 1 of the front end specifications.
- C) A review of relevant codes, including requirements for building occupancy, hazardous materials, ADA requirements, and applicable fire code will be completed. Authorities having code enforcement jurisdiction will be identified. The findings will be incorporated into the design drawings and technical specifications.
- D) Prepare a revised Biosolids Management Plan for submittal to Ecology. This plan will demonstrate the City's Class A Biosolids Compost compliance with all federal and state biosolids treatment, management, public notice, and record keeping requirements.
- E) Kennedy/Jenks will provide a market assessment for Class A biosolids in the surrounding community.

Task 4.24 – Bidding Services

- A) The BCF will be bid separately, before completion of the WWTP bid documents. Kennedy/Jenks will develop a project description for bid advertisement of both the BCF and WWTP and will assist the City with advertising the two bids. During the bid periods, Kennedy/Jenks will assist the City by responding to bidders' questions and issuing addenda and/or clarifications. The budget includes hours for preparation of five addenda or clarifications (two for the BCF and three for the WWTP).
- B) Kennedy/Jenks will participate in a pre-bid meeting and site walk-through for both the BCF and WWTP and will prepare the agenda and minutes for the meeting. Attendance by two persons from Kennedy/Jenks is assumed at both meetings.
- C) Kennedy/Jenks will prepare a bid tabulation and assist the City with evaluation of the bids for both projects.

Changes

Any change in scope of services and schedule from that defined in this Exhibit shall be undertaken only upon authorization from CLIENT.

Assumptions

In preparing the Scope of Services for Amendment No. 4, it is assumed that:

1. This scope of services is based on design of improvements described in the 2007 City of Arlington WWTP Engineering Report.
2. Separate bid documents will be prepared for the WWTP improvements and BCF improvements.
3. Construction support and construction management services, startup and operations services, training, and record drawings will be included in a separate amendment.

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Exhibit 1F –Amendment No. 4: Scope of Services and Schedule

4. All drawings will be prepared in Auto CAD 2007. Final stamped and signed drawings for reproduction by the City will be plotted on bond.
5. The BCF will be bid separately, before completion of the WWTP bid documents.
6. The City will provide existing site survey information for the WWTP and BCF.
7. The City will provide information on underground utility delineation and location.
8. The City will assist with building, planning, and fire department reviews.
9. The City will be the point of contact for all permit applications, and will submit the permit applications and perform other permit requirements, including the publishing of public notifications, and tracking of the permit approval processes.
10. The City will conduct a single review of draft permit applications and provide consolidated comments.
11. Attendance by Kennedy/Jenks or it's subconsultants at public hearings regarding permit applications will not be required.
12. Reviews by Ecology, L&I, and the City building, planning and fire departments will be concurrent and comments from these reviews will be provided within 65 days of submittal.
13. The City will provide existing geotechnical information for the WWTP and BCF sites. Up to four additional soil borings will be conducted to determine soil characteristics at locations for proposed new structures, if existing information is not sufficient.
14. If the City requires a permit for geotechnical exploration at the WWTP and BCF sites, it will be issued without a fee.
15. No bedrock or contaminated soils will be encountered at either the BCF or WWTP site. Soil cuttings from drilling operations for geotechnical exploration at both sites can be left on site.
16. Soils are not highly permeable, such that pumping tests will not be required to determine dewatering requirements.
17. Existing soils will be capable of supporting structures with typical mat or footing foundations and will not require pile supports or substantial import of new material.
18. A biological assessment will not be required.
19. The work will not involve any wetlands or sensitive areas and no easements or right-of-way will be required.
20. The City will complete the archaeological inventory at the WWTP site.
21. City personnel will be available for onsite meetings as needed.
22. City will provide consolidated comments within 2 weeks from receipt of submittals prior to scheduled submittal review workshops.
23. The City will organize and facilitate public involvement meetings.
24. The City will provide "front end" specifications for Division 0 – Bidding Documents, Proposal, Agreement, General Conditions, etc., and prepare Division 0 of the "front end" specifications. Kennedy/Jenks Consultants Division 1 – General Requirements specifications will be used.
25. The City will be responsible for bid advertising, copying and distributing copies of drawings and specifications for bidding, tracking plan holders, and distributing addenda and clarifications to bidders.
26. The City will be responsible for removing the existing Utilities Administration Building, including utility connections, fencing, and other appurtenances to allow construction of the WWTP improvements.
27. The existing PLC and SCADA system can accommodate the proposed expansion of the BCF without the need for replacement or significant hardware modification.

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Exhibit 1F –Amendment No. 4: Scope of Services and Schedule

28. The membrane procurement request for proposals (RFP) package will be submitted to the City once for review and comment, the City will prepare the “front-end” documents for the RFP package, and the City will send out the bid solicitations.
29. Review of one resubmittal from the membrane manufacture following the initial submittal is included.
30. Detailed shop drawings for the membrane equipment package will be provided by the equipment manufacturer as part of the pre-selection, pre-negotiation process. Drawings provided by the manufacturer will include mechanical, electrical, instrumentation, and P&IDs. These drawings will not be included in design submittal packages, but will be referenced and provided as a separate submittal. The shop drawings will be included as an appendix to the contract drawings.
31. This project will be bid as two construction bid packages, with pre-selection and pre-negotiation of the membrane equipment procurement and pre-purchase of the BCF mixer. The purchase of the membrane equipment will be by the WWTP Contractor.

Deliverables

- Task 4.14: Documentation of responses to value engineering suggestions.
- Task 4.15: Membrane equipment and BCF mixer performance specifications, membrane equipment request for proposal, and letter of recommendation for selection of membrane manufacturer.
- Task 4.16: Model calibration technical memorandum.
- Task 4.17: Schematic design technical memorandum and 10% design documents.
- Task 4.18: Geotechnical report.
- Task 4.19: Shoreline permit application, hydraulic project approval permit application, WWTP NPDES permit notice-of-intent application, BCF NPDES permit notice-of-intent application, WWTP stormwater pollution prevention plan, and BCF stormwater pollution prevention plan.
- Task 4.20: Community meeting graphics boards.
- Task 4.21: Kickoff meeting minutes, design review workshop minutes, Ecology meeting minutes, meeting minutes for two additional project meetings.
- Task 4.22: Four (4) 11” X 17” drawing review sets, opinion of probable construction cost, and construction schedule at the 30, 60 and 90% design stages. Specifications to be provided at the 60% and 90% design stages will be as outlined in Task 4.22.B.
- Full-size final stamped engineering drawings and original specifications for reproduction of bid documents, four (4) bound 11” X 17” drawing sets and four (4) bound sets of specifications, and CD-ROMs containing the final drawings and specifications for the City’s reproduction and archival needs.
- Task 4.23: Narrative description of process and control strategy, WWTP temporary operation and maintenance plan, Biosolids Management Plan, and Class A biosolids marketing assessment.
- Task 4.24 Addenda, clarifications, bid tabulation.

Exclusions: Additional Engineering Services (not included in current scope of services)

The following work is currently not included in this Scope of Services, but could be added if determined to be appropriate:

1. Meetings and site visits beyond the budgeted amount.
2. Locating/potholing/mapping existing utilities.
3. Permit and plan review fees.

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Exhibit 1F –Amendment No. 4: Scope of Services and Schedule

4. Environmental mitigation monitoring.
5. PLC programming.
6. Design of shoring or dewatering systems.
7. Construction surveys.
8. Risk management plans.
9. Value engineering beyond support of external VE reviews at 10 and 30% design stages.
10. Claims defense / litigation support.
11. Cost-estimating support for budgeting and pricing proposed construction contract changes.
12. Preparation of documents for NEPA.
13. Work involved with re-bidding the membrane procurement contract.
14. Surveying of facilities, pipelines, and other utilities outside the WWTP and BCF sites, with the exception of the WWTP outfall.
15. Landscaping design drawings, specifications and coordination.

Schedule

We understand that the City wishes to proceed with the design and construction of the WWTP improvements as soon as possible. Kennedy/Jenks will proceed with design as soon as we receive authorization from the City. For estimating level of effort and project budgeting, the following durations were assumed:

- It is assumed that final design of the BCF improvements will be completed within 11 months of receiving authorization to proceed.
- It is assumed that final design of the WWTP improvements will be completed within 14 months of receiving authorization to proceed.
- It is assumed that the advertisement and bidding period will be 4 weeks long for the BCF and 8 weeks long for the WWTP.

A schedule detailing the tasks involved in meeting the above-outlined milestones is attached as part of this exhibit.