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December 3, 2019

Mr. Clece Aurelus, P.E.
Engineering Support Services Manager
City of Hollywood
Department of Public
Utilities
P.O. Box 229045
Hollywood, FL 33022-9045

Subject: Services during Construction for Deep Injection Wells No. 3 & No. 4 and Monitoring Well No. 2

Dear Mr. Aurelus:

As requested, Brown and Caldwell is pleased to prepare this Work Order for Services during Construction for Deep Injection Wells No. 3 and No. 4 and Monitoring Well No. 2. The work to be performed by Brown and Caldwell under this Agreement covers the preconstruction and project coordination activities, observation of drilling services, coordination with the CITY and FDEP, and permitting agency reviews/approvals. Specific details are provided in Attachment A.

COMPENSATION
Brown and Caldwell will perform the aforementioned services for a total fee of $3,298,684.

SCHEDULE
Brown and Caldwell's services will commence upon receipt of written authorization and will continue for 840 days.

We appreciate the opportunity to serve the City. Please let us know if you require additional information. We look forward to continuing to work for the City of Hollywood. Please contact us with any questions.

Very truly yours,

Brown and Caldwell

Celia D. A. Earle, Ph.D., BCEEM
Vice President

cc: Albert Perez, Brown and Caldwell
Nigel Grace, Brown and Caldwell

Exhibit A

Scope of Services
Services During Construction for Deep Injection Wells No. 3 & No. 4, and Monitoring Well No. 2
Project No. 19-9119
City of Hollywood
Department of Public Utilities

Background

The City of Hollywood (CITY) owns and operates the Southern Region Wastewater Treatment Plant (SRWWTP). The SRWWTP is permitted to treat an average annual daily flow of 55.5 million gallons per day (mgd). The SRWWTP currently disposes of treated effluent via three routes – two injection wells (IW-1 and IW-2) rated for 37.4 mgd, a reuse water distribution system rated for 4 mgd, and an ocean outfall rated for 46.3 mgd. Among other requirements of the 2008 Ocean Outfall Legislation (OOL), the CITY is required to cease discharge of non-peak effluent flow to the outfall. To meet the requirements of the 2008 OOL, the CITY intends to construct two new injections wells (IW-3 and IW-4), a dual zone monitoring well, and new pumping facilities with the capacity to dispose of up to 39.8 mgd of secondary treated domestic wastewater effluent from the SRWWTP and reverse osmosis concentrate from the City of Hollywood water treatment plant (WTP).

The permit to construct the two proposed injection wells and monitoring well was issued by FDEP on January 17th, 2019 and requires that an operating permit for the wells be obtained within 5 years (by January 17th, 2024). It is further noted that other capital improvements (not within the scope of this effort) are required to place the wells in operational service after the conclusion of well drilling activity. Consequently, time is of the essence that well construction proceed with minimal delays that could potentially impact the CITY's ability to comply with its permit requirements.

The CITY issued a solicitation for bids for the construction of the wells. Well construction is scheduled to occur over a duration of 840 days and when active well drilling is initiated, will continue to proceed continuously on a 24-hour, 7-day per week basis. Well drilling observation services typically range from half time to full time. During drilling activities, decision points often occur that requires input from the Project Hydrogeologist that a full-time presence can help expedite and thus avoid delays. Give the criticality of schedule constraints on this project, the City determined that full time observation of active drilling services would be required for this project. Consequently, this scope of services will provide for full-time (24-hour, 7-day per week) observation services during active construction of the proposed wells, which is assumed to be 770-days out of the overall duration. During project startup and closeout phases, a reduced field presence on a half time basis is assumed for the other 70 days.

Project Description

The work to be performed by Brown and Caldwell (CONSULTANT) under this Agreement covers the preconstruction and project coordination activities, observation of drilling services, coordination with the CITY and FDEP, and permitting agency reviews/approvals. Specific services addressed hereunder include:

1. Preconstruction activities
2. Review of contractor submittals
3. Observation of drilling activities over the duration of construction
4. Determination of the casing settings
5. Evaluation of cuttings, water quality data, injectivity testing and other parameters associated with drilling progress
6. Preparation and submittal of status reports to FDEP and response to clarifications
7. Engineering and technical advisory services during construction
8. Monitor progress and participate in periodic meetings with Contractor and Owner
9. Review Contractor-initiated requests for payment, clarification of contract documents and changes
10. Contract punch list and closeout activities
11. SUBCONSULTANT supporting CONSULTANT's delivery of Phase 1 activities is McNabb Hydrogeologic Consulting (MHC) this project. The respective roles of CONSULTANT and SUBCONSULTANT are summarized below:

	CONSULTANT	SUBCONSULANT
Lead Hydrogeologist		MHC (primary)
Engineer of Record	X (primary)	
Observation of Drilling Activities	X (50%)	MHC (50%)
FDEP Engagement	X	MHC (primary)
Temporary Improvements	X (primary)	
Contract Administration/Dispute Resolution	X (primary)	MHC

Scope of Services

The Scope of Services to be provided by CONSULTANT includes the following tasks:

- Task 1 Preconstruction Activities and Project Coordination
- Task 2 Services During Construction
- Task 3 Contract Closeout Activities

A description of the work to be accomplished in each of the three tasks is presented on the following pages.

TASK 1 – PRE-CONSTRUCTION AND PROJECT COORDINATION ACTIVITIES

Preconstruction and project coordination activities include the following subtasks:

Subtask 1.1 - Project Risk and Safety Planning

Preconstruction activities include the preparation of a Health and Safety Plan and Risk Register. The CITY will furnish available copies of its Health and Safety Plan for the WWTP site.

Subtask 1.2 - Project Coordination

CONSULTANT will appoint a project manager to be the CITY's point of contact during the execution of the work. The CITY will appoint a project manager to be the CONSULTANT's point of contact during the execution of the work and will provide direction to CONSULTANT. The CITY's project manager will coordinate involvement of CITY operations, maintenance, administrative, and engineering staff when necessary. CONSULTANT will manage the work of CONSULTANT's internal staff resources and subconsultant to provide City staff with efficient and responsive service throughout the course of work on this Project. This subtask includes monitoring the level of work completed and coordination of work activities being performed by subconsultant.

Deliverables: Monthly invoices with a summary description of work performed.

TASK 2 – SERVICES DURING CONSTRUCTION

CONSULTANT shall provide services during construction required to observe and document the progress of the work and provide contract administration responsibilities outlined below. This task is primarily focused on field elements of the construction activities and tasks associated with coordinating activities and communicating with the CONTRACTOR and CITY.

2.1 Review of Contractor Submittals

CONSULTANT will review CONTRACTOR submittals. Activities for this task include maintaining a submittal log/record, reviewing and providing comments, and transmitting copies of reviewed submittals to the CITY staff and the CONTRACTOR. Submittals will generally include the following:

1. Construction schedule and updates
2. Materials selection and composition
3. Calculations
4. Mobilization plan

5. Logs and submittals documenting the progress of drilling operation

6. Casing settings, alignment and elevation data

7. Test plans, reports and compliance submittals

8. Temporary piping plan, equipment selection and operational coordination for establishing tie-in required for delivery of effluent used for injectivity testing

9. Operational coordination details

2.2 Construction Observation

CONSULTANT shall provide daily observation of well drilling activities on a 7-day per week basis for 24 hours per day. SUBCONSULTANT shall cover half of that time. Observation shall continue for the entire duration of well drilling activities, which is estimated to occur over a duration of 770 days of active construction. The other 70 days will be on a half-time basis. This task assumes the injection wells will be drilled sequentially and that the monitoring well will be drilled in parallel with one of the injection wells. Observation of drilling activities will be conducted under the direction of a senior hydrogeologist. Specific activities to be conducted during drilling include:

1. Observe drilling and testing to an approximate depth of 3,500 feet below land surface (bls) including: characterizing the geology through inspection of drill cuttings, analyze and evaluate geophysical logs to determine hydrogeological information.

2. Determine casing seat depths based on lithologic and geophysical logs.

3. Evaluate borehole deviation survey data provided by the CONTRACTOR during drilling to document that the borehole is straight and plumb in accordance with the technical specifications.

4. Observe setting and grouting of casings from land surface to competent rock as necessary for proper well construction and deeper drilling to prevent cross connection of aquifers. Confirm CONTRACTOR-prepared calculations and evaluate cementing quantities, procedures and cement sampling. Confirm calculations and evaluate cementing and borehole annular volumes with appropriate safety-factors designed to prevent casing collapse.

5. Document and evaluate casing pressure test data on well casing to ensure conformance with UIC permit requirements.

6. Observe and document well development water for turbidity and make determination as to when well development is complete.

7. Observe and interpret geophysical logs (geophysical logging service to be provided by the CONTRACTOR) in accordance with the Contract documents to assist in hydrogeologic unit identification.

8. Determine and select specific intervals for packer testing in the pilot hole for specific capacity and water quality testing. Determine appropriate setting of packer testing depths using geophysical log data. Observe packer testing setup and execution in accordance with the technical specifications and Contract documents. Document formation responses during the tests and calculate aquifer coefficients from the tests.

9. Determine completion of well construction and extent of confining and injection zones.

10. Observe coring operations for compliance with quality assurance requirements and conformity with the Contract documents. Provide a lithological description of each core obtained and catalog the cores. Select representative core samples from confining units to be sent to a laboratory for analyses for vertical and horizontal permeability, porosity, specific gravity, Young's Modulus, and compressive strength.

11. Observe the injection test and associated preliminary injection test. Oversee well pressure responses during injection and non-injection (background and recovery) portions of the test and analyze the test to determine specific injectivity in accordance with the requirements of the Contract and UIC permit. Provide continuous oversight during the injection portion of the injection test. Analyze the pumping and water level data to calculate and document the specific injectivity of the well.

12. Observe the construction of temporary surface improvements, inclusive of piping, valves and pumping equipment, required to tie-in to the existing process and transmit secondary effluent for use in injectivity testing.

13. Prepare daily logs to document important findings and weekly summary reports that provide a brief description of observations, construction progress, activities outlook and results for drilling and testing activities document in the field forms and field book. The daily logs and forms that will be documented include the following:

    a. Drilling date (rate of penetration, footage drilled, pipe tally, and deviation surveys)
    b. Lithologic log
    c. Casing tally confirming heat numbers of installed casing
    d. Casing pressure test that meet the requirements of the UIC permit
    e. Cementing log including cement types, quantities, and depth intervals
    f. Water quality log

g. Coring log including percent recovery and depth intervals
h. Packer testing log sheets
i. Aquifer parameters from the injection test and associated calculations, background water level information, and aquifer test analysis output
j. Photo log.

14. Conduct periodic progress inspections by Engineer of Record.

2.3 Office Technical Support Services

This subtask will provide technical support services to review and respond to the following:

1. Request for clarification and contract deviation

2. Contractor payment applications. CONSULTANT will review CONTRACTOR's requests for payment for alignment with the progress of work and submittal requirements.

3. Review record drawings

4. Coordination of construction activities with plant operations

2.4 FDEP Coordination and Permitting Support

This subtask includes activities associated with coordination and periodic reporting to FDEP regarding well construction and testing results. The reporting requirements are aligned with requirements of the UIC Permit to Construct ((Permit Number FL0026255, File Number FL0026255-025-DW1P). Onsite inspection by FDEP staff will be coordinated under this task.

1. Participate in FDEP Meetings – a total of four (4) FDEP coordination meetings are assumed.

2. Submit Weekly Reports to FDEP – weekly reports shall be signed/sealed by a Florida-licensed Professional Geologist and shall include daily logs and construction summaries, as well as information required by the FDEP permit.

3. Prepare and Submit Casing Seat Approval Request to FDEP – prepare well casing seat approval requests for submittal to FDEP. Requests shall be signed and sealed by a Florida-licensed Professional Geologist and shall include an evaluation of drilling, logging, and testing information that pertains to the selection of the casing depth. Two casing seat recommendations will be prepared for each injection well. The final casing seat recommendations shall include a recommendation for the defined vertical extent of the injection zone. Two casing seat recommendations shall be prepared for the dual-zone monitor well and shall include a recommendation for the vertical extent of the upper and lower monitor zones.

4. Casing Pressure Tests - Casing pressure test shall be witnessed and certified by the CONSULTANT. Pressure tests of final (injection) casing of the injection wells and the dual-zone monitor well shall be coordinated with FDEP staff should they choose to witness the test.

CONSULTANT shall certify the completion of each injection and monitoring well. Certification shall be performed by a Florida-licensed Professional Engineer.

2.5 Bi-Weekly Progress Meetings

CONSULTANT will attend bi-weekly progress meetings for the duration of construction. CONSULTANT will conduct progress meetings and develop the agenda and meeting minutes for each meeting.

TASK 3 CONTRACT CLOSEOUT ACTIVITIES

CONSULTANT will perform the following activities in support of Contract Closeout:

3.1 Conduct substantial and Final Completion Inspections

3.2 Conduct punch list inspections

3.3 Prepare signed and sealed record drawings

3.4 Prepare and submit the required Certificate of Completion

It is noted that FDEP submittals pertaining to compliance with the UIC permit are addressed under Subtask 2.2, Construction Observation.

SCOPE OF WORK ASSUMPTIONS

1. The expected total construction duration for implementation of the project is 840 calendar days with 770 days of active construction.

2. SRF Loan Administration is not included.

3. As-needed technical support services to address challenges that may emerge during the course of construction activity are not included. Services could include, but are not limited to, delays in completion of construction, troubleshooting support, and negotiating contract changes. If the need arises, this will be handled under a separate authorization.

Exhibit B

Compensation
Services During Construction for Deep Injection Wells No. 3 & No. 4, and Monitoring Well No. 2
Project No. 19-9119
City of Hollywood
Department of Public Utilities

Total compensation to Consultant for the Scope of Services described in Exhibit A will be the lump sum amount of $3,298,684.

A breakdown of Consultant's estimated fee to perform the work described in Exhibit A is presented in Exhibits B-1 through B-3 on the following pages.

The cost breakdown for the Subconsultant, McNabb Hydrogeologic Consulting, is included for reference at the end of this proposal.

EXHIBIT B-1

Construction for Deep Injection Wells No. 3 and No. 4 and Monitoring Well No. 2

Description		Amount
Labor/Subcontracting Costs	$	3,278,684
Reimbursables Costs	$	20,000
Total Fee	**$**	**3,298,684**

EXHIBIT B-2

LABOR ESTIMATE
CITY OF HOLLYWOOD
SERVICES DURING CONSTRUCTION FOR DEEP INJECTION WELLS No. 3 AND No. 4 and MONITORING WELL No. 2

	Vice President	Managing Engineer	Supervising Engineer	Principal Engineer	Prin. Geol./ Hydrol.	Senior Engineer	Geol/Eng. III	Geol./Hydr. II	Engineer II	Senior Designer	Project Analyst	Project Admin	**Labor Hours**	**Cost**
Billing Labor Rate	$292.10	$251.84	$225.39	$209.52	$209.52	$179.62	$156.05	$134.38	$134.38	$134.38	$113.70	$74.46		
TASKS														
TASK NO. 1 - PRE-CONSTRUCTION AND PROJECT COORDINATION ACTIVITIES														
1.1 Project Risk and Safety Planning	6	16		40								2		
1.2 Project Coordination (28-month duration)	16			120							240			
Hour Subtotal	22	16		160				0			240	2	**440**	
Labor Cost Subtotal	$6,426	$4,029		$33,523				$0			$27,288	$149		**$71,416**
TASK NO. 2 - SERVICES DURING CONSTRUCTION														
2.1 Review of Conractor Submittals	2			16								40		
2.2 Construction Observation				100			4620	5,040						
2.3 Office Technical Support Services	4	8		100	8							80		
2.4 FDEP Permit Coordination	16			40	16									
2.5 Bi-Weekly Progress Meetings	16			140										
Hour Subtotal	38	8		396	24		4,620	5,040			0	120	**10246**	
Labor Cost Subtotal	$11,100	$2,015		$82,970	$5,028		$720,951	$677,275			$0	$8,935		**$1,600,182**
TASK NO. 3 - CONTRACT CLOSEOUT ACTIVITIES														
3.1 Substantial and Final Completion Inspections	2			20								2		
3.2 Punchlist Inspections				4								2		
3.3 Signed and Sealed Record Drawings	2			8				4				2		
3.4 Preparation & Submittal of required Certificate of Complet	4			8				4				2		
Hour Subtotal	8			40				8				8	**64**	
Labor Cost Subtotal	$2,337			$8,381				$1,075				$596		**$ 12,388.32**
TOTALS														
Total Labor Hours	68	24	0	596	24	0	4620	5048	0	0	240	130	**10750**	
Total Labor Cost	$19,863	$6,044	$0	$124,874	$5,028	$0	$720,951	$678,350	$0	$0	$27,288	$9,680		**$ 1,592,078**
Total Subcontractors Cost														**$ 1,686,606**
Total Reimbursables Cost														**$ 20,000**
Overall Project Total														**$ 3,298,684**

EXHIBIT B-3

OTHER DIRECT COSTS SUMMARY

SERVICES DURING CONSTRUCTION FOR DEEP INJECTION WELLS No. 3 AND No. 4 AND MONITORING WELL NO. 2

			TOTAL COST
1.0	REIMBURSABLES		
	i COPIES		
	ii MAIL		
	iii MISCELLANEOUS/TRAVEL		
		REIMBURSABLES SUBTOTAL	**$20,000**
4.0	SUBCONTRACTS		
	McNabb Hydrogeologic Consulting	LS	$1,686,606
		SUBCONTRACTS SUBTOTAL	**$1,686,606**
		TOTAL ODCS	**$1,706,606**

McNabb Hydrogeologic Consulting, Inc.

4600 Military Trail, Suite 116
Jupiter, Florida 33458
Phone: 561-891-0763

December 2, 2019

Ms. Celia Earle, Ph.D.
Brown and Caldwell
1560 Sawgrass Corporate Pkwy, Suite 240
Sunrise, FL 33323

RE: Proposal for Services During Construction of 2 Deep Injection Wells and a Dual-Zone Monitor Well

Dear Ms. Earle:

McNabb Hydrogeologic Consulting, Inc. (MHC) is pleased to submit this proposal for professional services associated with the construction of a deep injection well system consisting of two 3,500-foot deep Class I deep injection wells and an associated dual-zone monitor well for the City of Hollywood, Florida. The City has requested the services of Brown and Caldwell, Inc. (B&C) to provide deep injection well Construction Management Services. B&C has in turn requested the services of McNabb Hydrogeologic Consulting, Inc. (MHC) to assist in providing Construction Management Services for the construction of the wells.
These services will include preparation for and attendance at a pre-construction meeting with the City, B&C and the well construction contractor, participation in meetings with the Florida Department of Environmental Protection (FDEP) during well construction, participation in construction meetings during well construction, observation and documentation of the well construction and testing, preparation of required documents including weekly construction summaries and casing seat recommendations, and preparation of final well construction reports. You will find a proposed Scope of Services below.

SCOPE OF SERVICES

Professional services for the Hollywood injection well construction project covered in this Proposal include the following:

TASK A – CONSTRUCTION MANAGEMENT SERVICES (CMS)

The following services will be provided by MHC under this task:

1. Prepare for and attend bi-weekly construction meetings to record the status of the construction, which includes but is not limited to construction activities accomplished to date, potential and/or actual construction problems and delays, and upcoming work to be completed by the Contractor.

2. Maintain communication with the FDEP Underground Injection Control (UIC) program staff in accordance with the FDEP UIC permit. Prepare and submit to FDEP, with a copy to the B&C, required permit information, including weekly construction summaries, intermediate and final casing seat recommendations for the injection wells and dual-zone monitor well, and a request to conduct short-term injection testing of both injection wells.

3. MHC shall provide CMS throughout the duration of the well construction and injection testing period for the Project. MHC shall be familiar with the Project technical plans, specifications, and permit requirements and shall have clear understanding of the scope of services provided to the Contractor as defined in the technical specifications.

   MHC shall provide on-site observation of the well construction and testing activities. It is MHC's responsibility to observe the implementation of the Contract specifications by the Contractor. The geologic and hydrogeologic data collected from the site shall be analyzed to identify the geologic formations and hydrogeologic units penetrated by the well bore.

   MHC's pricing for this Task shall be based on an estimated construction schedule of 840 calendar days. Of the 840 days, 770 days are anticipated to be active construction days requiring 24-hour a day coverage and 70 of the days are anticipated to require 12-hour a day coveraege. B&C will provide a geologist/hydrogeologist for one-half of the construction oversight days. The work will be split by MHC and B&C on a 7 days on, 7 days off basis. The on-site labor schedule shall be adjusted according to the actual construction progress.

   MHC's responsibilities under this task shall include but are not limited to the following:

   - Observe drilling and testing to an approximate depth of 3,500 feet below land surface (bls) including: characterizing the geology through inspection of drill cuttings, analyze and evaluate geophysical logs to determine hydrogeological information.
   - Determine casing seat depths based on lithologic and geophysical logs.
   - Evaluate borehole deviation survey data provided by the Contractor during drilling to document that the borehole is straight and plumb in accordance with the technical specifications.
   - Observe setting and grouting of casings from land surface to competent rock as necessary for proper well construction and deeper drilling to prevent cross connection of aquifers. Confirm Contractor-prepared calculations and evaluate cementing quantities, procedures and cement sampling. Confirm calculations and evaluate cementing and borehole annular volumes with appropriate safety-factors designed to prevent casing collapse.
   - Document and evaluate casing pressure test data on well casing to ensure conformance with UIC permit requirements.
   - Observe and document well development water for turbidity and make determination as to when well development is complete.

- Observe and interpret geophysical logs (geophysical logging service to be provided by the Contractor) in accordance with the Contract documents to assist in hydrogeologic unit identification.
- Determine and select specific intervals for packer testing in the pilot hole for specific capacity and water quality testing. Determine appropriate setting of packer testing depths using geophysical log data. Observe packer testing setup and execution in accordance with the technical specifications and Contract documents. Document formation responses during the tests and calculate aquifer coefficients from the tests.
- Determine completion of well construction and extent of confining and injection zones.
- Observe coring operations for compliance with quality assurance requirements and conformity with the Contract documents. Provide a lithological description of each core obtained and catalog the cores. Select representative core samples from confining units to be sent to a laboratory for analyses for vertical and horizontal permeability, porosity, specific gravity, Young's Modulus, and compressive strength.
- Observe the injection test and associated preliminary injection test. Oversee well pressure responses during injection and non-injection (background and recovery) portions of the test and analyze the test to determine specific injectivity in accordance with the requirements of the Contract and UIC permit. Provide continuous oversight during the injection portion of the injection test. Analyze the pumping and water level data to calculate and document the specific injectivity of the well.

4. Assist B&C with the review and reconciliation of Contractor payment applications.

Task A Deliverables:

- Daily field forms including:
- Drilling data (rate of penetration, footage drilled, pipe tally, deviation surveys, etc.)
- Lithologic log
- Casing tally confirming heat numbers of installed casing
- Casing pressure test that meets the requirements of the UIC permit
- Cementing log including cement types, quantities and depth intervals
- Water quality log
- Coring log including percent recovery and depth intervals
- Packer testing logs sheets
- Aquifer parameters from the injection test and associated calculations, background water level information, and aquifer test analysis output

- Picture log
- Daily and weekly summary reports including brief descriptions of well observation, construction progress, weekly activities outlook, and results for drilling and testing activities documented in the field forms and field book.

TASK B – REGULATORY ASSISTANCE

Maintain communication with FDEP-UIC staff during well construction.

Attend meetings with FDEP, B&C, and the City during the well construction and testing. A total of four (4) meetings with FDEP, B&C, and the City are anticipated.

MHC shall provide a draft weekly report to B&C for review and -- upon approval -- submit the weekly report signed and sealed by a Professional Geologist to FDEP. The weekly report shall include daily logs, construction summaries as well as the information required by the FDEP permit.

MHC shall prepare casing seat approval requests for FDEP signed and sealed by a Florida-licensed Professional Geologist. The requests will include an evaluation of drilling, logging, and testing information that pertains to the selection of the casing depth. Two casing seat recommendations will be prepared for each injection well. The final casing seat recommendations shall include a recommendation for the defined vertical extent of the injection zone. Two casing seat recommendations shall be prepared for the dual-zone monitor well and shall include a recommendation for the vertical extent of the upper and lower monitor zones.

Casing pressure tests of final (injection) casing of the injection wells and the dual-zone monitor well shall be coordinated with FDEP staff should they choose to witness the test. Casing pressure test shall be witnessed and certified by the Consultant.

62-528.900 F.A.C. Certification upon completion of the well construction shall be provided by B&C.

Task B Deliverables:

- Weekly construction summaries in accordance with the permit requirements
- Intermediate and final casing seat recommendations and injection zone recommendation as required by the permit for both injection wells
- Intermediate and final casing seat recommendations and monitor zone recommendations for the upper and lower monitor zones of the dual-zone monitor well
- Casing pressure test summary sheets for each pressure test

Task C – WELL CONSTRUCTION REPORTS

MHC shall prepare a completion report for each of the injection wells and the dual-zone monitor well. A sperate report will be prepared for each well. The reports shall include documentation of well construction details, analysis of hydrogeologic data collected during

well construction and testing activities, laboratory data, geophysical logs, casing pressure test, aquifer tests, packer tests, and injection tests. An electronic copy of the draft reports will be submitted to B&C and the City for review. Review comments will be incorporated into the final reports. The final reports shall be signed and sealed by a Florida-registered Professional Geologist and be delivered to the FDEP, B&C and DPM electronically (PDF format). MHC shall also respond to all RAIs from FDEP on the final reports.

Task C Deliverables:

- IW-3 Well Construction Report – one (1) DVD rom (PDF format)
- IW-4 Well Construction Report – one (1) DVD rom (PDF format)
- MW-2 Well Construction Report – one (1) DVD rom (PDF format)

ASSUMPTIONS

This proposal includes the following assumptions:

B&C will serve as the Engineer of Record for the project and provide signed and sealed documents which are specifically required to be signed and sealed by a Florida registered Professional Engineer. Examples of such documents include Certification of Completion and Record Drawings.

OBLIGATIONS OF OWNER

To assist meeting schedule and budget estimates contained in this proposal, the OWNER will provide the following:

1. Prompt review and comment on all deliverables (within 48 hours of receipt for weekly construction summaries).
2. Attendance of key personnel at meetings as requested.

SCHEDULE

It is expected that the services outlined in this Task Order will be completed in accordance with the following schedule:

Task	Completion Date
Casing Seat Recommendations	3 days after receipt of all data
Construction Report	30 days after completion of construction

COMPENSATION

Professional fees for Task A will be on a Time and Expenses basis. Professional fees for Tasks B and C will be on a Lump Sum basis per task. The estimated not-to-exceed amount of compensation is shown on the table below.

COMPENSATION
HOLLYWOOD DEEP INJECTION WELL SYSTEM

Task	Hours	Labor Cost	Expenses	Total Cost
A – CONSTRUCTION MANAGEMENT SERVICES	10,346	$1,365,790	$18,156	$1,383,946
B – REGULATORY ASSISTANCE	1,376	$254,560	$0	$254,560
C – WELL CONSTRUCTION REPORTS	260	$48,100	$0	$48,100
Total	11,982	$1,668,450	$18,156	$1,686,606

Approved By:

Brown and Caldwell, Inc.

_____ Date:_____

McNabb Hydrogeologic Consulting, Inc.

_____ Date:_____

David McNabb, President