



March 3, 2015

Mr. Paul Holzen, P.E., LEED AP
Director of Engineering
City of Franklin
109 3rd Avenue South
Franklin, TN 37064
Delivered via email: paul.holzen@franklinton.gov

Dear Mr. Holzen:

Subject: Proposal for Professional Engineering Services
Survey and Design for Harpeth River Bank Stabilization at the Franklin
Waste Water Treatment Plant off Claude Yates Dr.
City of Franklin, Williamson County, Tennessee
CEC Project 150-634

Civil & Environmental Consultants, Inc. (CEC) is pleased to submit this proposal to the City of Franklin as discussed and requested at our meeting on February 9, 2015. Our preparation of this proposal is based on a site review meeting with the City performed on same day and a follow up site visit on February 19, 2015.

1.0 BACKGROUND

Civil & Environmental Consultants, Inc. (CEC) understands that the City of Franklin WWTP has infrastructure near the bank of the Harpeth River that is threatened due to severe bank erosion of the left-descending bank. CEC understands that a 12-inch forecmain from Westhaven is the closest infrastructure to the eroding bank. CEC also observed a “cat-walk” type structure from which WWTP personnel sample mid-stream showed measurable signs of the top of bank receding ~2 feet in one year. The Tennessee Department of Environment and Conservation (TDEC) GIS lists this segment as impaired for siltation and non-supporting. The Harpeth River has a FEMA-established floodplain and floodway at this location as well.

2.0 PURPOSE

The purpose of this project is to protect the WWTP infrastructure. CEC will seek to accomplish this by incorporating natural stream design principles, bioengineering, and traditional stabilization techniques to the left descending bank and riparian area.

3.0 SCOPE OF SERVICES

The following scope of services is based upon the three-page “Stream Restoration Projects – Consultant Contract Design Tasks and Construction Administration” given to CEC at the January 12, 2011 meeting regarding COF Contract No. 2010-0155 and as modified during that meeting.

3.1 Project Survey/Scoping/Functional Layout

- CEC will perform a topographic survey of the project area. CEC understands that the City of Franklin owns the property on both sides of the river at this location; therefore, the need for obtaining easements is not anticipated. Any property boundaries that need to be shown will be based on the City’s GIS information that CEC assumes the City will provide. The primary focus of the survey will be the current channel alignment and cross-sectional area of the Harpeth River from just upstream of the outfall to just downstream of the sampling collection overlook (~900 feet). CEC assumes the City will provide GIS contour information that can be used for areas beyond the tree cover.
- CEC will perform a topographic field survey of the project area using Tennessee state plane coordinates, NAD 83, NAVD 88, zone 4100/5301 for incorporation into the Franklin GIS database. CEC understands that GIS data of this area will be made available for use on this project. The purpose of this initial survey is to gather information for developing a current and comprehensive drawing of the existing stream channel and immediate surrounding area. This drawing will be used in developing and graphic depicting the proposed stabilization design. This topographic survey is a prerequisite for all the following tasks.
- CEC will analyze the survey to determine a functional layout required for the bank stabilization design and review with the City prior to continuing the work. One of the chief parameters CEC will be reviewing is the ability to provide the same or more cross-sectional area or conveyance for the river after conceptual bank stabilization measures are incorporated to avoid the need for a revised flood study and lengthy Conditional Letter of Map Revision and Letter of Map Revision (CLOMR/LOMR) process.

3.2 Preliminary and ROW Plans Preparation

CEC will perform the following tasks:

- Develop initial design(s). Meet with City staff to go over initial project findings, so the design approach can be approved.
- Consultant to submit one set of Preliminary Plans for City review and approval (electronic submittal acceptable).
- Proceed with preparing the ROW plans after receiving comments back from City on the Preliminary Plans.

- Prepare draft permit applications for a City of Franklin grading permit and for coverage under the Tennessee Construction General Permit for Storm Water associated with Construction (this will include preparation of a preliminary Erosion Prevention and Sediment Control (EPSC) plan, Storm Water Pollution Prevention Plan (SWPPP), and Notice of Intent (NOI)), and an Aquatic Resource Alteration Permit (ARAP) application and Corps of Engineers Nationwide Permit application. CEC anticipates that an Individual ARAP will likely be required. The current General ARAPs expire in June of this year; therefore, the particulars of the ARAP application are subject to change. CEC has based the cost estimate on the current application process.
- Identify ROW.
- Preliminary Hydraulic Design – CEC will delineate the watershed to the subject reach and perform hydraulic analysis using HEC-RAS in order to determine the design shear stresses and other pertinent information. A detailed flood study will not be performed; however, pre- and post-developed project models will be developed.
- Preliminary Landscaping Design – CEC will coordinate with the City’s Landscape Architect to develop a plan that seeks to establish rapid stabilization and riparian benefit.
- Preliminary ROW Plan Review/Utility Coordination with the wastewater treatment plant – One full-size set of ROW Plans for the plant’s use (electronic copies may be accepted based on the utility) and one full-size set, one half-size set, and an electronic copy of ROW Plans for City review.
- ROW Plan Sets may include, but are not limited to: Title Sheet, Typical Sections, Property Map, Present Layout, Proposed Layout, Proposed Profile, Utility Layout, X-Sections (Every 50’).
 - Prepare preliminary quantities and cost estimate
- Hold/Attend one preliminary WWTP coordination meeting (CEC has estimated a cost of \$950 per utility coordination meeting).
- Prepare exhibits for Public Hearing (While this may not be a City requirement, TDEC will likely pursue an individual 401 permit and the Harpeth River Watershed Association will likely want to be involved)
 - Two Sets of ROW Plans, Display Boards, and Presentation
- Hold/Attend Public Hearing (CEC understands that the City will advertise and hold the meeting and that CEC will provide the exhibits and attend to answer questions posed by the public).
- Incorporate comments and changes into ROW Plans and finalize ROW Plans.
- CEC will submit one full-size set, one half-size set, and an electronic copy (PDF and CADD) of finalized ROW Plans.

3.3 Construction Plans Preparations

CEC will perform the following tasks:

- Finalize Design and Prepare Plan Specifications
 - Incorporate special conditions from preliminary plan development task.
 - Calculate final quantities and cost estimate.
 - Prepare erosion prevention and sediment control plans.
 - Prepare general notes.
 - Finalize water quality permit applications (this task will include water quality type permits such as the Aquatic Resource Alteration Permit application, the Corps of Engineer's permit applications, the NOI and SWPPP, and the Franklin Grading Permit application).
- Final Hydraulic Design – CEC will finalize the HEC-RAS model in order to determine the design shear stresses, estimated depths of flow for various return interval storms, and other pertinent information.
- Construction Plan Review – one full-size set of construction plans for each utility's use (electronic copies may be accepted based on the utility) and one full-size set, two half-size sets, and an electronic copy of construction plans for City review.
- Construction Plan Sets may include, but are not limited to: Title Sheet, Typical Sections, Quantities, Property Map, Present Layout, Proposed Layout, Proposed Profile, Utility Layout, Erosion Control, General Notes, X-Sections (Every 50').
- Final utility coordination meetings (if necessary).
- Incorporate comments and changes into plans and finalize plans.
- Finalize the City of Franklin grading permit application and a Notice of Intent (NOI) and SWPPP for coverage under the Tennessee Construction General Permit for Storm Water associated with Construction (applicable permit application fees are assumed to be waived for the City grading permit; State permit fees are assumed to be paid by the City of Franklin and have not been included in the costs for this proposal).
- Submit permit applications (CEC assumes that the City will reimburse payment of the application fees).
- CEC to submit one full-size set, one half-size set and an electronic copy (PDF and CADD) of Finalized Construction Plans and Specifications.

Note: CEC will attend status update and other necessary meetings during the life of the Project and has estimated five meetings in addition to those specifically listed above in Tasks 3.1 through 3.3 for the purposes of providing a cost schedule with this proposal. CEC will

maintain an updated schedule of project tasks and will submit this via email monthly (or as requested by the City).

Given the uncertainties of the final design and permitting timeline for this project, CEC has not included the cost for bidding assistance, construction oversight, or warranty documentation at this time. CEC will provide additional scope and estimated costs for these tasks if requested.

4.0 SCHEDULE

CEC can begin work within two weeks of receiving your authorization to proceed.

5.0 COST

Our not-to-exceed costs are based on the scope of services described above and will be billed on a Time & Materials (T&M) basis. If CEC encounters conditions that require additional services and costs beyond what is presented in the proposal, CEC will provide a written revised scope of services and revised costs for the City of Franklin's approval prior to proceeding. The estimated cost to perform the scope of services outlined above is provided below:

| Task | Not-to-Exceed Cost |
|--|--------------------|
| 3.1 Project Survey/Scoping/Functional Layout | \$26,100 |
| 3.2 Preliminary & ROW Plans Preparation | \$29,700 |
| 3.3 Construction Plans Preparation | \$18,600 |
| Total | \$74,400 |

Invoicing of professional services will be in accordance with the attached fee schedule. Reimbursable expenses, including subcontracted services, are included in our estimated costs and will be invoiced according to the attached fee schedule.

6.0 ASSUMPTIONS

CEC assumes the following:

- The City will provide the flood study upon which the current Flood Insurance Rate Map (FIRM) is based. CEC can assist the City with obtaining the information from FEMA, if necessary, and assumes there will be no charge from FEMA.
- CLOMR/LOMR will not be required.
- Permitting of the project will be limited to local, state water quality (ARAP), and Corps.
- The City will provide CEC GIS contour information of the project area.

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COF 2015-0186
Attachment A
PG 6 of 7

7.0 CLOSING

CEC appreciates the opportunity to submit this proposal to you. We believe the scope of services outlined will address the City of Franklin's needs in a cost effective manner. If you have any questions or comments, please call me at (615) 333-7797.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Steven E. Casey, P.E., CPESC
Senior Project Manager



Jeff Duke, PWS, CPESC
VP Ecological Services

Cc: Jeff Willoughby, jeff.willoughby@franklintn.gov
Jonathan Marston, jonathan.marston@franklintn.gov

Enclosure

Fee Schedule

January 1, 2015 through December 31, 2015

PROFESSIONAL SERVICES

| Classification | Rate/Hour |
|--|-----------|
| Vice President..... | \$220 |
| Principal | \$205 |
| Senior Project Manager | \$180 |
| Project Manager III | \$155 |
| Project Manager II | \$145 |
| Project Manager I | \$135 |
| Assistant Project Manager..... | \$110 |
| Project Consultant / Geologist / Hydrogeologist / Biologist / Scientist | \$100 |
| Staff Consultant / Geologist / Hydrogeologist / Environmental Specialist | \$95 |
| CAD Designer..... | \$90 |
| Draftsperson / CADD Operator..... | \$65 |
| Senior Field Technician..... | \$80 |
| Construction Observer / Environmental Technician..... | \$78 |
| Senior Land Surveyor | \$140 |
| Project Land Surveyor / GPS Specialist..... | \$100 |
| Survey Technician IV | \$83 |
| Survey Technician III..... | \$78 |
| Survey Technician II..... | \$70 |
| Survey Technician I..... | \$63 |
| Administrative Assistant | \$65 |
| Administrative Manager | \$73 |

DIRECT EXPENSES

Direct Expenses included in Not to Exceed Cost.

| | |
|--|----------------------|
| Company or Personal Automobile Mileage | \$0.56 /mile* |
| Computer / CADD Usage | \$15/hour |
| Other Travel Related Expenses | Cost plus 10% |
| Printing and Reproduction | Cost plus 10% |
| Telephone and Shipping | Cost plus 10% |
| Miscellaneous Services..... | Cost plus 10% |

SUBCONTRACT SERVICES

Services @ Cost Plus 12%

* Will be modified to current IRS Rate