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May 8, 2025

Mr. Tim Howe, Director of Utilities City of Seguin P.O. Box 591 Seguin, Texas 78156-0591

RE: Geronimo Creek WWTP Expansion – Sewer Force Main Design Engineering Services Contract Amendment No. 5 Additional Engineering Services

Dear Mr. Howe:

This Contract Amendment No. 5 represents additional engineering services for the abovereferenced project. Additional services are required primarily due to the re-alignment of the force main route, requested after the design of the original alignment was completed. The City has also requested that the Starcke Park hike & bike trail be replaced by the force main contractor, which requires a completely new design to meet AASHTO/TDLR requirements. The engineering scope of work performed is as follows:

- 1. Tuscumbia property. Field staking of the proposed utility lines alignment and easement limits (staked three times).
- 2. Tuscumbia property. Re-design of the utility lines re-alignment, including field survey and re-plat preparation.
- 3. Roddy Property. Re-design of the utility lines re-alignment, including re-plat preparation, as a result of the re-alignment on Tuscumbia property.
- 4. Roddy Property. Re-design of the utility lines re-alignment, including re-plat preparation, to facilitate landowner's requests for tree preservation.
- 5. Guadalupe Pecan Ranch. Re-alignment of original utility route, including field survey and re-design. Development of alternative utility route, including design, field survey and plat preparation.
- 6. Dougherty property. Prepare re-plat due to proposed livestock gate.
- 7. Walnut Branch Lift Staton site. Preparation of property plat including landowner research.
- 8. Walnut Branch WWTP site development submittal. Services include title survey, boundary survey (property metes/bounds), plat preparation and submittal, landowner research and setting of final property pins.
- 9. Walnut Branch WWTP site floodplain submittal. This consists of updating Walnut Branch hydraulic model for the impacts of the proposed modifications.
 - a. The effective existing HEC-RAS model will be obtained from FEMA. The structures at the site will be incorporated into the existing model, along with a

review of ineffective flow areas and any required adjustments. The Seguin Stormwater Criteria Manual (dated 11/03/2023) will also be followed.

- b. The proposed model will include the topography modifications planned for the site. Both the existing and proposed model will also include the backwater from the Guadalupe River, as the location is within the backwaters of the Guadalupe River. The flow will be assumed to be the same flow for existing and proposed conditions.
- c. The report submitted for the No Rise will show the impacts of the water surface elevation of the removal of the structures and the modification of area.
- 10. FEMA passed new regulations in September, 2024 that requires structures to have a minimum of 3 feet of free-board. The Walnut Branch Lift Station was designed with a free-board of 2.5 feet. The current construction drawings for the lift station must be revised to reflect the new regulations, thus raising the wet well roof and associated systems 6" to comply.
- 11. Starcke Park Trail Design. This will consist of complete replacement of the existing trail within Starcke Park, with bid options for asphalt and concrete surfaces. The trail must meet AASHTO/TDLR requirements and be designed similar to the recently completed trail along Walnut Branch, with 10-foot wide minimum access path. This will include a retaining wall design for an approximate 400-foot long section (20-foot vertical drop) with associated concrete footings. The trail's turning radii will be increased in certain areas due to AASHTO minimum turning radius requirements. The two existing culvert bridges with be replaced and include new culvert pipes and trail safety railings. Twenty (20) drawing sheets are anticipated. Design services will include:
 - a. Cultural Resources Services
 - (1) TRC will perform a desktop-level review to help facilitate consultation with the Texas Historical Commission. The desktop study will review the geological and sedimentary environment to determine the subsurface archeological potential. TRC will also conduct a file search using the THC Archeological Sites Atlas (Atlas) to compile current information on recorded cultural resources and archeological surveys that have been documented within 1-km of the Project Area. TRC will also review appropriate data sets to determine the potential for undocumented resources within or immediately adjacent to the Project Area. The results of the desktop-level study will be summarized in a Cultural Resources Desktop Study Report. The desktop study report will be submitted through eTRAC system for project review.
 - (2) If required by THC, TRC will perform an intensive archeological survey of the APE. Survey methods will include a 100 percent pedestrian survey of the trail alignment, and subsurface investigations on those parts of the Project Area that do not exhibit evidence of severe prior disturbance. TRC will initiate 811 One Calls at least 48 hours prior to fieldwork. Work will be performed in



accordance with the THC's and Council of Texas Archeologists (CTA) Archeological Survey Standards (2020). This task includes pedestrian survey and excavation of shovel tests. This work will include no more than fourteen (14) shovel tests. TRC estimates it will take approximately one (1) day for two archeologists to complete the field investigation including travel time.

- Upon completion of fieldwork, TRC will prepare the Archeological Survey Report in accordance with the Council of Texas Archeologists Guidelines and Standards for Reports (2024). The report will provide a discussion of the methods and results of background research and field investigation. Site forms will be submitted to the Texas Archeological Research Laboratory (TARL) to obtain trinomials. The report will also include recommendations for further work or no further work with appropriate justifications based on the requirements of 13 TAC 26.5(35), 13 TAC 26.20(1), and 13 TAC 26.20(2) and THC/CTA Guidelines.
- b. Topographical surveying.

Acquire field topographical data for the design portion of the project on City's coordinate system, to include detailed survey including utility locates (as furnished by the specific utility provider). TRC will provide level C and D for SUE utility locating.

c. Geotechnical Bore/Report.

TRC will complete a field subsurface exploration program, laboratory testing, geotechnical analyses, provide recommendations for the proposed trail design and retaining wall support structure as part of the Geotechnical Engineering Report. The following geotechnical services will be provided:

- (1) Contact VA811 one-call utility notification service to identify and mark public utilities in the vicinity of the boring locations.
- (2) Observe and log drilling one (1) soil boring and four (4) soil corinngs with Standard Penetration Testing (SPT) and split-spoon soil sampling as follows:
 - Boring will be drilled to a depth of 40 feet below existing ground surface (bgs) and corings will be dripped to a depth of 10 feet bgs.
 - Beginning at ground surface, samples shall be obtained continuously to 10 feet and at 5 feet intervals thereafter to the completion depth of the test boring using standard split-barrel sampler (ASTM D1586). Terminate test boring if auger refusal is encountered in rock.
- (3) Observe and record groundwater elevations during and immediately after boring completion within the open borehole. No long-term groundwater measurements or piezometer installation will be performed.
- d. FEMA No-Rise Report and Culvert Drainage Report.

Based on the proposed trail improvements, TRC will update the hydraulic model of the Guadalupe River to account for the trail improvements, which requires some grading modifications and the design of two culverts.



The HEC-RAS model, previously used for modeling the latest Guadalupe River model will be utilized. The proposed model will include the new culverts along with the changes in grading along the trail. A comparison will be made between the proposed and existing conditions, using the HEC-RAS model of the existing park prior to any modifications.

The design of the new culverts will be based on a 5- or 10-year frequency, because at the 25-year frequency the park is inundated completely. The highest velocities for design would be when the area is not completely inundated.

There will be two reports prepared and submitted for City approval, one for the no rise and one for the culvert design. The Seguin Stormwater Criteria Manual (dated 11/03/2023) will also be followed with the exception of assumptions described below. This will be a Tier 3 Development report as outlined in the Seguin Stormwater Criteria Manual.

ASSUMPTIONS

As the basis for the preparation of this proposal and the associated cost of services, the following assumptions were made, which if found to be incorrect, may result in additional compensation to TRC:

- 1. TRC is not responsible for the time required by regulatory authorities or other parties for the approval process of permits, review of engineering documents, etc. TRC cannot guarantee the issuance of any permits or approvals and costs to file appeals or respond to permit challenges are not included.
- 2. The FEMA model will be used and this model will be modified to include all existing structures and obstructions in the floodplain. The proposed condition will be the elimination of the existing structures of the Walnut Branch WWTP and the regrading of the area.
- 3. The City will provide any improvement information on the Walnut Brach regional detention pond. This information is needed if we want to consider the impacts of the regional detention pond on the site.
- 4. The HEC-RAS model will be a 1D steady state model using the latest HEC-RAS 6.6.
- 5. The FEMA HEC-RAS model will have the Highway 123 bridge so that survey of the bridge is not needed. The Highway 123 bridge does impact the water surface elevation of the area.
- 6. Preparation of a LOMC is not included. This is not anticipated to be needed.
- 7. The previous hydraulic model utilized by TRC (with proposed conditions) can be used and compared to the existing conditions.



- 8. Section 6.2 General Requirements of the City's Stormwater Design Manual states that all bridges and culverts that are designed within the public right-of-way must be designed to pass at a minimum the 25-year ultimate conditions storm event without overtopping and the 100-year ultimate conditions storm event with a maximum of 6 inches of overtopping above the roadway and contained within the right-of-way and/or drainage easement. Channels upstream and downstream of culverts must contain the design storm and the required freeboard. In this case TRC would use the 5- and 10-year floods. At the 25-year storm the park is underwater. The 5 or 10 years would be the flow that would produce the velocities that would be checked for erosion. Once the park is inundated the flows drop and the higher velocities are within the main channel.
- 9. For the hydraulic report for the culverts, it is assumed that there are two separate reports one for culverts and another for the no rise since the no rise has to go through the permit process. The no rise will have those culverts but only a look at the 100 year at that point.
- 10. TRC's standard construction contract documents, specifications and drawings will be used for the project. The specifications format will be CSI.
- 11. Subconsultants for the use of project design will be selected by TRC.
- 12. There will be one design/construction project.
- 13. TRC's effort and costs for construction services are based on an eighteen (18) month construction project duration. If the construction period exceeds these time limits, TRC will provide an additional task order based on then-existing time-and-materials rates.
- 14. Drawings will be prepared utilizing AutoCad drawing software (two dimensional drawings only).
- 15.TRC is responsible for the health and safety of its employees; overall site health and safety is the responsibility of the contractor or other third parties.
- 16. There are no anticipated owner-supplied materials or equipment for this project or preparation of separate bid packages for such.
- 17. TRC is not responsible for the permit preparation or related construction activities for the TPDES stormwater permit issued to the City and Contractor, if required. The Contractor will be responsible to manage, inspect and maintain the permit and required field devices.
- 18. The following assumptions apply to the Cultural Resources Scope of Work:
 - a. TRC assumes that no cultural materials or archeological sites will be found. If any materials or sites are located, TRC will prepare a separate SOW and cost estimate for additional services.
 - b. This SOW does not include tribal coordination. If the Project requires tribal coordination, TRC will prepare a separate SOW and cost estimate for additional services.



- c. TRC assumes no more than excavation of fourteen (14) shovel tests will be needed for THC compliance for the Project. If additional shovel tests are needed TRC will prepare a separate SOW and cost estimate for additional services.
- d. TRC assumes that no deep testing will be required for compliance. If THC requests deep testing for archeological deposits TRC will prepare a separate SOW and cost estimate for additional services.

19. The following assumptions apply to the Geotechnical Scope of Work:

- a. Temporary support of excavation designs or slope stability analyses are not included.
- b. TRC and our drilling subcontractor will not accept responsibility for the disruption or repair of underground utilities at approved drilling locations. TRC will work with the City to identify possible underground utility locations and offset test borings as necessary to avoid conflicts.
- c. Stormwater infiltration testing, retaining wall design, slope stability analyses, evaluation related to liquefaction potential, karst, sinkholes, or other geohazard mitigation plans, and temporary support of excavation designs are not included.
- d. While TRC will exercise reasonable care to limit distress or disturbance to the existing landscaping, pavements, sidewalks, and other improvements, some impacts are likely to occur, such as rutting. The use of matting has not been included in the cost estimate. TRC will be responsible for repairs or improvements to the existing features or site restoration.
- e. To define the Seismic Site Class for this project, TRC will interpret the results of the test borings and estimate appropriate soil properties below the base of the test borings to a depth of 100 feet based on publicly available geologic information, anticipated subsurface conditions, and experience.
- f. Soil samples collected during this exploration will be stored at TRC's testing laboratory for thirty (30) days from the date of this report. At that time, they will be destroyed.
- 20. The following assumptions apply to the FEMA no-rise study:
 - a. This scope does not include services associated with LOMA/CLOMR/LOMF, or services associated with mitigation of the water surface elevation or design, cost estimates, etc.
 - b. The study assumes future flooding conditions will remain the same. They will not account for potential changes in rainfall patterns, climate change, or upstream development that could increase flood levels.

EXCLUSIONS

The following items are <u>specifically excluded</u> from TRC's scope of work:



- 1. Services for natural resources, including Section 408 USACE coordination (related to reforestation areas).
- 2. Landscaping design/plans.
- 3. Historical review/services for the Walnut Branch WWTP (adjacent cemetery).
- 4. Continuous construction inspection.
- 5. Preparation of easements, field notes or survey plats. Detailed title search or title policy, attendance at or preparation for condemnation hearings, landowner contact or easement negotiations.
- 6. Improvements or relocations for franchise utilities, if applicable.
- 7. Services for means and methods of construction contractor or the work of the construction contractor.
- 8. Endangered species mitigation plan/costs, species-specific threatened and endangered survey, USACE/USFWS permitting, Clean Water Act Section 404 individual permit and NWP 12 Pre-Construction Notification. Environmental assessment of the site, including but not limited to Phase 1 or 2 assessments or others.
- 9. Hazardous materials assessment and abatement and demolition management or oversight.
- 10. Remediation plan for excavated soil or liquid, in the event that it is contaminated.
- 11.GIS mapping.
- 12. Construction survey and staking, post construction survey, or quality assurance testing for construction. This is to be provided by the Contractor.
- 13. Determination of the FEMA flood plain level (including CLOMR, LOMR, etc.) for the site.
- 14. Services required to rebid the project for any reason or to resolve bid protests.
- 15. Level A or B subsurface utility engineering (for surveying).
- 16. Design of bid alternates or multiple bid packages, unless specifically stated herein.
- 17. Value engineering design services after approval of 100% Construction Documents.
- 18. Any items not reflected in the scope of work/work tasks.
- 19. During the construction phase Investigations, analyses, studies or design for substitutions of equipment or materials, corrections of defective or deficient work of the contractor or other deviations from the construction contract documents, providing shop, mill, field, laboratory or factory inspection of materials and equipment, analytical testing or third-party testing for construction QA/QC.



- 20. Preparing data and reports for assistance to the City in preparation for hearings before regulatory agencies, courts, arbitration panels or mediators, giving testimony or expert representation or preparations therefore.
- 21. Making revisions to drawings, specifications or other documents when such revisions are not consistent with approvals or instructions previously given to TRC or due to other causes not within the control of TRC.
- 22. Contractor payroll certifications, audits or field interviews of contractor employees related to salaries.
- 23. Payment of fees for permit applications, unless noted above.

COMPENSATION FOR SERVICES

The <u>lump sum cost</u> to provide the engineering services is as shown below (with item numbers corresponding to the scope of work numbers above):

Item No.	Description	Cost
1	Tuscumbia Field Staking	\$4,464.00
2	Tuscumbia Re-Design	\$24,671.00
3	Roddy Re-Design 1	\$6,639.00
4	Roddy Re-Design 2	\$8,824.00
5	Guad Pecan Ranch Re-Design & Alt Route	\$34,739.00
6	Dougherty Re-Plat	\$758.00
7	Walnut Branch Lift Station Plat/Research	\$9,208.00
8	Walnut Branch WWTP Plat/Research ⁽¹⁾	\$29,440.00
9	Walnut Branch WWTP Floodplain	\$15,956.00
10	Walnut Branch LS Roof Elevation Change	\$12,780.00
11	Starcke Park Trail Design	\$267,769.00
	Total (lump sum):	\$415,248.00

⁽¹⁾This Cost includes a maximum of forty (40) hours for property research.

Services will be provided in accordance with the Master Service Agreement (dated September 30, 2024) executed by the City and TRC. The original engineering services agreement was executed by the City of Seguin (City) and TRC Engineers, Inc. (TRC) on June 29, 2020, and all requirements set forth in that agreement and subsequent amendments are applicable. Fees for services quoted in this proposal are valid for a period of time not to exceed 60 days from the date of this letter.

This proposal expressly excludes any and all taxes, tariffs, duties, and other similar charges or fees imposed by any governmental authority (collectively, "Taxes and Tariffs"). The prices and fees quoted in TRC's proposal do not include any such Taxes and Tariffs. The Client shall be solely responsible for the payment of all applicable Taxes and Tariffs arising from or related to the work contemplated by this proposal. If TRC or its subcontractors are required to pay Taxes and Tariffs on behalf of the Client, the Client shall promptly reimburse TRC for the full invoiced amount thereof.



We appreciate the opportunity to assist with this project and are available to proceed immediately with your written approval.

Please review this amendment and, upon acceptance, sign in the space provided below.

Sincerely,

rais Bell

H. Craig Bell, P.E. TRC Engineers, Inc. Austin Engineering Director

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Tony Rached, P.E. TRC Engineers, Inc. Regional Area Director, Infrastructure

City of Seguin

<u>May 8, 2025</u> Date

Date

