Lee County Board Of County Commissioners
Agenda Item Summary **Blue Sheet No. 20031213**

1. REQUESTED MOTION:

ACTION REQUESTED: Approve for acceptance and filing with the Clerks Office, Minutes Department, and an after-the-fact emergency under E-03-08, GES Resolution No. 03-07-08 for STA No.16, Miscellaneous Utility Engineering Design and/or Inspection Services, to Water Resource Solutions, (Contract No. 1863), for the Pinewoods Class I Injection Well System and RO Wellfield I, in the amount of $952,444.00.

WHY ACTION IS NECESSARY: Board approval is required.

WHAT ACTION ACCOMPLISHES:. Provides after-the-fact approval under the emergency GES Resolution for STA No. 16 for the project known as the Pinewoods Class I Injection Well System and RO Wellfield toWater Resource Solutions in the amount of $952,444.00.

2. DEPARTMENTAL CATEGORY:	3. MEETING DATE:
10. Utilities COMMISSION DISTRICT #: 5 C10C	10-28-2003

4. AGENDA:	5. REQUIREMENT/PURPOSE: (Specify)	6. REQUESTOR OF INFORMATION:
x CONSENT	STATUTE	A. COMMISSIONER
ADMINISTRATIVE	ORDINANCE	B. DEPARTMENT Public Works
APPEALS	X ADMIN. CODE AC-4-4	C. DIVISION Utilities
PUBLIC	OTHER	BY: Rick Diaz, Director 10/16/03
WALK ON		
TIME REQUIRED:		

7. BACKGROUND:

On July 1, 2003, under Blue Sheet No. 20030669, Administrative Agenda A12a, the Board approved to declare a limited, temporary, emergency by Resolution No. 03-07-08 for the GES System acquisition, which requires certain, immediate and necessary improvements, for the protection and convenience of the GES assets and customers.

Supplemental Task Authorization No. 16, (Contract No. 1863), under CN-01-11 Miscellaneous Utility Engineering Design, for the project known as the Pinewoods Class I Injection Well System and RO Wellfield to Water Resource Solutions, in the amount of $952,444.00 has already been executed by the Chairman of the Board as allowed by Resolution and now requires after-the-fact approval.

Funds are available in Account 20715548736.506540 1&Q

Attachment: 1. **Copy** of executed STA No. 16 (1 Original)

8. MANAGEMENT RECOMMENDATIONS:

9. RECOMMENDED APPROVAL:

A Department Director	B Purchasing or Contracts	C Human Resources	D Other	E County Attorney	F Budget Services OA	F OM	F Risk	F GC	G County Manager
10.15.03	10/13	N/A	10/15/03	10/16/03	10/16/03	10/16/03	WDS 10/16/03	10/14/03	10.14.03

10. COMMISSION ACTION:

_____ APPROVED
_____ DENIED
_____ DEFERRED
_____ OTHER

RECEIVED BY COUNTY ADMIN: 10/16 3:10 pm SC
COUNTY ADMIN FORWARDED TO: 10/16 4:30

RECVD. 10/16/03 by CO. ATTY. 2:30pm
CO. ATTY FORWARDED TO: 3:00pm

(Prepared by Contracts)

LEE COUNTY PROFESSIONAL SERVICE/SERVICE PROVIDER AGREEMENT
CHANGE ORDER/SUPPLEMENTAL TASK AUTHORIZATION

☐ Change Order
☒ Supplemental Task Authorization

NO.: 16

(A Change Order or Supplemental Task Authorization Requires Approval by the Department Director for Expenditures Under $25,000 or Approval by the County Manager for Expenditures Between $25,000 and $50,000 or Approval by the Board of County Commissioners for Expenditures over $50,000)

CONTRACT/PROJECT NAME: PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD

CONSULTANT: Water Resource Solutions PROJECT NO.:

SOLICIT NO.: CN-01-11 CONTRACT NO.: 1863 ACCOUNT NO.:

REQUESTED BY: Rick Diaz, P.E., Lee Co. Utilities DATE OF REQUEST: 8/28/03

Upon the completion and execution of this Change Order or Supplemental Task Authorization by both parties the Consultant/Provider is authorized to and shall proceed with the following:

EXHIBIT "CO/STA-A: SCOPE OF PROFESSIONAL SERVICE: DATED: 8/28/03

EXHIBIT "CO/STA-B: COMPENSATION & METHOD OF PAYMENT: DATED: 8/28/03

EXHIBIT "CO/STA-C: TIME AND SCHEDULE OF PERFORMANCE: DATED: 8/28/03

EXHIBIT "CO/STA-D: CONSULTANT'S/PROVIDERS ASSOCIATED SUB-CONSULTANT(S)/SUB-CONTRACTORS: DATED: 8/28/03

EXHIBIT "CO/STA-E: PROJECT GUIDELINES AND CRITERIA: DATED: 8/28/03

It is understood and agreed that the acceptance of this modification by the CONSULTANT/PROVIDER constitutes an accord and satisfaction.

RECOMMENDED:

By: 9/4/03
Department Director Date

By: 9/11/03
Contracts Mgmt Date

APPROVED:

By: 9/19/03
*County Attorney's Office Date

*County Attorney signature needed for **over** Board level expenditures only.

ACCEPTED:

By:
Consultant/Provider

Date Accepted: 8-25-03

Corporate Seal

COUNTY APPROVAL:

By:
Department Director
(Under $25,000)
Date Approved:

By:
County Manager (Between ($25,000 and under $50,000)
Date Approved:

By:
Chairman
Board of County Commissioners
Date Approved: 7-01-2003

A12a

CMO:023
09/25/01

☐ CHANGE ORDER AGREEMENT No. _____
or
☒ SUPPLEMENTAL TASK AUTHORIZATION No. 16

EXHIBIT "CO/STA-A"

Date: 8/28/03

SCOPE OF PROFESSIONAL SERVICES

For PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD
(Enter Project Name from Page 1 of the
Change Order or Supplemental Task Authorization)

SECTION 1.00 CHANGE(S) TO PROFESSIONAL SERVICES

The "Scope of Professional Services" as set forth in Exhibit "A" of the Professional Services Agreement, or Service Provider Agreement, referred to hereinbefore is hereby supplemented, changed or authorized, so that the CONSULTANT or SERVICE PROVIDER, shall provide and perform the following professional services, tasks, or work as a supplement to, change to, or authorized to, the scope of services previously agreed to and authorized:

This STA is for the consulting services for reverse osmosis (RO) wellfield and injection well design, permitting, and construction supervision. Subcontracted engineering services are for the design, permitting, and construction supervision of wellhead facilities, a wellfield collection pipeline, and an injection well pumping station. Subcontracted drilling fees are for the installation of an exploratory/observation well and a test production well to obtain information for design and permitting of the RO wellfield. A detailed scope of work and itemized costs are provided behind Exhibit E.

*Use Additional Sheets for Scope of Services, if needed

Water Resource Solutions
428 Pine Island Road SW • Cape Coral, Florida 33991 239 574-1919 Fax: 239 574-8106

August 28, 2003

Mr. Rick Diaz, P.E.
Utility Director
Lee County Utilities
1500 Monroe Street, 3rd Floor
Ft. Myers, FL 33902

Re: Pinewoods Class I Injection Well System and RO Supply Wellfield
Hydrogeological, Environmental, and Civil Engineering Services Cost Proposal

Dear Mr. Diaz:

Please find enclosed the revised scope and cost proposal from our July 28, 2003 submittal for the above referenced project. The agreed upon reduction in consulting fees and the addition of the drilling costs have been included.

Do not hesitate to call should you have any questions or comments regarding any aspect of this matter. Water Resource Solutions looks forward to working with Lee County on this project.

Sincerely,

Lloyd E. Horvath, P.E.
President
Licensed Professional Engineer # 25260

Daniel J. Acquaviva, P.G.
Senior Project Manager
Licensed Professional Geologist # 1066

encl.

PROJECT UNDERSTANDING AND APPROACH

Project Understanding

It is our understanding that the project consists of installation supervision of a Class I injection well system at the Lee County Utilities Pinewoods membrane water treatment plant (WTP) site in Estero, as well as designing, permitting, and installation supervision of a reverse osmosis (RO) wellfield for this facility. The injection well is intended to serve the dual purpose of disposing of membrane concentrate as well as disposing of treated municipal wastewater from the LCU Three Oaks wastewater treatment plant (WWTP) located about 3.5 miles to the northeast. This system has been permitted through the Florida Department of Environmental Protection (FDEP). The permitted capacity of this injection well is approximately 2.2 million gallons per day (MGD). It is our understanding that the initial design capacity of the RO wellfield will be approximately 3.0 MGD.

Injection Well System

The injection well system at the Pinewoods WTP will consist of a Class I injection well and a dual zone monitoring well (Figure 1-1). The injection well will serve as the primary means of disposal of membrane concentrate from the Pinewoods WTP and for backup and/or wet season disposal of treated wastewater from the Three Oaks WWTP.

FDEP regulations require a Class I injection well be located at least 500 feet from a water supply well. While it is possible to obtain a variance from this requirement, from a public acceptance standpoint the Underground Injection Control (UIC) permitting process with the FDEP would be expedited if the potential for public objection were minimized. The location of the injection well at the Pinewoods site will be at least 500 feet away from any of the on-site supply wells.

Approximately seven years ago, an injection pumping system was installed at Pinewoods. It is equipped with centrifugal pump units and a surge tank. It will be necessary to evaluate the condition and capacity of those facilities for integration with the proposed injection well system. If necessary, this existing pumping station will be upgraded to handle the anticipated maximum daily and maximum hourly flow of the two combined wastestreams. The maximum flows from the Three Oaks WWTP that can be disposed of via the Pinewoods injection well will be constrained by the size of the existing reuse piping from the WWTP plant and the permitted capacity of the injection well.

The injection well will be constructed with a 9.625-inch diameter fiberglass tubing. This will eliminate the potential for corrosion and any need to replace corroded tubing. Replacement of corroded steel tubing is a very costly undertaking. The annular fluid between the tubing and the well casing will be a corrosion inhibiting fluid such as Baracor. An annular pressure tank will be part of the injection well appurtenances. Corrosion of steel tubing is a common problem with injection wells, especially those

disposing of both RO concentrate and treated wastewater; such a problem should be anticipated and avoided by utilizing fiberglass or specialty grade stainless steel tubing.

The dual zone monitoring well (DZMW) would be located between the injection well and the nearest supply well. The DZMW is required to monitor groundwater quality and water levels in a zone near the base of the underground source of drinking water (USDW), classified as 10,000 milligrams per liter (mg/L) total dissolved solids (TDS) and the first permeable zone above the confining zone overlying the injection zone. The injection zone is anticipated to be from about 2650 to about 3000 feet below land surface (BLS), the low permeability confining zone above the injection zone is anticipated to be from about 1750 to about 2050 feet BLS, the first permeable zone above that confining zone is anticipated to be from about 1650 to about 1725 feet BLS, and the base of the USDW is anticipated to be at about 1500 feet BLS.

Engineering and hydrogeological services for the detailed design, bidding, construction supervision, testing, startup, regulatory compliance during construction and startup, and training of LCU personnel, including preparation of operation and maintenance (O&M) manuals, is included in the scope of services to be provided.

Design, permitting, and construction supervision for surface facilities including piping, electrical services, wellhead controls, and SCADA systems, and training of LCU personnel, including preparation of operation and maintenance (O&M) manuals, is also included in the scope of services to be provided.

Our approach to the project is described below.

Reverse Osmosis Supply Wells

The reverse osmosis (RO) supply wells for the planned new RO membrane addition to the Pinewoods WTP will consist of four wells, each with a design production capacity of approximately 700 gallons per minute (gpm). These wells will be equipped with 12-inch diameter fiberglass casing and completed in the Upper Floridan aquifer (Figure 1-3), which contains brackish groundwater at the site. It is anticipated that the RO WTP will have a recovery efficiency of about 83%, meaning that 83% by volume of the brackish raw water will become, after treatment, potable and 17% by volume will become reject or concentrate water. The concentrate will contain nearly 100% of the dissolved chemical constituents of the raw water. Thus, the concentrate volume for the 3.0 million gallon per day (MGD) WTP is anticipated to be about 0.65 MGD at maximum water production capacity. The concentrate will be disposed of via the Class I injection well system to be built as part of this project.

When the existing 11 surficial aquifer water supply wells were installed at the Pinewoods WTP site in the early 1980's, they were equipped with 16-inch diameter casing. This was to provide the option to later deepen these wells and recomplete them, with an additional string of production casing, into the Upper Floridan aquifer to supply an RO WTP at the

site when system demands outpaced the capacity of the membrane softening plant supplied by fresh water from the surficial aquifer well field. Six of the 11 surficial aquifer wells are equipped with pumping equipment and serve the membrane softening plant. Thus, the five unused wells could theoretically be deepened as originally planned. However, if regulatory conditions have changed to the point that this is no longer feasible, the four RO supply wells could be located along the upland portion of the wellfield access road, south of the WTP and north of the water-table aquifer wellfield. One RO supply well could also likely be located in the southeast corner of the WTP site, but at least 500 feet away from the site selected for the injection well.

Engineering and hydrogeological services for the permitting, detailed design, bidding, construction supervision, testing, startup, regulatory compliance, and training of LCU personnel, including preparation of operation and maintenance (O&M) manuals, for the RO wellfield is included in the scope of services to be provided. Water use permitting through the South Florida Water Management District (SFWMD) will commence immediately after authorization to proceed on the project. Because the construction permit for the injection well is in hand, it is anticipated that construction of the injection well system will proceed before the construction of the RO wellfield can begin. The drilling of the injection well will provide an opportunity to obtain site-specific groundwater samples from the Upper Floridan aquifer. Detailed analyses of these water samples will provide invaluable information for design of the RO WTP membranes and for computer impact modeling of potential long-term degradation of the supply source.

Design, permitting, and construction supervision for surface facilities including piping, electrical services, wellhead controls, and SCADA systems, and training of LCU personnel, including preparation of operation and maintenance (O&M) manuals, the RO supply wells and collection pipeline is also included in the scope of services to be provided.

Our approach to the project is described below.

Project Approach

Task 1. Project Kick-Off Meeting

The initial step in the project will be to hold a kick-off meeting with LCU at which the principal members of the project team will be present, along with LCU staff. The responsibilities of each team member, the means or routing communications, and the project schedule will be clearly defined at the kick-off meeting.

Task 2. Progress Meetings

It is anticipated that regularly scheduled progress meetings will be held on a monthly basis at the LCU office during the entire duration of the project. During the initial phases of the project, meetings will focus on design and permitting. Later, during construction, these meetings will be focused on construction progress.

Task 3. Design

Subtask 3.1 Determination of Injection System Location

A optimum location for the injection well system at the Pinewoods WTP site will be selected. Criteria utilized in the site selection process will include proximity to the plant, access, minimization of impacts to existing infrastructure, minimization of impacts to wetlands and thus the need for extensive environmental resource permitting through the SFWMD, and maintenance of appropriate setback distances from existing or planned potable supply wells.

Subtask 3.2 Injection Well System Design

Based on the review of projected wastewater and concentrate volumes, as described above, the injection well pumping station will be sized to handle maximum projected flows for the selected design life of the system. Water characteristics of both waste streams will be analyzed to determine any potential compatibility issues. A preliminary **Basis of Design report** will be prepared for the injection well system and the upgrade to the pumping station. This document will contain a preliminary process flow diagram, preliminary piping layout, hydraulic and surge analyses, anticipated casing setting depths for the injection well and dual zone monitoring well, and anticipated packer and tubing setting depths for the injection well. Preliminary cost estimates will also be contained in this document.

Detailed technical specifications will be prepared for the injection well, the dual zone monitoring well, and the wellhead control, SCADA, electrical service, and other system appurtenances. These specifications will detail the construction sequence, the materials to be used, responsibilities of the construction contractors, payment items, and warranties.

Progress meetings will be held with LCU at the 30%, 60%, 90%, and final design stages. Input from LCU will be solicited at these meetings. Preliminary design drawings will be prepared and submitted to LCU prior to the meetings.

As needed, a preliminary ecological assessment will be performed of the potential sites at the Pinewoods WTP for the injection well system to identify any potential environmental resource permitting problems with the surface location.

Cost estimates will be prepared for each component of the injection well system.

Detailed technical specifications will be prepared for the pumping station upgrade and other related system appurtenances. These specifications will detail the construction sequence, the materials to be used, responsibilities of the construction contractors, payment items, and warranties.

Progress meetings will be held with LCU at the 30%, 60%, 90%, and final design stages. Input from LCU will be solicited at these meetings. Preliminary design drawings will be prepared and submitted to LCU prior to the meetings.

Cost estimates will be prepared for each component of the pumping station capacity upgrade.

Subtask 3.3 RO Supply Wells and Wellfield Collection Pipeline Design

A review of the subsurface geology of the area will be conducted and maps and cross-sections prepared to facilitate the preliminary design of the RO supply wells. This information will also be important in the selection of the wellfield site. We will then design a test well drilling and aquifer testing program and will thereafter conduct a meeting with the SFWMD to outline this program.

A test production well and a six-inch diameter exploration/observation well will be installed in the southeast corner of the WTP site. The purpose of the exploration well is to determine the optimum production zone. This well will penetrate the entire production zone and also the underlying aquifer zone. The water quality data obtained from the underlying zone will be essential to determine the long term changes in feedwater quality that can be anticipated from the RO supply wells. After obtaining water quality and aquifer hydraulic parameter data from the underlying zone, the exploration well will be plugged back and completed in the selected RO supply zone and used as an observation well for aquifer testing conducted in the test production well. After installation of the test production well, a 72-hour constant rate pumping test will be conducted.

The information gathered from these two wells will be used to determine representative aquifer parameters and groundwater quality for design, impact modeling, and permitting purposes. Our intent will be to convert the test production well to an RO supply well. The construction costs for these two wells will be competitively negotiated by WRS, and approved by LCU, with qualified drilling companies.

A preliminary **Basis of Design report** will be prepared for the RO supply wells and wellfield collection pipeline. This document will contain a preliminary process flow diagram, preliminary piping layout, hydraulic analyses, and anticipated casing setting and total depths for the RO supply wells. Preliminary cost estimates will also be contained in this document.

Detailed technical specifications will be prepared for the RO supply wells, the wellfield collection pipeline, and the wellhead control, SCADA, electrical service, and other system appurtenances. These specifications will detail the construction sequence, the

materials to be used, responsibilities of the construction contractors, payment items, and warranties.

Progress meetings will be held with LCU at the 30%, 60%, 90%, and final design stages. Input from LCU will be solicited at these meetings. Preliminary design drawings will be prepared and submitted to LCU prior to the meetings.

A preliminary ecological assessment will be performed of the potential sites of each RO well to identify any potential environmental resource permitting problems with the surface location.

Cost estimates will be prepared for each component of the RO wells and the wellfield collection pipeline.

Task 3.4 Surveying

Detailed land surveying will be conducted of the transmission line route, as well as the selected area for the injection well system and associated facilities. The land surveying will be conducted by a LCU approved licensed land surveyor under contract to WRS.

Task 4. Permitting

Subtask 4.1 Underground Injection Control Permitting

An underground injection control permit has been obtained from the FDEP for construction of the injection well and the DZMW. It is not anticipated that any modifications to this permit will be needed. In order for construction to begin, however, there are certain ancillary minor permits, as detailed below, that will need to be obtained.

Subtask 4.2 Water Use Permitting

In order to obtain an allocation for the new RO wellfield, a water use permit application will need to be prepared for submittal to the South Florida Water Management District (SFWMD). The application package will need to include computer impact modeling to show potential impacts due to pumping withdrawals from the aquifer. For LCU's benefit for the long term operation of the RO plant, the computer modeling should include not only hydraulic modeling of aquifer potentiometric water level drawdowns, but also solute transport modeling. Solute transport modeling will assist in prediction of long term changes in feed water quality that could affect membrane recovery efficiency.

Prior to completing the water use permit application package, a preapplication meeting will be held with the SFWMD. Responses to any pertinent SFWMD comments will be addressed in the final application package. After the complete water use permit application package is assembled and reviewed by LCU, it will be submitted to the

SFWMD, along with an application fee to be supplied by LCU. SFWMD requests for additional information will be responded to in a diligent, thorough, and timely manner, and every effort will be made to expedite the water use permitting process.

Subtask 4.3 Environmental Resource Permitting

As discussed above, an ERP permit will also likely be needed for the injection well system location. This is because the injection well pad will increase the impervious area at the plant site, resulting in marginally increased rainfall runoff. It is also possible that it may be necessary to cross small isolated wetland areas with the RO wellfield collection pipeline. That would also necessitate an ERP permit.

We will determine whether it is most prudent to make one ERP permit application to the SFWMD for the entire project or to permit the injection well system and RO wellfield separately. The permit application for the RO wellfield can be prepared and submitted some time between the 30% and 60% design stage. The environmental resource permit application(s) will be prepared by WRS for the selected location of the injection well system, the RO well pads, and the RO wellfield collection pipeline. CoastPlan Inc., under subcontract to WRS, will provide ecological support for the environmental permitting and coordination with jurisdictional agencies. Stormwater management aspects of the project will also be addressed in the environmental resource permitting. The costs outlined herein for the ERP permitting of the wellfield collection pipeline are based on the assumption that the RO supply wells will be located in a general upland area. If substantial portions of the pipeline enter wetlands, the costs for this permitting may need to be modified.

Task 4.4 Limited Development Review

A limited Development Review will likely be required by Lee County for the surface facilities. The necessary documents will be supplied to the County reviewing agency at the same time that the ERP permit application is submitted to the SFWMD.

Task 4.5 Modification of Operating Permit for WTP

In order for the injection well to be designated by the FDEP as the primary means of concentrate disposal for the Pinewoods membrane WTP and the backup and/or wet season disposal means for the Three Oaks WWTP, the FDEP operating permits for both plants will need to be modified. The necessary documents and supporting materials will be prepared and, after LCU review and approval, will be submitted to the FDEP for this purpose for the Pinewoods WTP.

Task 4.6 FDOT Permitting/ Securing of Easements

If it is determined that the optimum location for the RO wellfield, and the attendant wellfield collection pipeline, is the upland area proximal to the northern portion of the access road to the existing surficial aquifer wellfield, permitting and securing of easements will be necessary. It is believed that the Florida Department of Transportation (FDOT) owns the present access road easement, thus permitting through the FDOT may be necessary. In addition securing of easements from the adjacent property owner (i.e. Stoneybrook Country Club) may also be necessary and we will assist County legal staff in that endeavor.

Task 5. Bidding/Contractor Negotiation Services

It is our understanding that LCU will select the drilling contractor for the injection well and dual zone monitoring well by using a process similar to that used by most municipalities for selecting consultants. This is pre-qualification and negotiation process. WRS has recently used this method to assist other utilities in selecting a drilling contractor for a Class I injection well systems. In those cases, the technical specifications prepared by WRS for construction of the injection and dual zone monitoring wells were part of the RFQ package. In each case, the contractor's submittal was required to include comprehensive documentation of experience on equivalent projects and equipment capabilities. The contractor was then selected based on qualifications and the cost negotiation phase began. Prices were evaluated based on a representative sample of similar projects in the region, and ultimately a negotiated price was agreed upon. Most recently, that cost was lower than the original project estimate and lower than the cost of a similarly constructed injection well located nearby.

LCU will likely wish to bid a portion or all of the construction work for the RO supply wells, the wellfield collection line, and the upgrade for the injection pumping station. Several contractors are available for construction of these aspects of the project. It is anticipated that much of those work elements will be separated from the injection well drilling work and awarded through other contracts using the traditional bidding process. We will prepare appropriate bidding specifications and assist LCU in the selection and contract negotiation processes for these phases of the project.

Task 6. Construction Supervision and Testing

Prior to the start of construction, a pre-construction conference will be scheduled with the contractor(s) to establish protocols, procedures, review working conditions, site access, regulatory compliance, and coordinate various construction-related activities.

Submittals from the contractor(s) will be reviewed by the project team, evaluated for consistency with the technical specifications, and recommendations will be made to LCU.

During construction and testing of the upgrade modifications to the pumping station and the RO wellfield collection pipeline, construction oversight will be performed by the project team. Pressure tests and pumping system performance tests will be witnessed. Punch lists of items that need attention for project completion will be prepared and final inspections will be performed.

During construction and testing of the injection well, the dual zone monitoring well, and the RO supply wells, a crew of well-trained and experienced wellsite geologists will be assigned to the project. Since drilling and construction activities for the injection well and dual zone monitoring well are anticipated to occur on a 24 hour per day, seven days per week basis, each wellsite geologist will be at the wellsite 12 hours per day for seven days and then have seven days off. The wellsite geologists will prepare daily reports and communicate those reports to the project manager on a daily basis. The wellsite geologist will analyze well cuttings, maintain a log of lithology, water quality, and drilling operations.

The project manager will be on call 24 hours per day, seven days per week for the expected four-month duration of the construction phase of the project. The project manager will be responsible for selecting all casing setting, coring, testing, and geophysical logging depths. He will be present for all important events such as packer testing, coring, geophysical logging, casing setting, and drilling through important intervals.

It is important that a well trained and experienced geological staff be present during the drilling and construction of the injection and dual zone monitoring wells to accurately document the subsurface geology and the construction activities. This greatly reduces the potential for costly and time-consuming construction related problems. WRS has maintained this approach in the construction supervision of all of the injection well systems for which we have been the hydrogeological consultant. This approach is the same as that which has been used in the petroleum industry for many decades. Since a typical Class I injection well in South Florida usually costs several times more than an average petroleum well in the United States, it would seem that this approach should be common practice for hydrogeological consultants. However, it is not and some companies typically provide much less frequent wellsite supervision. While that approach may result in a lower cost, it involves more risk. Our proximity to the well site will allow the project manager to frequently visit the site to discuss activities with the well site geologists and LCU staff, and reduces costs.

Task 7. Regulatory Compliance During Construction and Testing

During construction and testing of the injection well and dual zone monitoring well, weekly progress reports are required to be sent to the FDEP and Technical Advisory Committee (TAC). These reports contain copies of pertinent data such as daily drilling reports, lithologic logs, geophysical logs, core data, water quality data, aquifer test data, casing mill slips, casing cementing records, and casing pressure tests. In addition, FDEP

approval must be obtained for casing setting depths. WRS will prepare and submit this information to the FDEP and LCU on a weekly basis.

Task 8. Completion Report, Certifications, and Operations and Maintenance Manual

Upon completion of construction and testing activities, a completion report will be prepared detailing the drilling and construction activities and the results of all testing and analyses of the injection well system. A similar completion report, containing certifications of completion, will be prepared for the injection pumping station upgrade work. These documents will address all conditions in the FDEP construction permits. Copies of the completion report for the injection well system will be supplied to the TAC and the FDEP after LCU approval.

Similar completion reports will be prepared for the RO supply wells and the wellfield collection pipeline.

Operations and maintenance (O&M) manuals will be prepared for the injection well system, the injection pumping station, the RO supply wells, and the wellfield collection line. Equipment data, as-built drawings, maintenance and operation recommendations, and regulatory compliance requirements will be detailed in the O&M manuals.

Task 9. Startup Services

The WRS project team will conduct training sessions with LCU staff to provide instruction on the proper operation of the facilities and to facilitate commencement of use of both the injection system and the RO wellfield. We will work with the WTP operators to develop effective operating protocols and record keeping procedures for these systems.

Task 10. Operational Testing Authorization

Subsequent to approval by LCU of the final report, record drawings, and operations and maintenance manual for the injection well system, copies of these documents will be forwarded to the FDEP and TAC with a request for authorization to commence operational testing of the injection system. Any further documentation requested by the FDEP will also be provided. After receiving the authorization to commence operational testing, a minimum of one year of operation of the system under this authorization must be completed before LCU can apply for a five-year duration operation permit.

PROPOSED SCHEDULE OF FEES

Item:	*Amount:*
1. Kickoff Meeting	$ 962.50
2. Progress Meetings	13,400.50
3. Design	
(a) Injection Well System	66,954.50
(b) RO Wellfield	
(1) Consulting	100,513.50
(2) Exploratory Well and Test Production Well Drilling Contractor	278,500.00
(c) Surveying	17,577.00
4. Permitting	47,390.00
5. Bidding/Contractor Negotiation Services	12,845.00
6. Construction Supervision and Testing	
(a) Injection Well System	204,240.00
(b) RO Wellfield	89,860.00
(c) Injection Pumping Station Upgrade	20,145.00
(d) Wellfield Collection Line	15,680.00
7. Regulatory Compliance During Construction and Testing Of the Injection Well System	17,730.00
8. Completion Reports and Operations and Maintenance Manuals	
(a) Injection Well System	~~26,562.00~~
(b) RO Wellfield	25,306.00
9. Start-Up Services	
(a) Injection Well System	6385.50
~~(b) RO Wellfield~~	6147.50
11. Injection Well Operational Testing Authorization	2245.00
Total:	**$ 952,444.00**

☐ CHANGE ORDER AGREEMENT No.

or

☒ SUPPLEMENTAL TASK AUTHORIZATION No. 16

EXHIBIT "CO/STA-B"

Date: 8/28/03

COMPENSATION AND METHOD OF PAYMENT

For PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD

(Enter Project Name from Page 1 of the Change Order or Supplemental Task Authorization)

SECTION 1.00 CHANGE(S) IN COMPENSATION

The compensation the CONSULTANT, or SERVICE PROVIDER, shall be entitled to receive for providing and performing the supplemented, changed or authorized services, tasks, or work as set forth and enumerated in the Scope of Services set forth in this CHANGE ORDER OR SUPPLEMENTAL TASK AUTHORIZATION AGREEMENT, Exhibit "CO/STA-A", attached hereto shall be as follows:

NOTE: A Lump Sum (L.S.) or Not-to-Exceed (N.T.E.) amount of compensation to be paid the CONSULTANT should be established and set forth below for each task or sub-task described and authorized in Exhibit "S/COA-A". In accordance with Professional Services Agreement Article 5.03(2) "Method of Payment", tasks to be paid on a Work-in-Progress payment basis should be identified (WIPP).

Task Number	Task Title	Amount of Compensation	Indicate Basis of Compensation LS or NTE	If Applicable Indicate (W.I.P.P.)
11.00	Hydrogeological Services	$952,444.00	NTE	WIPP
TOTAL		$952,444.00	NTE	

(Unless list is continued on next page)

CMO:029
09/25/01

☒ Supplemental Task Authorization No. 16

SECTION 2.00 SUMMARY OF CHANGE(S) IN COMPENSATION

Pursuant to and in consideration of the change(s) in the Scope of Professional Services set forth in the CHANGE ORDER or AGREEMENT, Exhibit "CO/STA-A", the compensation the COUNTY has previously agreed to pay to the CONSULTANT, or SERVICE PROVIDER, as set forth in Exhibit "B" of the Professional Services Agreement, or Service Provider Agreement, shall be changed to be as follows:

Section/Task Number	Section/Task Name	Compensation In the Basic Agreement	Adjustment(s) by Previous CO or STA Nos. 1	Adjustment(s) Due to this CO or STA	Summary of Changed Compensation
STA #1	Hydro Services		15,925.00		15,925.00
STA #2	Hydro Services		9,800.00		25,725.00
STA #3	Hydro Services		10,975.00		10,975.00
STA #4	Hydro Services		1,101.50		1,101.50
STA #5	Hydro Services		22,000		22,000.00
STA #6	Hydro Services		81,150.00		81,150.00
STA #7	Hydro Services		8,200.00		8,200.00
STA #8	Hydro Services		8,054.00		8,054.00
STA #9	Hydro Services		1,595.00		1,595.00
STA #10	Hydro Services		5,183.00		5,183.00
STA #11	Hydro Services		6,981.26		6,981.26
STA #12	Hydro Services		1,840.00		1,840.00
STA #13	Hydro Services		11,590.00		11,590.00
STA #14	Hydro Services		49,950.00		49,950.00
STA #15	Hydro Services		9,525.00		9,525.00
STA #16	Hydro Services			952,444.00	952,444.00
TOTAL					1,196,313.76

CMO:026
09/25/01

☐ CHANGE ORDER AGREEMENT No. _____
or
☒ SUPPLEMENTAL TASK AUTHORIZATION No. 16

EXHIBIT "CO/STA-C"

Date: 8/28/03

TIME AND SCHEDULE OF PERFORMANCE

for PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD

(Enter Project Name from Page 1 of the
Change Order or Supplemental Task Authorization Agreement)

SECTION 1.00 CHANGES FOR THIS CHANGE ORDER OR SUPPLEMENTAL TASK AUTHORIZATION AGREEMENT

The time and schedule of completion for the various phases or tasks required to provide and perform the services, tasks, or work set forth in this CHANGE ORDER or SUPPLEMENTAL TASK AUTHORIZATION AGREEMENT, Exhibit "CO/STA-A", entitled "Scope of Professional Services" attached hereto is as follows:

Phase and/or Task Reference as Enumerated in EXHIBIT "A"	Name or Title of Phase and/or Task	Number of Calendar Days For Completion of Each Phase and/or Task	Cumulative Number of Calendar Days For Completion from Date of Notice to Proceed For this CO or STA
11	HYDRO SERVICES	910	910

CMO:027
09/25/01

☒ Supplemental Task Authorization No. 16

EXHIBIT "CO/STA-C"

Date: 8/28/03

TIME AND SCHEDULE OF PERFORMANCE

for PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD

(Enter Project Name from Page 1 of the Change Order or Supplemental Task Authorization Agreement)

SECTION 2.00 SUMMARY OF THE IMPACT OF CHANGE(S) IN PROFESSIONAL SERVICES ON THE OVERALL PROJECT TIME AND SCHEDULE OF PERFORMANCE

Pursuant to and in consideration of the changes in the Scope of Professional Services in this CHANGE ORDER or SUPPLEMENTAL TASK AUTHORIZATION AGREEMENT, Exhibit "CO/STA-A", the time and schedule the COUNTY and the CONSULTANT, or SERVICE PROVIDER, has previously agreed to for all of the work to be done under this Professional Services Agreement, or Service Provider Agreement, shall be changed to be as follows:

Phase and/or Task Reference as Enumerated in EXHIBIT 'A' and EXHIBIT 'CO/ STA-A'	Name or Title of Phase and/or Task	Number of Calendar Days For Completion of Each Phase and/or Task	Cumulative Number of Calendar Days For Completion From Date of Notice to Proceed
11	HYDRO SERVICES	910	910

CMO:027
09/25/01

☐ CHANGE ORDER AGREEMENT No. _____
or
☒ SUPPLEMENTAL TASK AUTHORIZATION No. 16

EXHIBIT "CO/STA-D"

Date: 8/28/03

CONSULTANT'S, OR SERVICE PROVIDER'S, ASSOCIATED SUB-CONSULTANT(S) AND SUBCONTRACTOR(S)

for PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD

(Enter Project Name from Page 1 of the Change Order or Supplemental Task Authorization Agreement)

CONSULTANT, or SERVICE PROVIDER, intends to engage the following sub-consultant(s) and/or sub-contractor(s) to assist the CONSULTANT, or SERVICE PROVIDER, in providing and performing the services, tasks, or work required under this CHANGE ORDER, or SUPPLEMENTAL TASK AUTHORIZATION AGREEMENT.

(If none, enter the word "none" in the space below.)

Service and/or Work to be Provided or Performed	Name and Address of Individual or Firm	Disadvantaged, Minority or Women Business Enterprise, (If Yes, Indicate Type)			Sub-Consultant Services are Exempted from Prime Consultant's Insurance Coverage	
		Yes	No	Type	Yes	No
Engineering	Source, Inc. 1334 Lafayette St. Cape Coral, FL 33904		x		x	

CMO:028
09/25/01

☐ CHANGE ORDER AGREEMENT No. _____
or
☒ SUPPLEMENTAL TASK AUTHORIZATION No. 16

EXHIBIT "CO/STA-E"

Date: 8/28/03

PROJECT GUIDELINES AND CRITERIA

for PINEWOODS CLASS I INJECTION WELL SYSTEM AND RO WELLFIELD

(Enter Project Name from Page 1 of the
Change Order or Supplemental Task Authorization Agreement)

As a supplement, or change, to the Project Guidelines and Criteria set forth in the Professional Services Agreement, or Service Provider Agreement, Exhibit "E", the COUNTY has established the following Guidelines, Criteria, Goals, Objectives, Constraints, Schedule, Budget, and/or Requirements which shall serve as a guide to the CONSULTANT, or SERVICE PROVIDER, in performing the professional services, tasks, or work to be provided pursuant to the professional services set forth hereinbefore in CHANGE ORDER or SUPPLEMENTAL TASK AUTHORIZATION AGREEMENT, Exhibit "CO/STA-A", attached hereto:

(If none, enter the word "None" in the space below.)

ITEM No. 1
NONE

Memorandum

LEE COUNTY
RECEIVED
03 SEP 18 PM 2:06
COMMISSIONERS ADMIN CNTR
FOURTH FLOOR

To: Commissioner Ray Judah, Chairman of the Board

From: Cindy Logan, Contracts Manager

Date: 9/17/2003

Re: GES SYSTEM ACQUISITION

03 SEP 22 PM 12:21
BOARD OF COUNTY COMMISSIONERS
LEE COUNTY
FLORIDA

On July 1, 2003, under Blue Sheet No. 20030669, Administrative Agenda A12a, the Board approved to declare a limited, temporary, emergency by Resolution No. 03-07-08 for the GES System acquisition, which requires certain, immediate and necessary improvements, for the protection and convenience of the GES assets and customers.

Attached for your signature is Supplemental Task Authorization No. 16, Contract No. 1863, under CN-01-11 Miscellaneous Utility Engineering Design, for the project known as Pinewoods Class I Injection Well System and RO Wellfield to Water Resource Solutions, in the amount of $952,444.00.

In accordance with the provisions of Resolution No. 03-07-08, we are requesting the Chairman's execution of the attached documents. We will be processing an "after the fact" Blue Sheet for Board acceptance and filing for audit trail purposes.

If you should require additional information, please advise.

9/19

2003 SEP 22 PM 12:21
BOARD OF COUNTY COMMISSIONERS
LEE COUNTY
FLORIDA

CN-01-11

From: Kris Miller
To: Diaz, Irma
Date: 9/30/03 2:22PM
Subject: Contract 1863 - Water Resource

Irma, would you please add a line to this contract in the amount of $952,444 for STA 16 "Pinewoods DIJ & RO Wellfield"

Acct 20715548736.506510

Thank you!
Kris

done
10/01/03
ID

LEE COUNTY
SOUTHWEST FLORIDA

(239) 335-2183

BOARD OF COUNTY COMMISSIONERS

Writer's Direct Dial Number:_____

Bob Janes
District One

Douglas R. St. Cerny
District Two

Ray Judah
District Three

Andrew W. Coy
District Four

John E. Albion
District Five

Donald D. Stilwell
County Manager

James G. Yaeger
County Attorney

Diana M. Parker
County Hearing Examiner

September 26, 2003

Mr. Donald Mayne
Water Resource Solutions
428 Pine Island Road
Cape Coral, FL 33991

SUBJECT: CN-01-11 MISC. UTILITY ENGINEERING AND/OR INSPECTION SERVICES

ENCLOSURE: SUPPLEMENTAL TASK AUTHORIZATION

Dear Mr. Mayne:

Enclosed is your executed copy of Supplemental Task Authorization #16 for the project known as "Pinewoods Class I Injection Well System and RO Wellfield."

If you should have any questions, please give me a call.

Sincerely,

CONTRACTS MANAGEMENT

Cindy Logan
Contracts Manager

cc: Rick Diaz, Utilities
Kris Miller, Fiscal Officer/Utilities
Contracts File