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October 21, 2024

City of Hallandale Beach
Public Works Department
630 NW 2nd Street
Hallandale Beach, FL 33009

Attn: Ms. Jocelyn Brown, Environmental Compliance & Asset Manager
E: jbrown@hallandalebeachfl.gov
P: (954) 457-3016

Re: Proposal (Revised) for Site Assessment Report Addendum and Stormwater/ Surface Water and Environmental Permitting Services

Chaves Lake
NW 7th Street and NW 8th Avenue
Hallandale Beach, Broward County, Florida
EAR License Number 1396
Terracon Proposal No. P34247152

Dear Ms. Brown:

Terracon Consultants, Inc. (Terracon) appreciates the opportunity to submit this proposal to provide Site Assessment and Stormwater and Environmental Permitting Services for the above-referenced Site. The Site, known as Lake Chavez, encompasses approximately 31.85-acres, comprised of approximately 4.85 acres of exposed land and approximately 27 submerged acres, (located adjacent west of Chaves Lakes Apartments and north of Harbour Cove Apartments). The Broward County Property Appraiser's (BCPA) office identifies the site to be comprised of six Parcels (5142-21-01-0180, 5142-21-01-0182, 5142-21-01-0200, 5142-21-01-0210, 5142-21-01-0220 and 5142-28-00-0012) that are owned by the City of Hallandale Beach (City). The City intends to redevelop the Site as a community park.

Previous assessment efforts by Kimberly Ann Brown & Associates, Inc. (KABA's) as reported in the *Phase I Environmental Site Assessment* (ESA) dated March 2018 determined that Chaves Lake was excavated as a borrow pit beginning as early as the 1940s. The ESA states that the Lake Harbour Cove Association Brownfield BF060401001 (historic C&D landfill property lying south of Chaves Lake) is impacted with petroleum hydrocarbons, phenols, heavy metals and ammonia and has been granted No Further Action with Conditions (NFAC with engineering and institutional controls) approval by Broward County. A Conditional Site Rehabilitation Completion Order (CSRCO) was subsequently issued.

The purpose of the assessment efforts are to further assess concerns with sediment and surface water quality identified in a previous *Site Assessment Report* dated January 2022 and three Addenda dated April, June and September 2023 prepared for the Site by RES Florida Consulting, LLC (RES). According to RES's SAR and Addenda, soil at the unsubmerged northern portion of the

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Site has been impacted by arsenic, benzo(a)pyrene (BaP) Equivalents, and total recoverable petroleum hydrocarbons (TRPH) and surface water has been impacted by aluminum and silver.

The following sections provide an outline of the project, Terracon’s scope of services, including schedule and compensation.

1.0 PROJECT INFORMATION

In September 2023, Broward County (County) requested that the City prepare a Declaration of Restrictive Covenant (DRC) package for submittal to the County for review and approval to be granted NFAC. The City would also need to send Notices to Existing Encumbrance Holders to Conditionally Close a Contaminated Site Using an Institutional Control for consensus. If executed and recorded, the DRC would:

1. Prohibit recreational use of Chaves Lake and require placement of signage along the water’s edge stating that fishing, swimming, and boating are prohibited,
2. Restrict land use to recreational and/or commercial/industrial use,
3. Require County review of any City construction and dewatering plans at the Site to ensure that no contaminant exposure from contaminated groundwater will occur, and
4. Prohibit reconfiguration of the existing stormwater management system at the Site without Broward County approval.

The City has decided to not prepare a DRC which would limit recreational activity on the lake due to an existing agreement with the County, that has designated the lake as open park space. Instead, the City wishes to conduct additional testing of surface water and sediment to obtain a more comprehensive understanding of surface water, sediment, and soil quality associated with Chaves Lake in anticipation that exceedances of regulatory standard are not present and/or can be addressed to enable the County to remove requirements associated with conditions for NFA approval. Through this process, results will verify if the upland portion of Chaves Lake can be addressed to remove use restrictions or if a DRC limited to this area may be appropriate.

As part of this investigation and at the request of the City, Terracon has included services provided by RES, a subcontracted team member, to conduct Environmental Resource License and Surface Water License Permitting services.

2.0 SCOPE OF SERVICES

Terracon will prepare a Site Assessment Report Addendum (SARA) in support of the City’s efforts to remove the requirement for a DRC and provide sufficient information to allow for unrestricted use of the lake as desired by the City. The scope of work to be provided will assess soil, surface water, and sediment quality as concerns reported in previous assessment efforts require further evaluation, and ultimately clarification. Groundwater assessment is not included within this scope of work, as previous assessment efforts concluded that the constituent of concern, arsenic, was not present at concentrations above its Chapter 62-777 Florida Administrative Code (FAC), Cleanup Target Level (CTL).

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Terracon has a 100% commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety culture, Terracon will develop a safety plan to be used by our personnel during field services. Prior to commencement of on-site activities, Terracon will hold a meeting to review health and safety needs for this specific project. The Client will notify Terracon, prior to mobilization, of any restrictions, special site access requirements, or known potentially hazardous conditions at the site (e.g., hazardous materials or processes, specialized protective equipment requirements, unsound structural conditions).

Field services will be performed in Occupational Safety and Health Administration (OSHA) Level D attire; all surface water sampling will require continuous wearing of personal floatation devices by staff within the boat. The Client will be responsible for additional costs should an upgrade to personal protective equipment be required due to conditions encountered at the site, consistent with OSHA regulations.

Terracon will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including the client contractors, subcontractors, or other parties present at the site. In addition, Terracon retains the right to stop work without penalty at any time Terracon believes it is in the best interests of Terracon's employees or subcontractors to do so due to potential unsafe conditions, including the potential for exposure to the coronavirus. The Client agrees it will respond quickly to all requests for information made by Terracon related to Terracon's pre-task planning and risk assessment processes. The Client acknowledges its responsibility for notifying Terracon of any circumstances that present a risk of exposure to the coronavirus or individuals who have tested positive for COVID-19 or are self-quarantining due to exhibiting symptoms associated with the coronavirus.

Task 1 - Project Coordination / Kick off

Terracon will orchestrate the project and coordinate project efforts with the City to provide a direct point of contact throughout the project. A kickoff meeting will be held at the beginning of the project with additional meetings at critical junctures.

Subsurface Utilities

Exploration efforts require borings into the subsurface, therefore Terracon will comply with local regulations to request a utility location for the upland portion of the site through the state of FL's utility locating service (Call 811). Terracon will consult with the landowner/client regarding potential utilities or other unmarked underground hazards. Based upon the results of this consultation, we will consider the need for alternative subsurface exploration methods as the safety of our field crew is a priority.

Private utilities, if known, should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us.

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Additionally, Terracon will subcontract with a private utility locating service to conduct a geophysical scan of the area for the presence of underground utilities and improvements.

The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service does not relieve the landowner/client of their responsibilities in identifying private underground utilities.

Traffic Control

Given the fact that all of the soil borings will be advanced with the property boundaries, traffic control will primarily consist of the use of traffic cones deployed around soil boring advancement equipment. In addition, Terracon personnel will employ approved spotting techniques during equipment mobilization and movement within the site.

Task 2 – Sample Collection - Soil, Sediment, Surface Water

Assessment efforts will involve the collection of soil, surface water and sediment samples from upland and areas within the footprint of Lake Chavez for analysis of constituents of concern. The results will be compared to State of Florida CTLs for these media to understand if samples collected from the lake, inclusive of sediments and surrounding uplands, contain the constituents of concern at concentrations above unrestricted levels. There may be a need to conduct an ecological risk assessment/ exposure assessment, which is beyond the scope of this proposal, as the level of review and evaluation is not yet known.

The proposed sampling locations will be plotted prior to initiation, based on previous sample locations, and may be modified in the field to account for utility clearance, access limitations, and/or site conditions. The Client will be notified of any significant modifications to the sampling locations.

Soil Sampling

Soil Boring Advancement

Six soil borings will be advanced to facilitate the collection of soil samples from within the upland portion of the site and will be positioned to address residual concerns associated with analytical results reported in previous phases of assessment by others, in anticipation of developing a better understanding to clarify these concerns. The soil borings will be advanced utilizing direct-push drilling (DPT) technology (Geoprobe®). Soil borings will be advanced to a depth of approximately 7-feet below ground surface (bgs) to extend approximately 2-feet below the depth of the groundwater interface, estimated at 5-feet bgs.

Soil Sampling

Soil samples will be collected in general accordance with Florida Department of Environmental Protection (DEP) / Standard Operating Procedures (SOP) 001/01, FS3000. Soils will be retrieved in 4 -foot acetate liners from the direct push soil borings and separated into 2-foot sections for

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visual inspection. Select borings will also be field screened for volatile organic vapors using a properly calibrated organic vapor analyzer (OVA) equipped with a Photo Ionization Detector (PID). Observations of staining, odor, lithology, and OVA readings will be presented on soil boring logs.

Four soil samples will be collected from each soil boring for laboratory analysis from the 0-0.5 foot (ft), 0.5-2 ft, 2-4 ft, and 4-6 ft intervals, and the upper three intervals will be analyzed for a total of 18 analyses. The locations of the soil borings advanced will be based on previous data, field observations, indications of impacts (staining, odor, debris, etc.) and OVA readings. The sample collected from the 4-6 ft interval will be placed on hold, and is not included in the budget, as it is not anticipated that assessment of this interval is warranted.

The selected soil samples will be placed into pre-cleaned, laboratory provided containers, labeled, and placed in an ice filled cooler. The cooler will be delivered using chain-of-custody protocols by overnight delivery (or directly) to our subcontracted Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Program (NELAP) compliant laboratory for analysis of the following:

- Volatile organic compounds (VOCs) by EPA Method 8260
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270
- Total recoverable petroleum hydrocarbons (TRPH) by the Florida Petroleum Residual Organics (FL-PRO) Method
- Arsenic and silver by EPA Method 6010

Sediment and Surface Water Sampling

The City has requested the collection of surface water and lake bottom sediments for laboratory analysis from six locations within Chaves Lake as shown on the attached map. Terracon has included one additional location, a seventh location, for samples to be collected which include the following:

- Two lake water (surface water) samples from each of seven locations from depths of 9 ft and 18 ft below the surface of the water (total of 14 samples).
- One sediment sample of approximately 6-inch thickness from each location for a total of seven samples. (If the sediments have sufficient integrity to segregate the sample into discrete intervals (0-2", 2-4" and 4-6" below the bottom of the lake), it will be conducted but sediments are usually not sufficiently cohesive to support this level of detail during sampling (would result in total of 21 samples. We have included the analysis of 15 samples; three intervals in four locations and one interval in three locations).

Samples will be collected by a 2-man team from a Jon Boat equipped with a trolling motor.

- Water samples will be collected with depth specific sampling equipment. Dissolved oxygen and pH will be measured in the surface water samples to determine if lake aeration could potentially raise the pH and improve surface water quality (if contamination exists) via carbon dioxide removal.

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- Sediment samples will be collected using a sludge sampler with extensions, as needed. If sufficient material

Sediment and surface water samples will be collected in accordance with FDEP SOP001/01, FS 4000 and FS 2100, respectively, and placed into pre-cleaned, laboratory provided containers, labeled, and placed in an ice filled cooler. The cooler will be delivered using chain-of-custody protocols by overnight delivery (or directly) to our subcontracted Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Program (NELAP) compliant laboratory for analysis. Per the City's request, the 29 samples (14 surface water and up to 15 sediment samples) will be analyzed for the following:

- VOCs by EPA Method 8260
- Semivolatile organic compounds (SVOCs) by EPA Method 8270 (full list)-
- TRPH by the FL-PRO Method
- Eight Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, silver and selenium) by EPA Method 6010/7470
- Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) – budget includes three surface water and three sediment samples from locations agreed with the City.

The 12 surface water samples will also be analyzed for aluminum, which was identified in RES's SAR Addendum as a contaminant of concern in surface water (reported above Florida's freshwater surface water cleanup target level of 13 µg/L).

Task 3 - Report Preparation

Terracon will prepare a SARA to document the site activities, field observations and laboratory analytical results. The SARA will be prepared for submittal to the County and will include the following:

- Documentation of field activities
- Site plan showing pertinent site features
- Soil boring logs
- Tabulated results
- Analytical laboratory report
- Conclusions
- Recommendations

The final written report will reflect results, findings, and recommendations, and, as such, will take precedence over any verbal reports that Terracon personnel may have provided. The analysis, comments and recommendations presented in the final written report will be based on the information collected as discussed in this proposal. Additional services requested by the County upon review of the report are not included in this scope of services.



Task 4 - Stormwater and Environmental Permitting

The permitting services provided within this section will be provided by RES, Terracon's subcontracted team member, to support the City's efforts to restore Lake Chavez as a public facility with unrestricted use. RES's research into the requirements for this effort along with their proposed scope of services is provided in the following sections.

Background Information

RES was contacted on May 15, 2024, by Ms. Brown of the City to review the Notice of Potential Enforcement Action (NOPEA) sent to the City by the County on May 1, 2024. Due to the requirements and time constraints for compliance stated in the NOPEA, RES began to investigate the site conditions and stormwater permitting requirements of Chaves Lake and the surrounding contributing surface water connections to the lake to better understand the site conditions before meeting with the County regarding the NOPEA. RES provided coordination for the meeting with the City and the County to seek clarification on the applicability and requirements of County licenses as they related to the discharge of the lime residual discharge. The meeting with the County identified questions as to how the County would like the permitting presented and RES and the City needed to coordinate with the County to understand the requirements of the NOPEA.

RES prepared meeting minutes and requested clarification from the County. Based on this subsequent coordination, RES understands that the City is required to obtain a Surface Water License (SWM) in conjunction with an Environmental Resource Permit (ERP) and an Environmental Resource License (ERL) through the County. These permits and licenses will require the review of the drainage system of Chaves Lake and contributing drainage elements connected to the Lake. Additionally, a topographic and bathymetric survey will be required to document existing elevations necessary for the volumetric analysis. A volumetric analysis will need to be performed to estimate the volume of the existing lime residual fill. The City will provide RES with estimated discharge rates and fill volumes for future discharges to the lake and plans/schedules for alternative disposal plans.

To provide the information requested by the County, the following services are proposed to be provided by RES, as a subcontractor to Terracon.

Task 4.1 – Meetings and Coordination

RES will provide coordination with the Client, the County, and a State of Florida Licensed Professional Surveyor and Mapper. RES will lead a kickoff meeting with the City. RES will provide coordination with the City and County throughout the permitting process and conduct monthly meetings with or provide written updates to the City and County staff. RES has included time for up to 5 meetings and updates.

Deliverables for these tasks include the creation of meeting agendas before the meeting and meeting minutes after the meetings and written project updates, as appropriate.

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Task 4.22 – Bathymetric and Topographic Site Survey of Existing Conditions

RES will provide a bathymetric and topographic site survey produced by a Florida Registered Professional Surveyor and Mapper. These services will be performed by a subcontractor and will include the following:

1. A topographic survey for Chaves Lake’s Perimeter Berm Top of Bank (TOB) and Edge of Water (EOW) Elevations.
2. The topographic survey will indicate the platted street Right-Of-Ways (ROW), lots, easements, and apparent encroachments around the perimeter of the Lake in areas where it is determined that there is a drainage connection to the lake.
3. The topographic survey will include features such as the top of bank, toe of slopes, above-ground evidence of utilities, estimated volume, and location of the fill in the southeast end of the lake.
4. Survey of existing drainage structures and outfalls including material of pipes, and invert with associated elevation data located along the lake.

Project horizontal control will be relative to the North American Vertical Datum of 1983, Florida State Plane coordinate system, North Zone, 0903. The project vertical control will be relative to the local Plant vertical control, all based upon survey control points in the vicinity of the Site. We estimate that 3-D survey control monuments will be established at the project site for use by the surveyor.

This survey does not include the location or mapping of subsurface utilities or improvements.

Topographic survey deliverables will include a map of the survey prepared from the field survey described above. The map will be prepared in planimetric format and will depict the survey control, boundary, and topographic surveys. Final deliverable products will include a certified copy of the survey in PDF file format.

Work will be performed in conformance with applicable sections of Florida Administrative Code Rule Chapter 5J-17, Standards of Practice, pursuant to Chapter 472, Florida Statutes.

Task 4.3 – Site Investigation and Permit Research

RES will perform a site investigation and desktop search for existing drainage permits for facilities that discharge to Chaves Lake. The permit search will be limited to County Environmental Resource Permits (ERPs) and SWM Licenses, South Florida Water Management District ERPs and Right-of-Way Occupancy Permits, and Florida Department of Environmental Protection ERPs. RES will provide a list and copies of permits in connection with the Lake and reference them in the Stormwater Volumetric Report submitted under **Task 4**.

Task 4.4 – Stormwater Model of Drainage System

RES will develop an existing conditions model using the Stormwise/Interconnected Channel and Pond Routing (ICPR4) model using the readily available information compiled for this project and supplemented by the survey for major point sources around the lake. Necessary backwater conditions will be assumed and supported by hydrologic and hydraulic information obtained from existing monitoring and modeling data. Existing structures identified in **Task 2** will be used to

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develop the existing conditions ICPR4 model. RES will utilize the County / City LiDAR information for terrain and rainfall data derived from NOAA Atlas 14 using NRCS MSE 3 nested rainfall distributions. This proposal assumes that the Lake will meet regulatory criteria. However, if it is determined that the lake does not meet regulatory criteria, RES will engage the City to provide recommended solutions. Detailed recommendations and design of potential solutions are not included in this proposal.

Task 4.5 –Stormwater Drainage and Environmental Report

Using the information obtained in previous tasks, RES will prepare a preliminary report that discusses the existing conditions, and volumetric analysis of the lake and fill and outline the documentation necessary to support the ERL and ERP applications. The volumetric analysis will include the expected discharge for a five-year license period. RES will address one round of City comments from the draft report review and will incorporate comments into the final Stormwater Drainage and Environmental Report.

Task 4.6–Surface Water Management License (SWM) Submittal

RES will complete one SWM permit application and ERP application and supporting documentation. RES will address up to two Requests for Additional Information (RAIs) and review comments from the County.

Task 4.7–Environmental Resource License (ERL) Submittal

RES will complete and submit one ERL permit application and supporting documentation on behalf of the City. RES will address up to two RAIs and review comments from the County.

3.0 SCHEDULE AND RELIANCE

Initiation of project services will begin immediately upon receipt of written notice to proceed (NTP) and the two services to be provided will run concurrently as estimated in the tables below. If Terracon, and the team, encounter conditions that alter the proposed schedule, Terracon will contact you to advise of the changes and establish a new schedule, as appropriate. The following timeline is developed as a guidance of initiation of the components of the provided assessment and permitting services.

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Assessment Activities			
Task No	Timeframe (Weeks from NTP)	Task Description	
Task 1	1 - 2	Submit sampling plan to City	
	2 - 3	Coordinate team and contractors for sampling effort	
Task 2	3 - 5	Mobilization; GPR survey; performance of soil, surface water and sediment sampling	
	6 - 8	Laboratory analysis of samples	
	8 - 9	Review of laboratory data; tabulate and plot data	
Task 3	10 - 11	Preparation of draft SARA for submittal to City	
	11	Submittal of SARA to the County	
Task 4 - Environmental Permitting Services (RES)			
Activity	Duration	Commence	Complete
Task 4.1 – Meetings and Coordination	3 months	1 day after NTP	13 weeks after NTP
Task 4.2 – Bathymetric and Topographic Site Survey of Existing Conditions	3 weeks*	4 weeks after NTP	7 weeks after NTP
Task 4.3 – Site Investigation and Permit Research	2 weeks	1 week after NTP	3 weeks after NTP
Task 4.4 – Stormwater Model of Drainage System	9 weeks**	1 week after NTP	9 weeks after NTP
Task 4.5 – Stormwater Drainage Report	4 weeks	9 weeks after NTP	13 weeks after NTP
Task 4.6 – Surface Water Management License (SWM) and ERP Application Submittal	4 weeks	9 weeks after NTP	13 weeks after NTP
Task 4.7 – Environmental Resource License (ERL) Submittal	4 weeks	9 weeks after NTP	13 weeks after NTP

*Based on RES experience, subject to change

**Dependent on the completion of the survey

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Task No.	Task Description	Fee
1.	Project Coordination / Orchestration : a. Project set up; coordination; kick off meeting with City; scheduling and completion of underground utility clearance b.	\$6,365
2.	Sample Collection – Soil, Sediment, Surface Water a. Soil Sampling b. Surface Water and Sediment Sampling	\$40,622
3.	Site Assessment Report Addendum Preparation 1.1 Preparation of Site Assessment Report Addendum 1.2 Submittal of SARA to Broward County	\$11,418
4.	Environmental Permitting Services: a. Responding to Request for Information (RFI) during Bidding b. Attending Pre-Bid Meetings	\$111,570
	Task 4.1 – Meetings and Coordination	
	Task 4.2 – Bathymetric and Topographic Site Survey of Existing Conditions	
	Task 4.3 – Site Investigation and Permit Research	
	Task 4.4 – Stormwater Model of Drainage System	
	Task 4.5 – Stormwater Drainage Report	
	Task 4.6 – Surface Water Management License (SWM) and ERP Application Submittal	
	Task 4.7 –Environmental Resource License (ERL) Submittal	
	TOTAL COSTS - TASKS 1 – 4 - \$169,975	

3.1 Reliance

The report(s) will be issued to the City of Hallandale Beach. Reliance by any other party is prohibited without the written authorization of the client and Terracon.

Reliance on the reports by the client and all authorized parties will be subject to the terms, conditions, and limitations stated in the Continuing Services Contract (CSC), sections of this proposal incorporated therein, the Reliance Agreement, and the reports. The limitation of liability defined in the CSC is the aggregate limit of Terracon's liability to the client and all relying parties.

If the client is aware of additional parties that will require reliance on the report, the names, addresses, and relationship of these parties should be provided for Terracon approval prior to the time of authorization to proceed. Terracon may grant reliance on the report to those approved parties upon receipt of a fully executed Reliance Agreement (available upon request) and receipt of information requested in the Reliance Agreement. If, in the future, the client and Terracon consent to reliance on the report by a third party, Terracon may grant reliance upon receipt of a fully executed Reliance Agreement, requested information and receipt of the reliance fee.

4.0 COMPENSATION

Terracon proposes to provide the assessment and permitting services described above for a lump sum fee of **\$169,975**. Pricing within this proposal was prepared in accordance with RFP # FY 2018-2019-012 Consultant Competitive Negotiation Act (CCNA) Continuing Professional Architectural and Engineering Services.

The lump sum fees are based on the assumptions and conditions provided within the body of this proposal. Invoices will be submitted to the City on a monthly basis for ongoing services completed during that time period, or sooner, if a phase of work has been completed.

Should it be necessary to expand our services beyond those detailed in this proposal, we will notify you, and provide a supplemental proposal stating the additional services and fee. We will not proceed with additional services without your written authorization.

4.1 Scope Assumptions and Report Limitations

Terracon's services will be performed in a manner consistent with generally accepted practices of the profession. Terracon makes no warranties, expressed or implied, regarding its services, findings, conclusions or recommendations. Terracon does warrant the services of subcontracted team members, laboratories, regulatory agency files, or other service providers. These services will be performed in accordance with the scope of work agreed with you, our client, as set forth in this proposal.

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Services will be initiated upon receipt of the written notice to proceed, a Purchase Order evidencing acceptance of this proposal in accordance with Term and Conditions of the CSC.

The proposal and timeframes herein were developed on the assumptions provided in this section.

Client shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the Services and including any necessary site access agreements. Terracon will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site. In addition, Terracon retains the right to stop work without penalty at any time Terracon believes it is in the best interests of Terracon's employees or subcontractors to do so in order to reduce the risk of exposure to unsafe site conditions. Client agrees it will respond quickly to all requests for information made by Terracon related to Terracon's pre-task planning and risk assessment processes. Terracon further assumes the client will provide the following:

- Notification of any restrictions or special requirements (such as confidentiality, scheduling, or on-site safety requirements) regarding accessing the site.
- An accurate legal description and/or a diagram of the site such as a surveyor's plat map or scaled architect's drawing (if such diagrams exist).
- Copies of environmental reports, permits and registrations, and geotechnical reports that were previously prepared for the site.
- Information relating to known or suspect environmental conditions at the site, including commonly known or reasonable ascertainable information within the local community about the site that is material to RECs in connection with the site.

Assumptions/ Notable Conditions (Permitting Services - RES)

This engineering portion of this proposal has been prepared with the assumption that the existing condition of the lake will meet surface water management and natural resource codes and rules. If the analysis conducted indicates that the lake has insufficient capacity to accommodate the stormwater inputs in the existing condition or after five years of fill placement, then modifications resulting in design and construction may be necessary. This would require additional work beyond the scope of this proposal.

5.0 AUTHORIZATION

If this proposal meets with your approval, work may be initiated by issuance of a Purchase Order in accordance with the Terms and Conditions of the Continuing Services Agreement between Terracon and the City of Hallandale Beach. This proposal is valid for 60 days from the date of this proposal. We appreciate the opportunity to provide this proposal and look forward to working with you on this project.

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If you should have any questions or comments regarding this proposal, please contact either of the undersigned.

Sincerely,

Terracon Consultants, Inc.

Steven Harrison

for

David C. Beerbower, P.G.

Principal

Steven Harrison

Steven A. Harrison, P.G.

Principal/ Environmental Services
Department Manager - Miami/ Fort
Lauderdale

Attachment

Chaves Lake Map with City of Hallandale Beach's Designated Sampling Locations



Previous parameters (1 intermediate, 1 deep lake sample, 1 lake sediment sample):

- VOCs by EPA Method 8260C
- SVOCs by EPA Method 8270C

- TRPHs by FLPRO
- 8 RCRA metals by EPA Method 6020



Previous samples' location (2018) – **Lake water** samples collected at **9'** and **18'** water depths.



Previous sample location (2018) – **Lake sediment** sample collected at **unknown** water depth.



Previous samples' locations – **Surface water** samples collected.



Proposed samples' locations – lake water (9' and 18' water depths) intermediate and deep-water depths and core sediment samples (0-2", 2-4" and 4-6"). Dark purple location added by Terracon.



Proposed parameters:

- **VOCs by EPA Method 8260C**
- **SVOCs by EPA Method 8270C**
- **TRPHs by FLPRO**
- **8 RCRA metals by EPA Method 6020**

Rationale for additional lake water and sediment samples:

In the June 13, 2018 dated Phase II Site Assessment Report (SAR) prepared by Land Science, the following statements were made about Chaves Lake:

- Historically site was part of a larger Construction and Demolition (C&D) landfill,
- Listed as an Inactive Borrow Pit Reclamation Project,
- Potential historic dry-cleaning site within 0.125 miles of the property to the northeast,
- Potential of unauthorized disposal of unknown wastes,
- Potential suspect undocumented fill material from C&D operations,

Because of these previous statements and the fact that traffic has increased since 2018 of which the runoff from I-95 discharges into the lake, additional water and sediment samples will give a comprehensive understanding of the extent of contamination and how this will impact the Lake's