



Attachment "B" Consultant's
Proposal for Scope of Services
and Compensation

June 4, 2024

Project No. (AVO): 47098.002

City of Lewisville
Stacie Anaya
Parks & Recreation Department
191 Civic Cir
Lewisville, TX 75067

RE: Lake Park Erosion Area B2 & C
600 Sandy Beach Rd, Lewisville, TX 75057

Dear Stacie Anaya,

At Halff we improve lives and communities by turning ideas into reality. We do that by working with great clients on meaningful projects. As such, we are pleased to submit the following Scope of Services for the Lake Park Erosion Area B2 & C for the City of Lewisville.

The proposed services to be performed are described in the Scope of Services (**Attachment B**). Proposed services that are not included as part of the Scope of Service are listed in the Exclusions section; however, these services can be provided by Halff upon request as an additional service. A PROJECT Exhibit (**Attachment D**) and estimated PROJECT Schedule Section is also included.

Unless otherwise modified, please note that the Scope of Services described herein shall remain valid and continue in effect for a period of 90 calendar days, after which it will require renewal in writing by CONSULTANT and CLIENT.

Thank you for the opportunity to work with you to improve lives and communities. Please feel free to contact me if you have any questions or comments regarding this Scope of Services.

Sincerely,

A handwritten signature in black ink that reads "Justin Marston". The signature is fluid and cursive, with a long horizontal stroke extending from the end.

Justin Marston, PLA
Project Manager, Halff Associates, Inc.
214.346.6276
jmarston@halff.com

ATTACHMENT “B” – SCOPE OF SERVICES

Proposed Scope of Work Lake Park Shoreline Erosion Phase I

Halff (CONSULTANT) will provide engineering and consulting services for the City of Lewisville (CITY) Lake Park Shoreline Erosion Phase I Improvements Project.

I. PROJECT PURPOSE

This Attachment “B” defines the services to be performed by CONSULTANT for the Lake Park Shoreline Erosion Phase I Improvements Project (PROJECT). The design services will consist of preparing and analyzing preliminary alternatives and design and preparation of construction plans for erosion protection improvements at two locations (B2 and C), totaling approximately 3,400 linear feet of shoreline; a high-water boat launch and boat parking lot improvements. A performance specification will be prepared for two (2) courtesy docks. Refer to Attachment “D” for project location maps outlining the areas of proposed improvements.

The Scope of Work includes three phases: preliminary alternatives analysis and conceptual design, engineering design, and bidding and construction services. The preliminary alternatives analysis and conceptual design phase includes data collection, geotechnical engineering, preparation and analysis of rock riprap and wall improvement alternatives, conceptual plans for the high-water boat launch and parking lot reconfiguration, and two (2) courtesy docks, preliminary opinions of probable construction cost, and preliminary environmental permitting services. The engineering design phase includes preparation of construction plans and specifications for the shoreline erosion protection improvements selected by the CITY in the preliminary alternatives analysis phase, the high-water boat launch, two (2) courtesy docks, and boat parking lot improvements, and permitting to accommodate construction of said improvements. The bidding and construction services phase includes bidding and construction-phase services.

Project Assumptions

The project scope and fee are based on the following assumptions.

- 1. Erosion Design** – The proposed erosion protection improvements for this Project will be based on alternatives identified within the Lake Park Master Plan. The construction plans will be based on the design concepts which include a combination of rock riprap and walls.
- 2. Permitting** – The project will require approval by the USACE Lake Lewisville Office and authorization by the USACE Regulatory Branch, pursuant to Section 404 of the Clean Water Act.

II. BASIC ENGINEERING SERVICES

TASK 01 - Project Management and Data Collection

A. Communications and Reporting

CONSULTANT will provide monthly updates and progress reports to the CITY with current status, outstanding issues and/or items of concern. The report will be in 8.5"x11" format and submitted electronically to the CITY.

B. Internal Team Meetings & QAQC

CONSULTANT will conduct internal team meetings as required for the PROJECT. The internal team meetings will include internal coordination of project design, schedules, and QAQC reviews.

C. Monthly Progress Meetings

CONSULTANT shall lead and participate in up to twelve (12) virtual monthly progress meetings with the CITY throughout the project design duration. CONSULTANT will prepare a meeting agenda and notes for each meeting.

D. Project Kickoff Meeting

CONSULTANT will meet with CITY at start of project to discuss project goals, schedule, staffing, coordination, and other project-related items. CONSULTANT will prepare a meeting agenda and notes for the kickoff meeting.

E. Data Collection and Field Reconnaissance

The CITY will provide the CONSULTANT with the park Master Plan and available record drawings and plans for paving, drainage, and utilities within the project area.

CONSULTANT will conduct one (1) site visit to perform a visual assessment of the park and trail facilities and eroded areas along the shoreline. The site visit will be conducted when the lake is at a low-level condition. Site conditions assessment will include documentation of existing facilities, park roadway shoreline area, visible paving, drainage and utility improvements.

TASK 02 – Hydraulic Analysis

CONSULTANT will calculate wave forces required for design of erosion protection improvements, including rock riprap revetment and vertical walls, along Sites B2 and C of the Lake Park shoreline. CONSULTANT will prepare a technical memorandum summarizing the findings of the hydraulic analysis.

A. Compilation of Data

CONSULTANT will compile data necessary for developing a 2D model that simulates wave propagation throughout Lake Lewisville and towards the Lake Park shoreline. This data includes:

- Lake bathymetry
- Historical wind records

- Anecdotal data of wave action and shoreline erosion within Lake Lewisville

B. Calculation of Wave Parameters

CONSULTANT will calculate the necessary parameters to inform design including, but not limited to, wave height and period, wave crest elevation, and volume of wave overtopping.

1. Development of Wave Propagation Model

CONSULTANT will develop a 2D wave model to simulate waves propagating across Lake Lewisville towards the Lake Park shoreline. Using engineering judgment, modelers will simulate wave propagation for a range of physical conditions necessary to calculate design wave forces. The wave model will provide wave characteristics necessary to estimate loading for rock revetment and vertical wall design. The model will simulate the following physical conditions:

- Up to three water levels within the reservoir's conservation and flood control zones (combined).
- Up to two wind speeds.
- Wave propagation from approximately 5 different directions, covering the entire Lake Park shoreline.

CONSULTANT will coordinate with the USACE Lake Lewisville Office regarding the selection of water level to be applied in wave simulations.

2. Wave Runup and Overtopping Calculation

Wave overtopping – a breaking wave's flow over the crest of a structure or natural feature – may produce dangerous conditions landward of the shoreline stabilization project, even if the shoreline remains structurally stable. To evaluate the residual risk and potentially revise the structure's crest elevation, CONSULTANT will calculate wave runup and overtopping using methods approved by the Federal Emergency Management Agency (FEMA), the US Army Corps of Engineers (USACE), EurOtop II Manual, or other peer-reviewed methods.

C. Wave Loads on Vertical Walls

Using the American Society of Civil Engineers' (ASCE) standards for minimum design loads ASCE/SEI 7-16, CONSULTANT will calculate wave loads acting on a vertical wall, such as reinforced concrete or sheet pile walls. CONSULTANT will calculate wave forces at Site B2, where vertical walls are being evaluated for shoreline erosion protection. CONSULTANT will provide a revised scope of work and fee should the design require individual wave load calculations at additional locations.

D. Rock Revetment Design

CONSULTANT will calculate the size of a revetment's armor stone by applying USACE guidance, such as Hudson's Formula, or other design methods included

in the USACE's Coastal Engineering Manual (CEM), the United States Bureau of Reclamation (USBR), and the Texas Department of Transportation (TXDOT) Hydraulic Design Manual. CONSULTANT will apply wave characteristics calculated through the wave model directly into the equations for rock revetment design as possible and appropriate for the design.

TASK 03 – Preliminary Alternatives Analysis of Erosion Mitigation Improvements

A. Technical Memorandum & Exhibits:

CONSULTANT will prepare and evaluate a maximum of three (3) alternatives Site B2. The Alternatives for Site B2 will be limited to rock riprap, reinforced concrete retaining walls, sheet-pile walls, or a combination thereof. Consultant will prepare and evaluate a maximum of two (2) alternatives Site C. The alternatives evaluated for Site C will be limited to different variations of rock-riprap configurations. Preparation and evaluations of wall design are excluded for Site C. CONSULTANT will prepare a Technical Memorandum (TM) outlining the conceptual erosion mitigation improvement alternatives for Sites B2 and C. The TM will include an exhibit for each alternative, showing the overall layout of the proposed improvements and typical sections. Up to three (3) hard copies of the technical memorandum and associated attachments, and an electronic copy will be submitted. CONSULTANT will provide recommendations for the following design parameters:

- Rock Riprap Improvements - Investigate the feasibility of placing rock riprap for the shoreline erosion protection. Develop a typical section for the alternative including rock riprap thickness and bedding thickness. Develop rough geometric configuration and limits of proposed rock ripraps.
- Rock Riprap Sizing
- W50 Rock Weights: Calculate W50 rock riprap stone weights for tolerable damage and for zero damage, to result in a range of W50 weights.
- D50 Rock Sizes: Calculate D50 rock sizes corresponding to the W50 rock weights, to result in a range of D50 rock sizes.
- Wall Improvements – Investigate the feasibility of sheet pile and reinforced concrete walls for shoreline erosion protection. Develop a typical section for the alternative, including estimated wall height and depth. Develop rough geometric configuration and limits of proposed walls.

B. Preliminary Opinion of Probable Construction Cost (OPCC)

CONSULTANT shall provide the CITY with a preliminary OPCC for each alternative presented within the Preliminary Alternatives Analysis Technical Memorandum. OPCC will be based on unit prices of similar projects.

C. Design Review Meeting

CONSULTANT will conduct a design review meeting with the CITY staff and staff members of other necessary entities to discuss comments related to the PROJECT. Design review meetings will be held virtually or in-person.

TASK 04 – Conceptual Design of Boat Ramp, Courtesy Docks, and Parking Lot Improvements

CONSULTANT shall prepare a conceptual design and opinion of probable construction cost for the following items located at Site C, as part of the approved Lake Park Master Plan, and as shown in Attachment “D”.

A. High-Water Boat Launch

CONSULTANT shall prepare conceptual design of the high-water boat launch located at Site C.

B. Boat Parking Lot Improvements

CONSULTANT shall prepare conceptual design for the boat ramp parking lot. The design will focus on proper vehicular and pedestrian circulation, functionality, resurfacing, striping, and signage.

C. Courtesy Docks

CONSULTANT shall prepare conceptual layout of the two (2) courtesy docks located at Site C. CONSULTANT will develop and provide up to two (2) alternatives for the CITY to choose from. The CITY’s selection will be incorporated into the design construction documents.

Deliverables

- Conceptual Design Exhibit showing the project layouts of the improvements described above.
- Conceptual Opinion of Probable Construction Cost (OPCC) for the improvements described above.

TASK 05 – 60% Design

A. Construction Plans

CONSULTANT shall prepare 60% Design Construction Plans upon completion of TASK 03 & TASK 04, selection by the CITY of erosion protection improvement alternatives for Site B2 and C, and approval by the CITY of the conceptual design of high-water boat launch, boat parking lot improvements, and courtesy docks. The construction plans will be designed using AutoCAD or Microstation software and include the following:

- Cover Sheet
- Index of Sheets
- Survey Control Plans
- Project Layouts
- Access Plans
- Demolition Plans
- Erosion Protection Improvement Plans
- High-Water Boat Launch Plans
- Boat Parking Lot Paving Plans
- Boat Parking Lot Striping and Signage Plans
- Courtesy Dock Layout – limited to site plan showing location

- Wall Profiles
- Grading Plans
- Erosion Control Plans
- Typical Sections
- Structural Wall Details & Sections
- 50-ft Cross-Section Sheets
- Miscellaneous Detail Sheets.

B. 60% Design Opinion of Probable Construction Cost (OPCC)

CONSULTANT shall update the preliminary OPCC to reflect the refined level of design.

D. Draft Technical Specifications

CONSULTANT shall prepare technical specifications required for bidding and constructing the project. A performance specification will be included for the two (2) courtesy docks.

D. Design Review Meeting

CONSULTANT will conduct a design review meeting with the CITY and staff members of other necessary entities to discuss all comments related to the PROJECT. Design review meetings will be held virtually or in-person. CONSULTANT will prepare a meeting agenda and notes for this meeting.

E. Franchise Utility Coordination

CONSULTANT shall send 60% design plans to utility companies and attend up to one (1) site visit for utility coordination.

Deliverables

- Up to three (3) hard copies and an electronic copy of the construction plans, OPCC, and technical specifications will be submitted.

Assumptions/Exclusions

- The CITY will provide “front end” documents, and the CONSULTANT will provide necessary technical specifications. The CITY will also provide standard details and construction notes, and the Engineer will review the standard details and notes and confirm appropriateness for the project.

TASK 06 – 90% Prefinal Design

A. Prefinal Construction Plans

Upon completion of the 60% design and resolution of 60% design comments, the CONSULTANT shall prepare 90% Design Construction Plans for review.

B. Prefinal Opinion of Probable Construction Cost (OPCC)

CONSULTANT shall update the 60% Design OPCC to reflect the refined level of design.

C. Prefinal Technical Specifications

CONSULTANT shall prepare technical specifications required for bidding and constructing the project.

D. Prefinal Bid Proposal & Pay Item Descriptions

CONSULTANT shall prepare prefinal bid proposal and pay item descriptions required for bidding the project.

E. Design Review Meeting

CONSULTANT will conduct a design review meeting with the CITY and staff members of other necessary entities to discuss all comments related to the PROJECT. Design review meetings will be held virtually or in-person. CONSULTANT will prepare a meeting agenda and notes for this meeting.

F. Franchise Utility Coordination

CONSULTANT shall send 90% design plans to utility companies.

Deliverables

- Up to three (3) hard copies and an electronic copy of the construction plans, OPCC, and technical specifications, bid proposal, and pay item descriptions will be submitted.

TASK 07 – 100% Final Design

A. Final Construction Plans and Bid Documents

Address CITY comments and refine plan sheets and all deliverables previously submitted in 90% prefinal design phase.

B. Distribution of Bid Sets

Prepare and distribute bid sets. Plans, specifications, and bidding documents will be provided in electronic format for advertisement and distribution.

Deliverables

- Up to three (3) hard copies and an electronic copy of the bid set documents will be submitted.

TASK 08 – Geotechnical Investigation and Design Recommendations

A. Subsurface Exploration

Based on past experience in the vicinity of the project, subsurface conditions are anticipated to consist of Terrace deposits overlying the soils and rock of the Woodbine geological formation. Experienced drillers and technicians will evaluate subsurface conditions with a total of eleven (11) sample borings extending to a depth of 20 feet below existing grades. The field personnel will drill the borings using truck-mounted equipment. It is assumed that all borings are accessible to truck-mounted drilling equipment. Cohesive and non-cohesive soil samples will be obtained using 3-inch diameter Shelby tube samplers and 2-inch diameter standard split-spoon samplers, respectively. In addition, rock encountered will be evaluated by use of Texas Department of Transportation (TxDOT) cone penetration tests. A soils logger will extrude the samples in the field, check the samples for consistency with a hand penetrometer, carefully wrap them to preserve their condition, and return them to the laboratory for testing. A log of each boring will be prepared to document field activities and results. CONSULTANT's personnel will stake the boring locations using hand-held GPS equipment. Approximate locations of the borings will be shown on the plan of borings. At the completion of drilling operations, boreholes will be backfilled with drill cuttings and plugged at the surface by hand tamping.

B. Laboratory Services

Considering the proposed improvements, anticipated soil conditions and geology, laboratory tests will be required for classification purposes, and to determine strength characteristics. Specific types and quantities of tests will be determined based on geologic conditions encountered in the borings. The following tests are anticipated:

- Moisture content and soil identification
- Liquid and plastic limit determinations
- Percent passing #200 sieve
- Sieve analyses/hydrometer analyses
- Unconfined compression tests on soil
- Direct shear strength tests on soil
- Unit weight determinations

C. Engineering Services

An engineering report will be prepared to present the results of the field and laboratory data together with analyses of the results and recommendations. CONSULTANT will provide two copies of the report and an electronic copy. The report will address the following:

- General soil and ground-water conditions
- Results of grain size analysis, including d50 grain size for scour analyses
- Recommendations for suitability of the use of sheet pile walls and required embedment depth
- Recommended lateral pressures for the design of sheet pile/retaining structures
- Slope stability analyses for proposed cross sections at sites B2 and C

- Recommendations for courtesy docks, boat ramp, and parking lot improvements
- General comments on soil conditions affecting erosion and scour
- Earthwork recommendations

D. Additional Services (Geotechnical)

Items other than those specified above, which are revealed by these studies or are necessitated by a change in project scope, may require revised field, laboratory, and engineering services. These services, if required and requested, will be performed for additional compensation, as additional services. Additional services may consist of the following:

- Additional subsurface exploration, including quantities or items other than described in Basic Services
- Bulldozer or other equipment services required to achieve access to boring locations
- Additional laboratory services, including quantities or items other than described in Basic Services.
- Additional engineering services, including personnel time and expenses for items not specifically described in the scope of work. This may include, but is not limited to, additional meetings requested by CITY or CITY's other consultants, assistance to CITY in dealing with regulatory agencies, preparation and engineering assistance in legal proceedings, and evaluation of alternative designs for the project or relocation of structure, following initial submittal of the geotechnical report.
- Any other required or requested services authorized by CITY, other than those specifically described in the scope of work.

TASK 09 – Environmental Services

This task includes work required for USACE federal permitting (Section 404 of Clean Water Act)

A. Jurisdictional Determination

CONSULTANT will perform a one-day field delineation to verify the limits of waters of the United States, including wetlands. A memorandum will be prepared describing the results of the investigation, including maps and site photographs.

B. Threatened and Endangered Species

CONSULTANT will conduct a limited investigation of federal-listed threatened and endangered species for the project area. This investigation will include a review of current species the United States Fish and Wildlife Service (USFWS). Supplemented by general observations from the delineation investigation, the literature review and database search will provide conclusions whether any listed species is likely to occur, and whether there is a potential effect to listed species.

C. Cultural Resources

A preliminary review suggests that sites have been sufficiently modified in the past to require only a literature review to complete the requirements of Section 106 of the

National Historic Preservation Act (Section 106) and Chapter 26 of the Texas Antiquities Code. This task includes a literature review and a check of site records available in the office of the State Archaeologist. The results of the survey will be incorporated into a stand-alone summary report. Task includes:

- Preparation of research design report for USACE and THC review
- Summary report documenting methodology and findings
- Coordinating review with USACE and THC

D. Pedestrian Survey (Contingent Task)

Should the USACE or THC archaeologist require a pedestrian survey to test for the presence of potentially buried deposits, this provisional task will provide for one-day field survey consistent with protocol established by the USACE and/or THC. This task does not provide for backhoe trenching, which is not anticipated to be necessary.

E. Nationwide Permit Pre-Construction Notification

It is anticipated the proposed activities may be authorized by Nationwide Permit 13 – Bank Stabilization. CONSULTANT will prepare and submit a pre-construction notification (PCN) to the USACE. The contents of a PCN include:

- Pre-application meeting request;
- Name, address and telephone numbers of the prospective permittee;
- Location of the proposed project;
- A description of the proposed project; the project’s purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure;
- Delineation of waters of the United States (see Jurisdictional Determination);
- Threatened and endangered species assessment (see Threatened and Endangered Species); and
- Cultural resources assessment (see Cultural Resources)

F. Regional Permit Pre-Construction Notification

It is anticipated that boat ramp enhancement activities may be authorized by USACE Fort Worth District Regional Permit 8 – Boat Ramps and Minor Facilities. This action will be permitted independent of bank stabilization measures. CONSULTANT will prepare and submit a pre-construction notification (PCN) to the USACE. The contents of a PCN include:

- Pre-application meeting request;
- Name, address and telephone numbers of the prospective permittee;
- Location of the proposed project;
- A description of the proposed project; the project’s purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure;

- Delineation of waters of the United States (see Jurisdictional Determination);
- Threatened and endangered species assessment (see Threatened and Endangered Species); and
- Cultural resources assessment (see Cultural Resources)

G. Individual Permit (Special Service)

Should the USACE Fort Worth District determine that an individual permit would be required to authorize the proposed action, the following scope items would replace item **Task 9.E**. Compensation for this task (Task 9.G) will only include payment for work in addition to what is described in the tasks above. CONSULTANT will prepare an individual permit, the scope of which includes:

- Name, address, and telephone numbers of the prospective permittee;
- Location of the proposed project;
- A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the activity, in acres, linear feet, or other appropriate unit of measure;
- Project schedule;
- Names and addresses of adjoining property owners;
- List of authorizations required by other federal, interstate, state, or local agencies for the work, including approvals or denials already received;
- Delineation of waters of the United States (**see Task 9.A**);
- Threatened and endangered species assessment (**see Task 9.B**);
- Cultural resources assessment (**see Task 9.C**);
- Section 404(b)(1) alternatives analysis;
- Section 401 Water Quality Certification checklist;
- Compensatory mitigation plan; and
- Public notification.

In addition to the standard components common to a nationwide permit, the individual permit process includes an alternatives analysis report that must demonstrate the proposed project is the least environmentally damaging practicable alternative (LEDPA) per regulatory standards from the Fort Worth District, USACE – *Preparing an Alternatives Analysis under Section 404 of the Clean Water Act (November 2014)*. This task also entails preparing a public notice after which CONSULTANT will prepare a letter report to address comments received from the coordinating state and federal agencies or adjacent landowners. CONSULTANT will also continue to support the USACE in providing additional information to support their internal review and drafting of the decision document.

Assumptions/Exclusions

- It is assumed that the project will have “no effect” on federally listed threatened and endangered species due to the developed nature of the project area. This scope does not include any species-specific surveys, formal coordination with the USFWS, or biological assessment reports.

- It is assumed that project will have “no effect” on properties listed, or eligible for listing, in the National Register of Historic Places.
- If dewatering of Lewisville Lake is required for construction of the proposed project, coordination with Texas Parks and Wildlife Department for the development of an Aquatic Resources Relocation Plan and Introduction Permit is excluded from this scope of services.

TASK 10 – Survey Services

A. Topographic Survey

1. Establish and verify vertical/horizontal control for Sites B2 & C.
2. Collect data of site for topographic survey mapping of Sites B2 & C as shown on Attachment “D” and prepare topographic survey report of site (including AutoCAD and Microstation file of site with contours and ascii file of data).

Data will include:

- Natural ground shots and breaks
- Limits of existing paved areas
- Visible surface utilities including sanitary sewer manholes and storm sewer manholes (with flow-line measure downs and pipe sizes of or inlets)
- Light and power poles
- Gas appurtenances
- Electric appurtenances
- Retaining walls
- Trees 6-inches or larger in diameter
- Edge of water
- Points in water (to limits shown on attached exhibits)
- Other substantial features observed on site

TASK 11 – Bidding Phase Services

- A. Contact prospective contractors.
- B. Attend one (1) Pre-Bid Meeting.
- C. Review questions from bidders and prepare addenda. Addenda will be provided in an electronic format for distribution to the registered bidders.
- D. Prepare bid tabulations, review bids, check apparent low bidder's references and prepare letter of recommendation to the CITY.
- E. Prepare Conformed Document set incorporating addenda issued during the bidding process.

TASK 12 – Construction Phase Services

- A. Attend Pre-Construction meeting with the CITY and Contractor. CONSULTANT will prepare a meeting agenda and notes for this meeting.
- B. Conduct site visits a maximum of six (6) site visits during an estimated 10-month construction duration. This number does not include the final 'project acceptance' walkthrough.
- C. Attend one (1) final 'project acceptance' walkthrough to confirm completion of project construction.
- D. Review Contractor's material submittals and make any necessary recommendations to the CITY.
- E. Coordinate with the CITY during construction for design modifications.
- F. Review and respond to Requests for Information during construction.
- G. Prepare electronic record plan set. Incorporate the Contractor's and CITY inspector's as-built mark-ups; Prepare PDF and DGN files of the record drawings for CITY records.
- H. Construction-phase services will be performed on an hourly basis and a contract modification will be necessary to continue these services once the budget for construction-phase services is exhausted.

TASK 13 – ADA Accessibility Review

- A. CONSULTANT will submit drawings and specifications to the Texas Department of Licensing and Regulation (TDLR) for review of compliance accessibility standards. CONSULTANT will incorporate any comments received and adjust the plans as needed. This cost will be included as part of the base fee schedule.
- B. Site Inspection fees payable to TDLR will be paid and delivered with transmittal of the plans to TDLR. Project registration, printing of plans and specifications, and shipping will be reimbursable expenses as defined herein.

III. EXCLUSIONS

The following services are not anticipated, but Halff Associates can provide these services, if required, on Time and Materials basis. Halff will notify the CITY when said additional services are required and obtain approval for the additional scope and fee prior to proceeding.

1. Quality control and material testing services during construction
2. Construction inspection services
3. Construction staking
4. Survey and/or relocation activities relating to state and/or federally-listed aquatic and terrestrial species are not included in this scope of services
5. Extracting and analyzing samples for any water quality parameters and excludes preparation of an EPA Quality Assurance Protection Plan (QAPP)
6. TCEQ Permitting
7. Operation & Maintenance (O&M) preparation
8. Emergency Action Plan (EAP) preparation
9. Improvement survey
10. Additional plats
11. Traffic engineering report or studies
12. Hydraulic modeling other than as stated in the scope of services
13. Tree mitigation permitting and plans
14. Surveying Services other than as stipulated in the scope of services
15. FEMA Submittals (CLOMA, CLOMR, CLOMR-F, LOMA, LOMR, LOMR-F)
16. Fees associated with data collection, bidding, or permitting
17. Subsurface Utility Engineering (SUE)
18. Acquisition Support Services
19. Appraisal Services
20. Fill permit
21. Public meetings or City Council meetings
22. Design and preparation of plans and details for the two (2) courtesy docks.

Compensation for additional services required for the PROJECT and authorized by the CITY will be provided on an Hourly basis and shall be billed based on 2.3 times the total salary cost for the time each employee is engaged directly on the project.

IV. SCHEDULE

Time for Completion

CONSULTANT agrees to complete and submit all work required by the CITY set forth above under Scope of Work within ten (10) months from the date of the written authorization by CITY. However, that timeframe may be extended or suspended due to delays in the reviews by agencies or franchise utilities or other such matters beyond the control of the CONSULTANT, with the mutual written consent of both parties. Anticipated start date for this scope of work will be within two (2) weeks after notice to proceed. CONSULTANT will develop a detailed schedule at the Kick-off Meeting and will adjust accordingly.

Project Milestones

<u>Task</u>	<u>Duration</u>
Data Collection, Survey, and Hydraulic Analysis	5 weeks
Preliminary Alternatives Analysis of Erosion Mitigation Improvements	4 weeks
Conceptual Design of Boat Ramp, Courtesy Docks, and Parking Lot Improvements	3 weeks
City Plan Review	2 weeks
60% Design	8 weeks
City Plan Review	2 weeks
90% Prefinal Design	8 weeks
City Plan Review	2 weeks
100% Final Design	4 weeks
ADA Accessibility Review	2 weeks
<u>Bidding Phase Services</u>	<u>4 weeks</u>
Design TOTAL	44 weeks
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Construction TOTAL	44 weeks



ATTACHMENT “C” – COMPENSATION AND METHOD OF PAYMENT

LAKE PARK SHORELINE EROSION PHASE I		
PROJECT TASK		AMOUNT
1	Project Management and Data Collection	\$29,700
2	Hydraulic Analysis	\$34,500
3	Preliminary Alternatives Analysis of Erosion Mitigation Improvements	\$47,700
4	Conceptual Design of Boat Ramp, Courtesy Docks, and Parking Lot Improvements	\$30,200
5	60% Design	\$96,400
6	90% Prefinal Design	\$69,900
7	100% Final Design	\$43,200
8	Geotechnical Investigation and Design Recommendations	\$30,800
9	Environmental Services	\$57,600
10	Survey Services	\$27,300
11	Bidding Phase Services	\$10,000
12	Construction Phase Services – <i>Hourly*</i>	\$53,500
13	ADA Accessibility Review	\$4,500
SUBTOTAL		\$535,300
Individual Permit (Special Service)**		\$35,500
Reimbursable Expenses (Direct Costs)		\$4,500
TOTAL WITH SPECIAL SERVICE + REIMBURSABLES		\$575,300

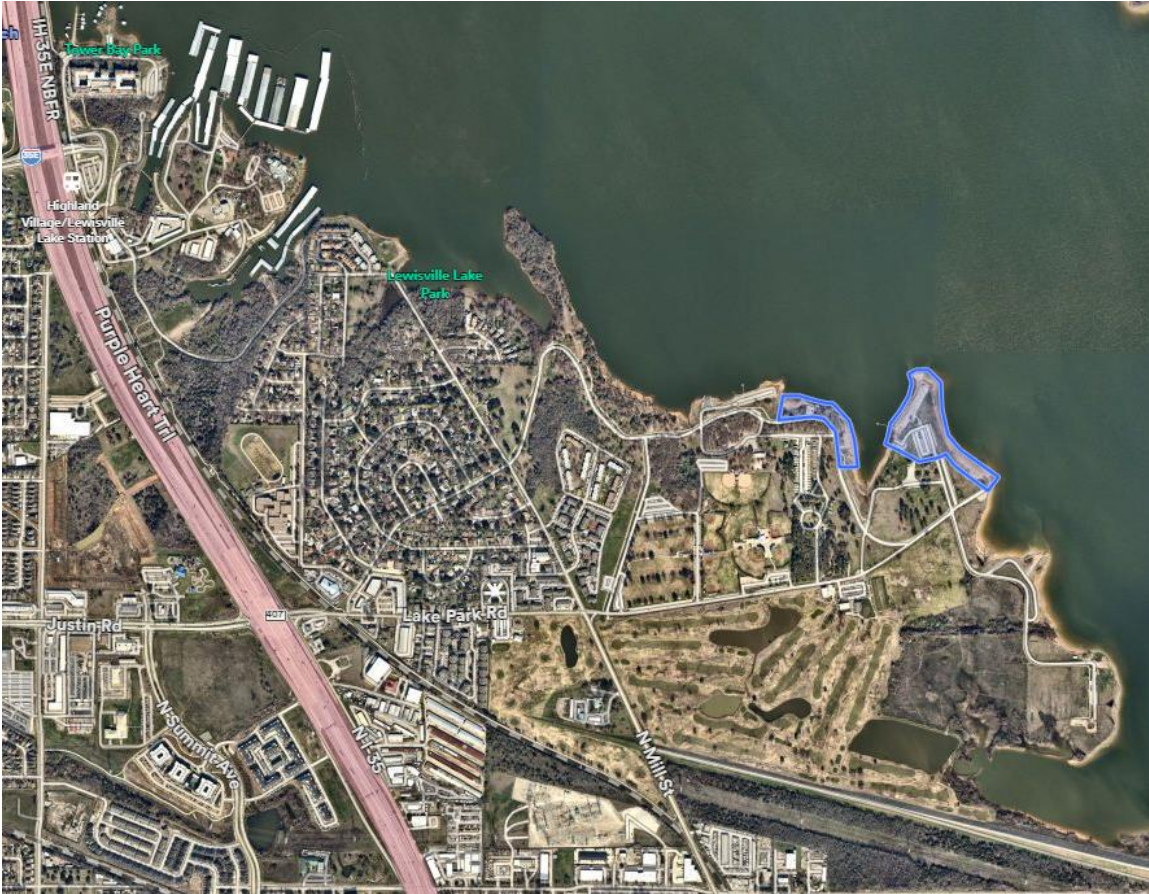
Unless noted otherwise, compensation for tasks listed above shall be **Lump Sum** and the services for each task shall be invoiced on a percent-complete basis. The project will be billed to the CITY monthly.

Direct Costs shall include, but are not necessarily limited to expenses for supplies, transportation, equipment, travel, communication, printing of plans and specifications, presentation boards, graphic boards and similar incidentals. All project related expenses will be billed at cost plus 10%.

*The compensation for the Construction Phase Services Task shall be Hourly and shall be billed based on 2.3 times the total salary cost for the time each employee is engaged directly on the project. Refer to Attachment “E” for the Construction Phase Services Hourly Billing Rates.

**The Individual Permit for environmental is considered a “Special Service” on an “if necessary” basis. It is anticipated that an individual permit will not be necessary for the project, however, if it is deemed necessary by the USACE, the CONSULTANT will notify the CITY, and this task will be utilized as part of this scope.

ATTACHMENT “D” – PROJECT LOCATION MAPS



Overall Map



Site B2



Site C



Site C (Approved Lake Park Master Plan) – High-water boat launch, boat ramp parking, and courtesy docks



ATTACHMENT “E” – CONSTRUCTION PHASE SERVICES HOURLY BILLING RATES

HALFF ASSOCIATES, INC.

CONSRUCTION PHASE SERVICES

HOURLY BILLING RATES

April 2024

Labor Category	Level	Billing Rate Range		Description
		Low	High	
Landscape Architect /Planner	II	108.00	139.00	Landscape Designer
	III	153.00	173.00	Landscape Architect
	IV	191.00	232.00	PM / Sr. Landscape Architect
	V	245.00	352.00	Sr. PM / Principal
Engineer	I	116.00	155.00	EIT
	II	136.00	166.00	EIT / PE
	III	174.00	216.00	Sr. PE / PM
	IV	227.00	286.00	Sr. PM / Sr. PE
	V	287.00	350.00	Tech Advisor / Principal
Scientist (Environmental / Geologist)	I	86.00	101.00	Professional (BS in ENG, Geology or ENV Science)
	II	123.00	144.00	Experienced Professional
	III	151.00	187.00	PE, PG or similar license / registration
	IV	212.00	248.00	PM / Sr. Scientist
Surveyor	IV	182.00	224.00	RPLS / Geospatial PM
	V	229.00	345.00	Sr. / PM RPLS
Office/Field Tech (SUE)	III	102.00	126.00	Utility Coordinator
	IV	131.00	166.00	SUE Field Manager
	V	182.00	226.00	SUE Manager
Office Tech (CADD, Designer and Survey)	III	107.00	158.00	Jr. CADD/Designer/Survey Tech
	IV	133.00	166.00	Sr. CADD/Designer/Survey
	V	176.00	275.00	CADD Manager/Geo Spatial PM (unlicensed)
Clerical		97.00	150.00	Admin Assistant
Specialist (GIS)	I	90.00	109.00	Jr. Level GIS Analyst / ROW Support Staff
	II	118.00	148.00	GIS Analyst / ROW Agent
	III	152.00	199.00	Sr. / PM – GIS Analyst / ROW Agent
	IV	201.00	249.00	Sr. PM – GIS Analyst / ROW Agent
Intern		55.00	104.00	

The labor rates are valid through December 31, 2025. The above billing rates are based upon the total salary cost times a multiplier of 2.3.