

3.03 GEOPHYSICAL LOGGING

A. General:

1. The Contractor shall furnish the services of an approved logging company to provide geophysical logs, TV survey, transducer installation, tracer testing, and water sample acquisition for the test well. At the time he submits his bid, the Contractor must provide for Engineer's approval the name and address of the logging company that he will use. The Engineer may, at any time and at his discretion, reject a firm and request other choices of firms.
2. The Contractor shall retain full responsibility for notifying the logging crew, as nominated within his bid submittal, of the need to conduct the geophysical and other logging operations.
3. Prior to each logging or TV surveying, the Contractor shall prepare the hole to ensure that it is open and can be logged and/or TV surveyed with a minimum of delay. During each logging phase, the Contractor shall not charge for this standby time.
4. All geophysical logs shall be delivered to the Engineer or his representative for his permanent record. Twenty final copies of each log will be required. Six field copies of each log will be delivered to the Engineer as soon as collected (the same day). Only clear copies properly identified with headings and calibrated scales will be accepted.

Table 2 lists the geophysical logs to be performed on the well. The Contractor also will perform caliper and gamma ray logs on all boreholes before the installation of all casing and before conducting any packer testing. The Contractor will perform temperature logs after each stage of cementing on all casings.

B. Geophysical Logs:

1. Following completion of a nominal 12-inch diameter pilot hole to ± 300 feet, the following geophysical logs shall be run: caliper, gamma ray, and BHC sonic.
2. Following completion of the 54-inch hole to ± 300 feet, the following geophysical logs shall be run: caliper and gamma ray. The Engineer will select the depth of casing based partially on the results of these geophysical logs.
3. Following the completion of the 48-inch diameter surface casing placement and grouting, a temperature log shall be run in the surface casing to determine the quality of the grout emplacement. Temperature logs will be run after each stage of cementing (lifts).
4. Following completion of the pilot hole to ± 1000 feet, the following geophysical logs shall be run on the open pilot hole: gamma ray, caliper, temperature (differential and

absolute), dual induction, borehole TV survey (or fracture televiewer) and BHC Sonic-VDL. The Engineer will select the depth of casing based partially on the results of these geophysical logs and TAC concurrence.

5. Following completion of reaming the 48-inch diameter hole to 1000 feet, a caliper log, gamma ray log, and temperature logs shall be run.
6. Following the completion of the 40-inch diameter casing placement and grouting, a temperature log shall be run in the casing to determine the quality of the grout emplacement.
7. Following completion of the pilot hole to ± 1700 feet and prior to the 40-inch diameter reaming, the following geophysical logs shall be run on the open pilot hole: gamma ray, caliper, temperature (differential and absolute), dual induction, and BHC Sonic-VDL. A TV survey will also be run at this time. All final copies of TV surveys should be submitted in DVD format. The Engineer will select the depth of casing based partially on the results of these geophysical logs and/or the fracture televiewer.
8. Following completion of reaming the 40-inch diameter hole, a caliper log, and gamma ray log, shall be run.
9. Following the completion of the 28-inch diameter casing placement, a temperature log and cement bond log shall be run in the casing to determine the quality of the grout emplacement.
10. Following the reaming of the open hole to full depth, a TV survey shall be run.

C. Reporting:

1. The Contractor shall furnish six high quality field copies of the various logs to the Engineer's immediately after the logs are run. Twenty (20) final copies prepared by the logging company shall be delivered to the Engineer by the Contractor.
2. The Contractor shall furnish through the core laboratory six (6) copies of all the test results on the core samples.
3. The Contractor shall furnish through the water quality laboratory six (6) copies of all test results on the water samples.

TABLE 2

**Geophysical Logging Program
Deep Injection Well System
Injection Well #1**

Injection Well #1	Gamma Ray	Caliper	Dual Induction	Temperature	BHC Sonic-VDL	Cement Bond	Borehole Televiewer Fracture Finder	Video	RTS
Drill 12-inch pilot hole to 300 feet	X	X	X		X				
Drill 54-inch hole to 300 feet	X	X							
Cement 48-inch casing to 300 feet				X					
Drill 12-inch pilot hole to 1000 feet	X	X	X	X	X		X	X	
Ream 48-inch hole to 1000 feet	X	X							
Cement 40-inch casing to 1000 feet				X					
Drill 12-inch pilot hole to 1700 feet	X	X	X	X	X		X	X	
Ream pilot hole to 40 inches to 1110 feet	X	X							
Cement 28-inch casing to 1100 feet				X		X			
Ream lower pilot hole to 26 inches								X	
Install 18-inch injection tubing								X	
MIT	X			X					X
Injection Test									

Note: Logs will be conducted after completion of each task, except temperature logs, which will be conducted during operations.
Borehole televiewer to be conducted if video survey unsuccessful.

3.04 RECORDS

A. One copy of the following records and reports shall be delivered to the Engineer.

1. Records of Formation - The Contractor shall identify and keep an accurate record of the location of the top and bottom of each stratum penetrated and the depths from which formation samples are collected. This record shall also describe the ease and/or difficulty of drilling, noting the time required for each 10 feet of penetration.
2. Record of Casing Pipe and Cementing - The Contractor shall keep an accurate record, as assembled, on size and length of the individual pieces of pipe installed in the well. A log of cement volumes used will also be kept. At the time pipes or cement is delivered to the site, the Contractor shall furnish original signed copies of the manufacturer's mill certificates for the pipes and the chemical analysis for the cement.
3. Daily Reports - The Contractor shall keep a daily drilling report once the drilling is started and until completed, describing nature of material encountered, the work done during each day, items of work accomplished (such as depth drilled, casing set, etc.), the water level in the well at the beginning and end of each shift, the mud weight, and other pertinent data as required by the Engineer, including accurate records of the amount and type of material (salt, mud, etc.) used during construction to kill the flow of the well.
4. Geolograph - the rig shall be equipped with a properly calibrated and functioning Geolograph (or equivalent) capable of recording drilling time and weight on the bit. All drilling activities shall be recorded, and the records furnished to the Engineer.

3.05 WELL DEVELOPMENT AND TESTING

A. The intent of this Paragraph of the specifications is to provide for the development and testing of the test/injection well. The purpose of the development work is to remove effectively from the well, well walls, and the formation immediately adjacent to the well, material like mud, clay, fine particles of sand and/or shell, and any other type of fine materials, and to return water quality in the formation to its original condition.

1. Pumps and Equipment - The Contractor shall furnish all necessary pumps, fuels, gauges, compressors, tools, piping, hoses and any other equipment needed to develop the test well. The pumping unit shall be complete with prime mover of ample power, controls and appurtenances to enable a discharge rate of up to 2000 gpm from the test/injection well intermittently for a period of 2 hours at a time for up to 24 hours. The Contractor shall install and operate the pumping equipment and piping capable of pumping the discharge away from the test well and into the settling tanks for such periods of time as necessary to develop the test well. If necessary, to ensure development of the test well, use will be made of the circulation system tankage and of all other storage tankage.

2. Development - Prior to development of the test well, the driller must pump out all excess drilling mud and suspended particles and dispose of them as specified. When all the sediment has been expelled, the test well shall be readied for the developmental phase of the work. The Contractor shall develop the test well to obtain the maximum yield of water per foot of drawdown under a sand-free and turbidity-free condition while pumping at the pumping rate specified. Surging by varying the pumping rate should be utilized as part of the well development. Care shall be taken to ensure that the surging be done in a controlled manner so that excessive pressures do not develop within the well. After completion of the pumping, the Contractor shall remove, by bailing, pumping or other approved methods, any sand, stones or other foreign material that may have become deposited in the well. After development, the geophysical logs described in Table 2 shall be run. At this time, the Contractor will survey the elevation of the top of casing on all three wells and reference it to NGVD (Mean Sea Level).
3. Duration of Development - Time stated for the duration of the development pumping is an estimate only and the Engineer reserves the right to require the Contractor to extend or reduce such period of pumping. Payment for extra pumping and trucking of that extra water from the site, if so required by the Engineer, will be made according to the Schedule of Prices.

3.06 MECHANICAL INTEGRITY TEST

A. Internal Testing

1. With the cement plug in place and following the cement bond log, the 28-inch diameter casing shall be pressure tested. Following the installation of the tubing and packer, the annulus between the 18-inch diameter tubing and the 28-inch diameter casing shall be pressure tested. For testing the 28-inch final casing, the casing shall be filled with water and for testing the annulus, the annular space between the final casing and the tubing shall be filled with corrosion inhibitor. Both pressure tests shall be conducted under a minimum pressure of 150 psi (pounds per square inch) and held for one hour. No pressure change in excess of 5% of the initial test pressure is allowed for a period of sixty minutes. If a pressure change in excess of 5% of the initial test pressure occurs, the test shall be repeated under controlled conditions to the satisfaction of the Engineer and the regulatory agencies. If the pressure changes or if there is some other indication of leakage, the Contractor shall take steps to locate the leak and make repairs in a manner satisfactory to the Engineer. Pressure testing shall be witnessed and certified in writing by the Engineer. FDEP also will witness the pressure test following reasonable prior notice.
2. The Contractor shall submit verification of pressure-gauge calibration to the Engineer prior to commencement of each pressure test. All pressure gauges shall be calibrated within 60 days of being used in each test.

B. External Mechanical Integrity Test:

1. Following the successful completion of the pressure test on the annulus between the 28-inch diameter casing and the 18-inch diameter injection tubing, a radioactive tracer survey (RTS) shall be performed in the injection well. Prior to conducting the RTS, the Contractor shall pump into the injection well a minimum of 200,000 gallons of potable water. This water will form a small fresh water "bubble" at the base of the casing and should also fill the casing with clear water. Upon completion of forming this fresh water bubble, the Contractor shall conduct a video survey from land surface to the base of the 28-inch diameter casing.
2. In performing the RTS, the Contractor shall employ the services of a company specializing in furnishing and operating the equipment used in collecting this information. The test shall be conducted as directed by the Engineer, according to the following procedure outline. The Contractor shall notify the Engineer at least 72 hours in advance of the RTS test.
3. The RTS testing will be conducted following the television survey according to the following procedure.
 - a. A combination gamma ray/casing collar locator/temperature/radioactive slug ejector tool will be used to log in the hole, recording temperature, casing collar, and gamma ray from surface to total depth. As approved by the Engineer, if a combination tool is not available, the logged interval for background gamma ray and temperature shall be from surface to total depth.
 - b. The radioactive slug ejector tool should be equipped with one gamma ray detector above the ejector (GRT) and two gamma ray detectors below the ejector (GRM) and (GRB).
 - c. Dynamic RTS - Injection Occurring
 1. The tracer ejector should be positioned approximately 5 feet above the bottom of the casing, with one gamma ray detector above the ejector (GRT), and two gamma ray detectors below the ejector, one inside the casing above the casing seat (GRM) and one outside the casing below the casing seat (GRB).
 2. A low injection rate will be established and maintained during the dynamic RTS using clean water. The injection rate inside the FRP tubing shall be greater than 4 feet per minute (fpm) and less than 5 fpm.
 3. Time drive monitoring shall begin and a slug of tracer material shall be ejected. The tracer material slug will be a volume of iodine 131 equivalent to approximately 1.0 millicurie.

4. Gamma ray levels shall be monitored for 60 minutes during the first dynamic RTS and 30 minutes during the second dynamic RTS.
5. If tracer movement is detected in GRT, the following steps shall be followed:
 - a. Log upward from the depth in c.1. Note top of tracer migration. Log through tracer, as many times as needed to determine extent of possible channeling.
 - b. Make overlapping passes to follow the slug uphole. Each pass should extend from about 100 feet below the bottom of the previously recorded slug to about 100 feet above the top of the new slug location. The last pass should be run high enough to be sure the slug is no longer detectable.
6. If no tracer movement is noted after the 60 or 30 minute monitoring period, log up out of the position at least 200 feet above the bottom of the casing.
7. Flush well at maximum flow rate available (2 to 3 well volumes) with potable water to remove tracer. Only staining or plating of tracer at ejection depths should be detected within the casing. Following flushing return RTS tool to original position and log up 200 feet (Log after flush).
8. Repeat steps c1 to c.7
9. If no tracer movement is observed, lower tool to bottom of hole or high transmissivity zone, flush well with potable water, and eject remaining portion of tracer.
10. If tracer movement is observed, additional ejects while pumping may be requested by the Engineer and/or FDEP.
11. Conduct final gamma ray log (up) of the entire well for comparison to the background gamma ray log.
12. RTS Logging Requirements - All logging procedures shall be fully documented by the logging operator. Minimum requirements include the following:
 - a. Documentation of tracer release, including depth of ejection, volume and concentration of tracer used in each eject
 - b. Beginning and ending clock times on each log pass or each log file
 - c. Injection rates.
 - d. Logging speed, time constant used and logging scales

- e. Distances between detectors and ejector
- f. Calibration data.

3.07 INJECTION TEST

A. Injection Test

1. After the completion of the RTS procedure and mechanical integrity of the well has been verified, an injection test shall be conducted. Treated effluent will be injected at a rate of approximately 9,722 gpm (14.0 MGD) for a period of 12 hours followed by a 24-hour shut-in.
2. The Contractor shall provide all necessary pumps, motors, power, pipelines, meters and gauges necessary for the testing. Contractor shall note that electrical power may not be available from the Owner and he shall provide diesel or gas driven pumps as required. Prior to the running of the injection test, the Contractor shall perform a density test on the water source.
3. The Contractor shall furnish and install in the pipeline an in-line propeller type flow meter capable of recording instantaneous flow rates and of totalizing flow. The flow meter shall have an accuracy of the five percent at the tested rate. The flow meter shall be sufficiently removed from obstructions in the pipeline (valves, elbows, reduction) to allow the meter to perform within specifications. Manufacturer's specifications shall be submitted to the Engineer for review prior to installation.
4. To the extent possible, the speed of the pump and motor shall remain constant throughout the tests. The pumping rate shall be controlled and adjustable by means of a gate valve in the pipeline. The valve shall be installed between the injection pump and the flow meter.
4. During the injection test, bottom-hole pressure and temperature, annulus pressure, and wellhead pressure shall be monitored in the injection well and recorded at land surface. Pressures will also be monitored in both monitoring wells. The monitoring period shall extend a minimum of 24 hours before and after the 12 hour test period. The Contractor shall employ the services of a company specializing in furnishing and operating the equipment used in collecting this information. An acceptable pressure gauge and recording system will be used that is capable of accurately measuring and detecting pressure changes of as little as 0.01 psi such as Baker Tools RES-300 or Geophysical Research Corp. EPG-520 system. The data recording system shall record in real time and continuous delta time. No interruptions of data recording will be permitted. The Contractor shall provide the Engineer with technical data on the pressure measuring and recording system before the injection tests. The system will be installed in the injection well at the top of the injection zone at a depth determined by the Engineer. The separate dual-completion monitor well shall be completed before the injection test.

5. Available tidal records for the coastal are in the vicinity of the DIW shall be obtained and barometric pressure changes shall be measure and recorded for the monitoring period for correlation with wellhead, bottom-hole, and monitor well pressures.
6. The Contractor shall provide all equipment and labor for the injection test.

3.08 CLEANUP

- A. The Well - After the well has been completely constructed, it shall be thoroughly cleaned of all foreign substances, including tools, timbers, rope, debris of any kind, cement, oil, grease, joint dope and scum.
- B. The Site - The Contractor shall at all times keep the premises free from accumulations of waste materials caused by his employees or work and shall clean up as often as necessary and as directed by the Engineer. After the well has been completed and the pumping test conducted, the site shall be cleaned up, any ditches dug should be filled in, any ditches filled shall be returned to normal, all mud, drilling materials, and any other imported substances shall be removed, and the site returned to its original condition.

3.09 PROTECTION OF QUALITY OF WATER

- A. Precautions to be Taken - The Contractor shall take precautions as necessary, or as required, to permanently prevent contaminated water or water having undesirable physical, bacteriological, or chemical characteristics from entering through the opening made by the Contractor in the stratum where a drinking water source exists. He shall take all necessary precautions during the construction period to prevent contaminated water, gasoline, etc. from entering through the well opening.
- B. Corrective Work - In the event that the well becomes contaminated or water having undesirable physical or chemical characteristics does enter the well due to the neglect of the Contractor, he shall at his own expense perform such work or supply such casings, seals, sterilizing agents or other material as may be necessary to eliminate or shut off the undesirable water.
- C. Freedom from Sand and Turbidity - The Contractor shall exercise extreme care in the performance of his work to prevent the breakdown or caving in of strata overlying that into which the water is to be injected. He shall develop, pump, or bail the well by methods approved by the Engineer until the water pumped from the well shall be substantially free from sand and turbidity.

3.10 CAPPING

- A. Temporary Capping - At all times during the progress of the work, the Contractor shall protect the well to effectively prevent either accidental or willful tampering with the well or

the entrance of foreign matter into and upon completion of the test/injection well, he shall provide and set substantial caps satisfactory to the Engineer.

- B. Final Capping - After the test well has been tested, the Contractor shall furnish and install necessary materials for capping the well in the following manner: Contractor shall furnish PVC Flanges meeting all the requirements of ANSI/AWWA-C115/A21.15 for attachment to the top of the final well casing. The Contractor shall furnish a minimum ¾-inch thick PVC capping plate for each flange, and stainless steel nuts and bolts for attaching the plate to the flange. A 3-inch diameter valve will be installed on the flange for pumping in salt kill solution. Top of casings shall be not less than 12-inches aboveground level. The Contractor is responsible for any objectionable material that may fall into test/injection well and its consequences until the completion and acceptance by the Engineer of all the work. The lump sum price set in the Contract shall cover all the necessary work and material to cap the well, including any additional temporary casing required.

C. Final Capping Materials:

- 1. Flanges for steel pipe shall conform to the requirements of ANSI Standard B16.5, 150 pound.

3.11 ABANDONMENT OF WELL

- A. In the event the Contractor is directed to abandon the well for failure to sink it to the depth specified or for failure to meet other requirements of the specifications or should the well be abandoned because of loss of tools or for any other cause, he shall remove salvageable casing and equipment and fill the abandoned hole with concrete or other materials approved by the Engineer and by the State of Florida regulatory agencies. The Contractor should then move over to a new site as selected by the Engineer and shall drill a new well to the same specifications. No additional compensation in time or monies will be allowed. Salvaged material cannot be used again in this project but shall remain the Contractor's property.

3.12 NOISE

- A. The Contractor is responsible for insuring that the City of Sarasota Regulations on Noise are adhered to. Work will only be permitted during daylight hours Monday through Saturday. If the Contractor cannot meet the County's noise regulations, the Contractor shall be prepared to install at this expense any muffler, hay barrier, sound curtains or whatever other remedy is necessary to complete the work without violating the county regulations. The Contractor shall submit as a shop drawing a noise control plan for approval detailing noise control measures.

END OF SECTION

SECTION 15070

WELL CASING

PART 1 - GENERAL

1.01 SCOPE

- A. Work Included - This section covers the work, materials, and equipment necessary for furnishing and installing the well casings complete for the injection well (IW), lower zone monitor well (LZMW) and upper zone monitor well (UZMW).

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. General - Provide all materials and equipment necessary for joining and installing the casing as specified.

2.02 PIT CASING

- A. Use pipe of sufficient strength to hold the drilled hole open until grouting is completed.
- B. The nominal diameter of the pit casings shall be a minimum of 54 inches for IW and 24 inches for LZMW and UZMW. Pit casings shall be carbon steel, a minimum of 0.375-inch wall thickness and shall be installed by driving, vibrating, or drilled and cemented. Installation of pit casing is at the Contractors option. Payment for the pit casing will be included in the mobilization cost for the individual wells.

2.03 SURFACE CASING

- A. Provide all casing, new and unused, of the types, thickness, diameters, and weights as specified in the following table. All casing shall be of new first quality material and free of defects in materials, workmanship, and handling. Mill certificates for all casing material used shall be provided by the Contractor and approved by the Engineer prior to installation.
- B. All surface well casings for IW, LZMW and UZMW shall be of new and unused carbon steel pipe, shall be seamless, electric resistance welded, or double submerged arc welded with one longitudinal seam and shall conform with the latest revision of API 5L Grade B, ASTM A53, Grade B, or Spiral Weld A139 Grade B standards. Ends of plain end pipe shall be perfectly square and shall be furnished beveled for field V-notch butt welding. The Contractor will provide the Engineer with welder's certificates before any welding operations are initiated. Casings shall be as follows:

Surface Casing

Diameter (Inches) (ID/OD)	Wall Thickness (Inches)	Weight (Pounds/Ft)	Maximum Approximate Total Length (Feet)
IW 47.25/48.00	0.375	190.74	300
LZMW 15.25/16.00	0.375	62.58	300
UZMW 15.25/16.00	0.375	62.58	300

- C. Steel casings shall be equal to those manufactured by Bethlehem Steel Company, National Tube Division of the U.S. Steel Company, or equivalent. The Contractor shall furnish three copies of the mill certificate to the Engineer for approval before delivering casing to the job site. Casings shall be furnished uncoated, except that ends may be coated for protection.

2.04 INTERMEDIATE CASING

- A. Provide all casing, new and unused, of the types, thickness, diameters, and weights as specified. All casing shall be of new first quality material and free of defects in materials, workmanship, and handling. Mill certificates for all casing material used shall be provided by the CONTRACTOR and approved by the Engineer prior to installation.

All intermediate well casing shall be of new and unused carbon steel pipe, shall be seamless, electric resistance welded, or double submerged arc welded with one longitudinal seam, or spiral weld and shall conform with the latest revision of API 5L Grade B, ASTM A53, Grade B. Ends of plain end pipe shall be perfectly square and shall be furnished beveled for field V-notch butt welding. The CONTRACTOR will provide the Engineer with welder's certificates before any welding operations are initiated. Casings shall be as follows:

Intermediate Casing

Diameter (Inches) (ID/OD)	Wall Thickness (Inches)	Weight (Pounds/Ft.)	Maximum Approximate Total Length (Feet)
IW 39.25/40.00	0.375	158.7	1000

2.05 FINAL CASING

- A. Provide all casing, new and unused, of the types, thickness, diameters, and weights as specified. All casing shall be of new first quality material and free of defects in materials, workmanship, and handling. Manufacturer certificates for all casing material used shall be provided by the CONTRACTOR and approved by the Engineer prior to installation.

Final well casing for the IW shall be of new and unused carbon steel pipe, shall be seamless and conform with the latest revision of API 5L Grade B or ASTM A53, Grade B Standards. Ends of plain end pipe shall be perfectly square and shall be furnished beveled for V-notch butt welding. The CONTRACTOR will provide the Engineer with welder's certificates before any welding operations are initiated.

Final well casing for the LZMW and the UZMW shall be of new and unused fiberglass reinforced pipe (FRP). Manufacturer certificates or equivalent for all casing material used shall be provided by the CONTRACTOR and approved by the ENGINEER prior to installation. Casing shall be fiberglass and manufactured by Future Pipe Industries Red Box 1250 5.97-inch OD, 5.43-inch ID or equivalent. Casing must conform to ASTM specification D2996 and ASTM Classification D2310. Casings shall be as follows:

Final Casing				
	Diameter (Inches) (ID/OD)	Wall Thickness (Inches)	Weight (Pounds/Ft.)	Maximum Approximate Total Length (Feet)
IW	27.00/28.00	0.50	146.85	1100
LZMW	5.43/5.97	0.27	4.8	900
UZMW	5.43/5.97	0.27	4.8	800

2.06 INJECTION TUBING

- A. Provide all casing, new and unused, of the types, thickness, diameters, and weights as specified. All tubing shall be of new first quality material and free of defects in materials, workmanship, and handling. Mill certificates for all casing material used shall be provided by the CONTRACTOR and approved by the Engineer prior to installation.

All injection well tubing shall be of new and unused 18-inch, 0.76-inch wall, fiberglass reinforced pipe (FRP), manufactured by Future Pipe Industries, Inc. Red Box 1250, or equivalent. The CONTRACTOR will be responsible for installing the tubing and packer assembly leak free without the use of bentonite or other materials used to seal off annular fluid loss.

Injection Tubing

	Diameter (Inches) (ID/OD)	Wall Thickness (Inches)	Weight (Pounds/Ft.)	Maximum Approximate Total Length (Feet)
IW	16.60/18.11	0.76	40.8	1080

2.07 FITTINGS

- A. Provide all fittings, drive shoes, and centralizers as shown on the attached well construction drawing or as necessary to complete the well.
- B. Casings to be cemented shall be provided with the following accessories:
 1. A full opening guide shoe fabricated from steel casing.
- C. Casing centralizers spaced 90° around the casing as follows:
 1. One at 5 feet above the bottom end.
 2. One at 20 feet above the bottom end.
 3. One at 40 feet above the bottom end.
 4. One at 100 feet above the bottom end.
 5. One at every 100 feet thereafter to nearest 100 feet from ground surface.
- D. All accessories shall be manufactured by the Haliburton Company, Duncan, Oklahoma; Dowell of Tulsa, Oklahoma; or equal.
- E. Centralizers shall be manufactured by Pathfinder Oil Tool, Lawton, Oklahoma; Haliburton Company, Duncan, Oklahoma; Dowell of Tulsa, Oklahoma, or equal, or may be fabricated in the field from steel casing as approved by the Engineer.

- F. Fabricated centralizers shall be constructed of the same material as the casing attached. They shall be welded to the steel casing and must provide at least 2 inches of clearance all around the casing. They shall be arranged in four vertical and straight lines, located 90 degrees apart allowing maximum clearance for tremie pipes. Centralizers shall be curved steel bands a minimum of 12-inches long, 2-inches wide, a minimum of 0.375-inch thick with a radius of a minimum of 12 inches and welded vertically to the side of the casing at 90 degree angles. Their concave surface shall be against the casing.

PART 3 - EXECUTION

3.01 GENERAL

- A. All casing shall be installed by a method appropriate to the attached well construction drawings, subject to review by the Engineer.
- B. Casing lengths shall be joined watertight by a method appropriate to the material used, as selected by the Contractor, so that the resulting joint shall have the same structural integrity as the casing itself. All steel well casings shall be welded by certified welders.
- C. The standards of the American Welding Society shall apply for all welded joint casing and accessories.
- D. Threaded and coupled joints shall be API or equivalent, made up so that when tight, all threads will be buried in the lip of the coupling.
- E. All FRP casing shall be installed as near to plumb and straight as possible. Following installation of the final FRP casing and prior to cementing, the entire FRP string will be rotated by hand to demonstrate the casing is aligned plumb within the borehole.
- F. Casing which fails, collapses, or separates during construction shall be removed from the hole and repaired or replaced at the Contractor sole expense.
- G. Surface and intermediate casings shall be installed and cemented in a hole with a diameter not less than 5 inches greater than the nominal diameter of the casing. Final casing strings shall be installed and cemented in a hole with a nominal diameter 10 inches greater than the nominal diameter of the casing.
- H. Upon completion of cementing of the final casings on the injection and monitoring wells and prior to drilling out the cement plug, a casing pressure test shall be performed.

PART 4 - PAYMENT

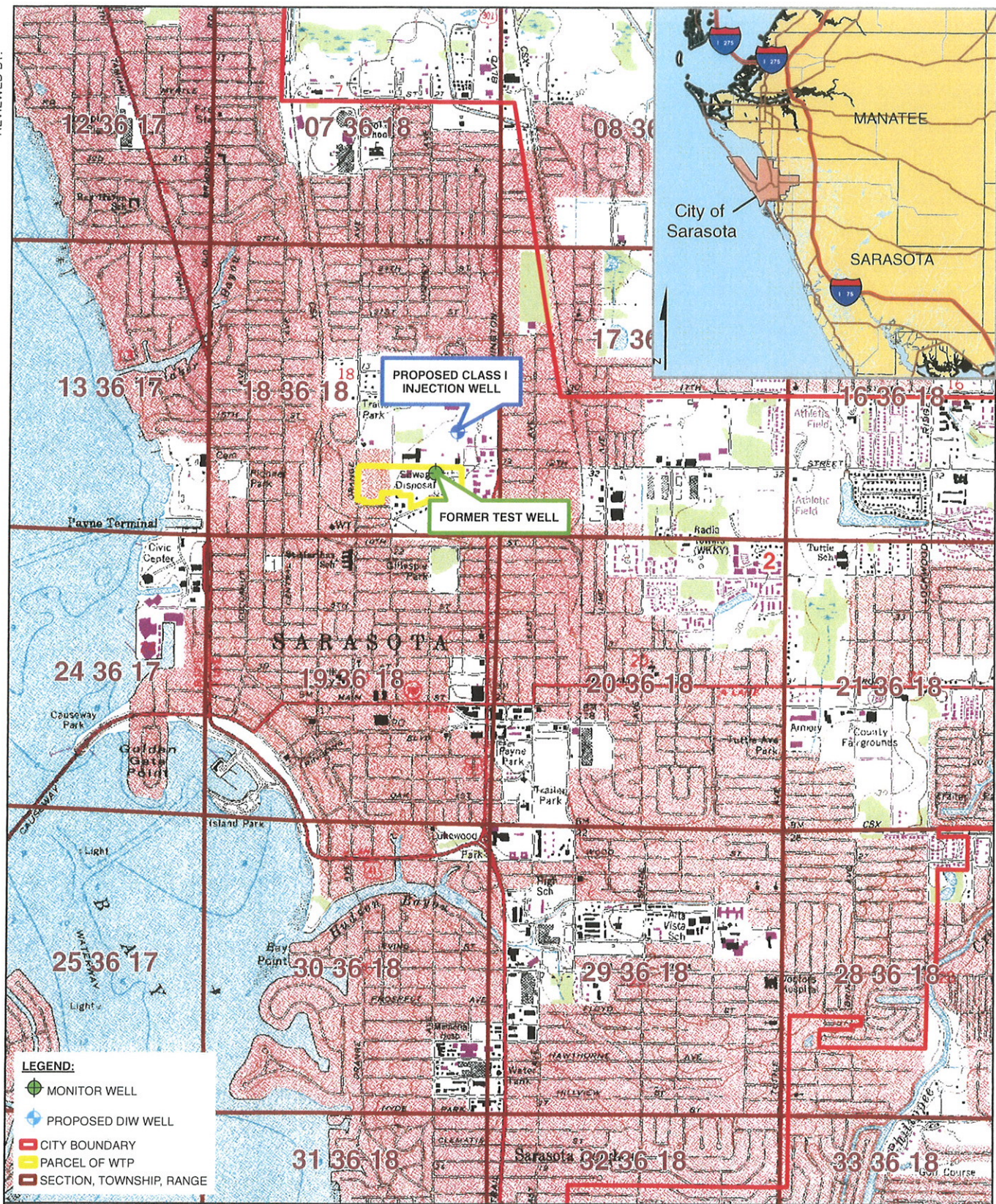
4.01 GENERAL

- A. Installed casing will be measured in linear feet to the nearest foot below land surface.
- B. Payment for providing and installing well casing will be made at the unit prices per foot installed, as stated in the Contractor Proposal.
- C. Providing and installing all fittings specified in this section shall be included in the unit prices as stated in the Contractor Proposal.

END OF SECTION

DRAWINGS

Site Location Map	Drawing No. 1
Deep Injection Well Construction Diagram	Drawing No. 2
Upper Zone Monitor Well Construction Diagram	Drawing No. 3
Lower Zone Monitor Well Construction Diagram	Drawing No. 4
Pad Monitor Well Diagram	Drawing No. 5
Final Capping Detail	Drawing No. 6
Concrete Pad Details	Drawing No. 7
Concrete Pad Electrical Conduits	Drawing No. 8



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SCALE IN FEET



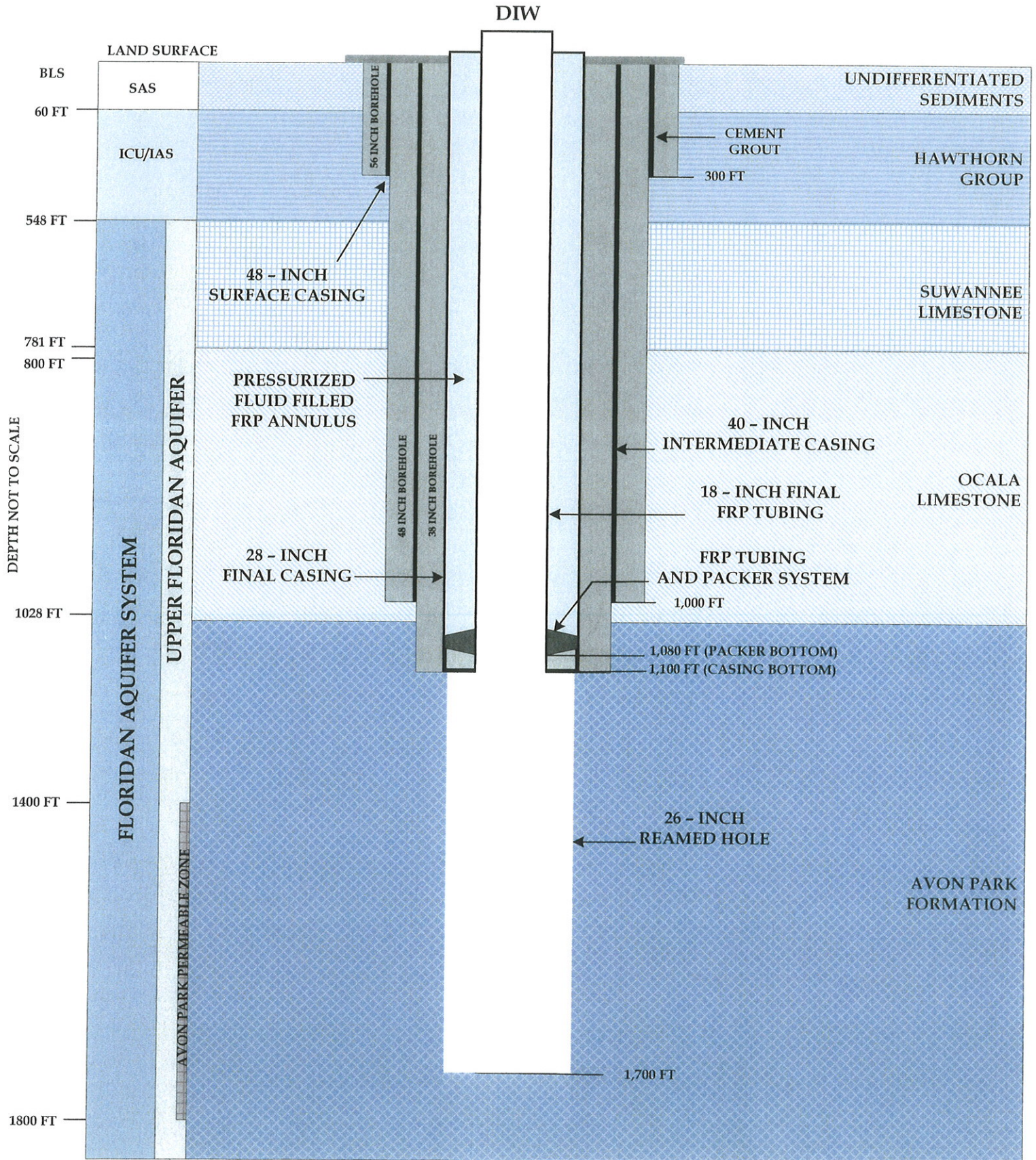
CITY OF SARASOTA
1565 1ST STREET
SARASOTA, FLORIDA 34236

SITE LOCATION MAP

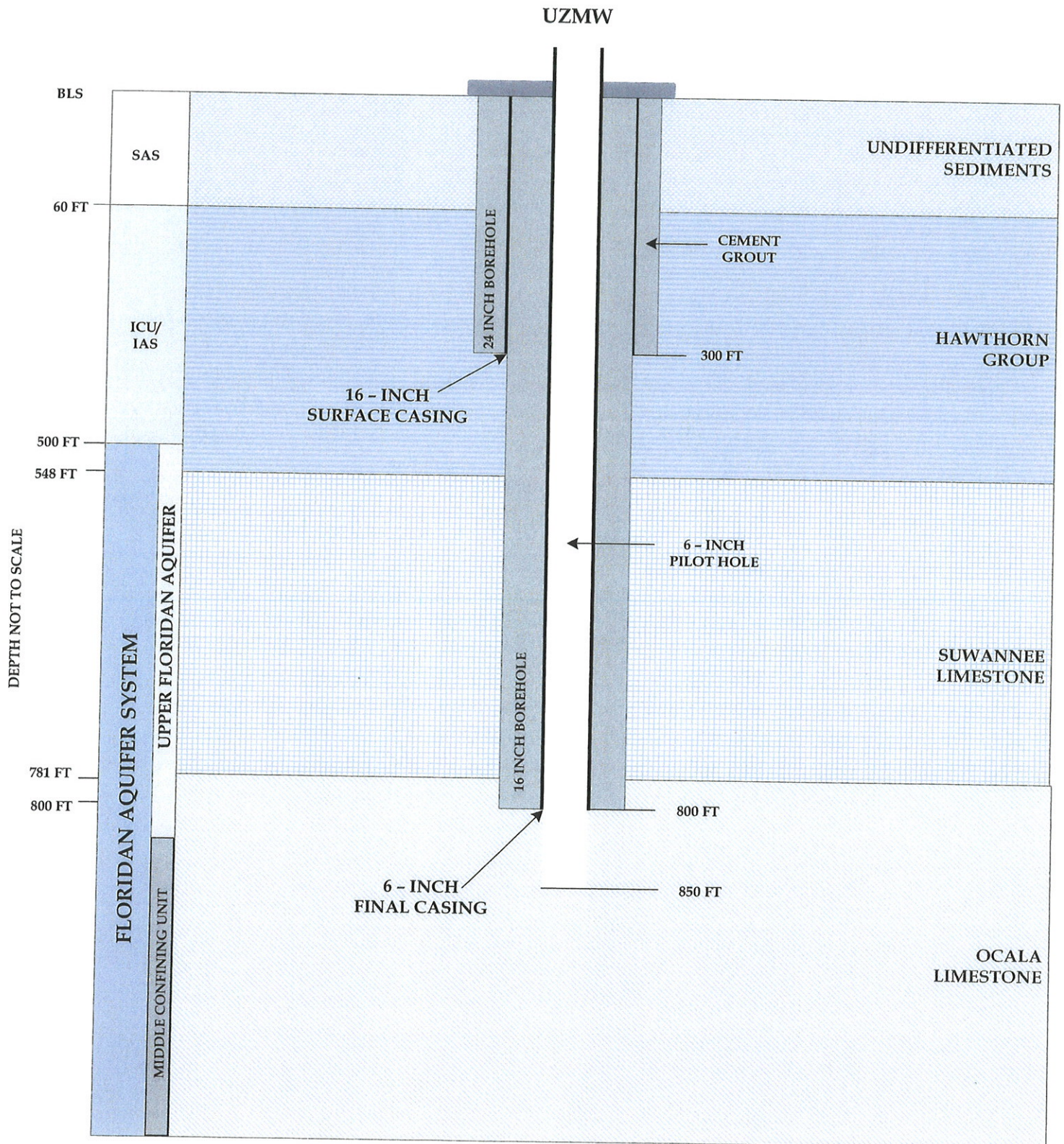
SCALE: AS SHOWN
DECEMBER 2010

PBS&J DRAWING 1

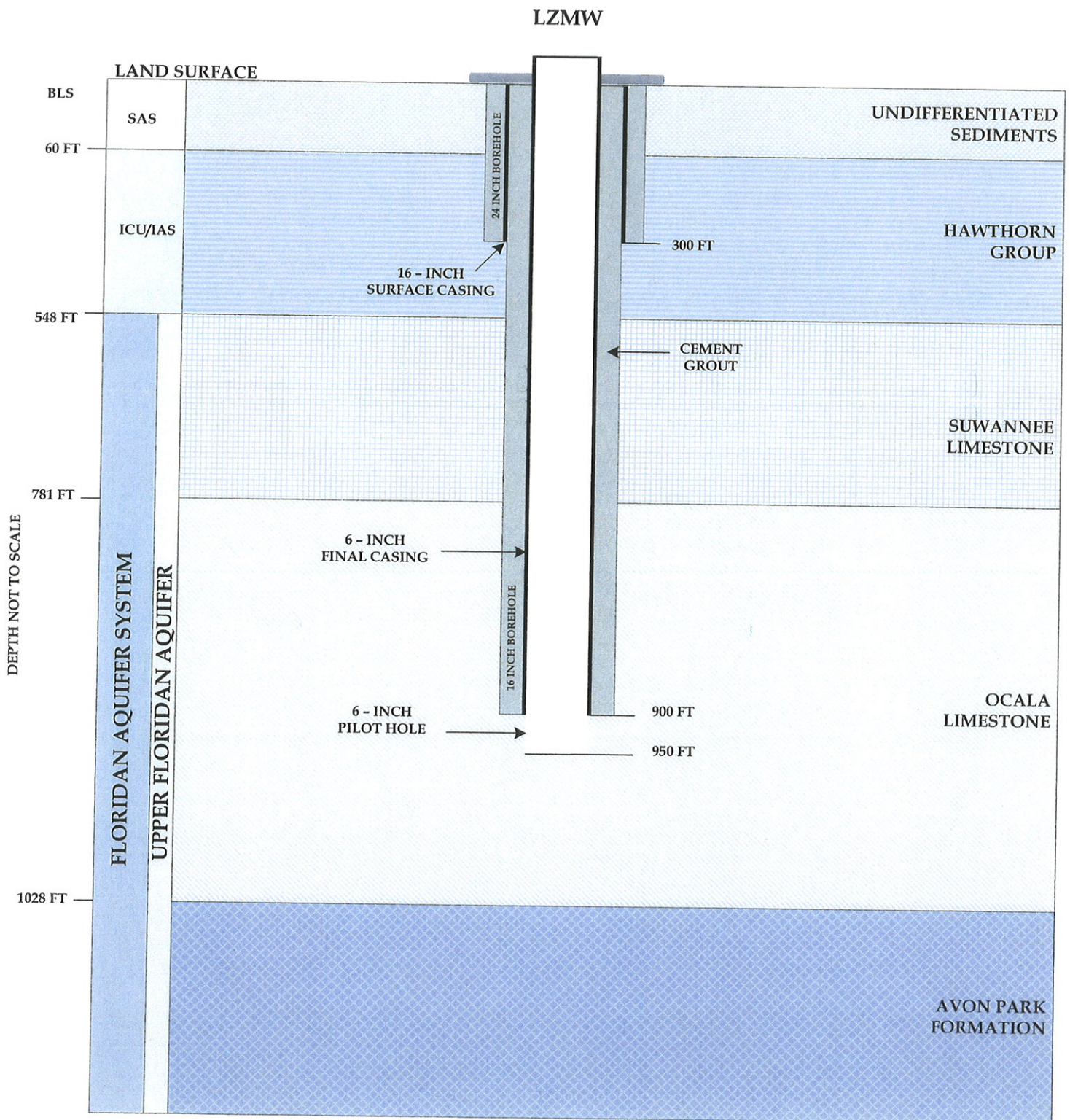
DRAWING 2
CITY OF SARASOTA DEEP INJECTION WELL PROJECT
PRE-CONSTRUCTION DRAWING OF DEEP INJECTION WELL
INCLUDING PRELIMINARY ESTIMATES OF GEOLOGIC AND HYDROGEOLOGIC UNITS



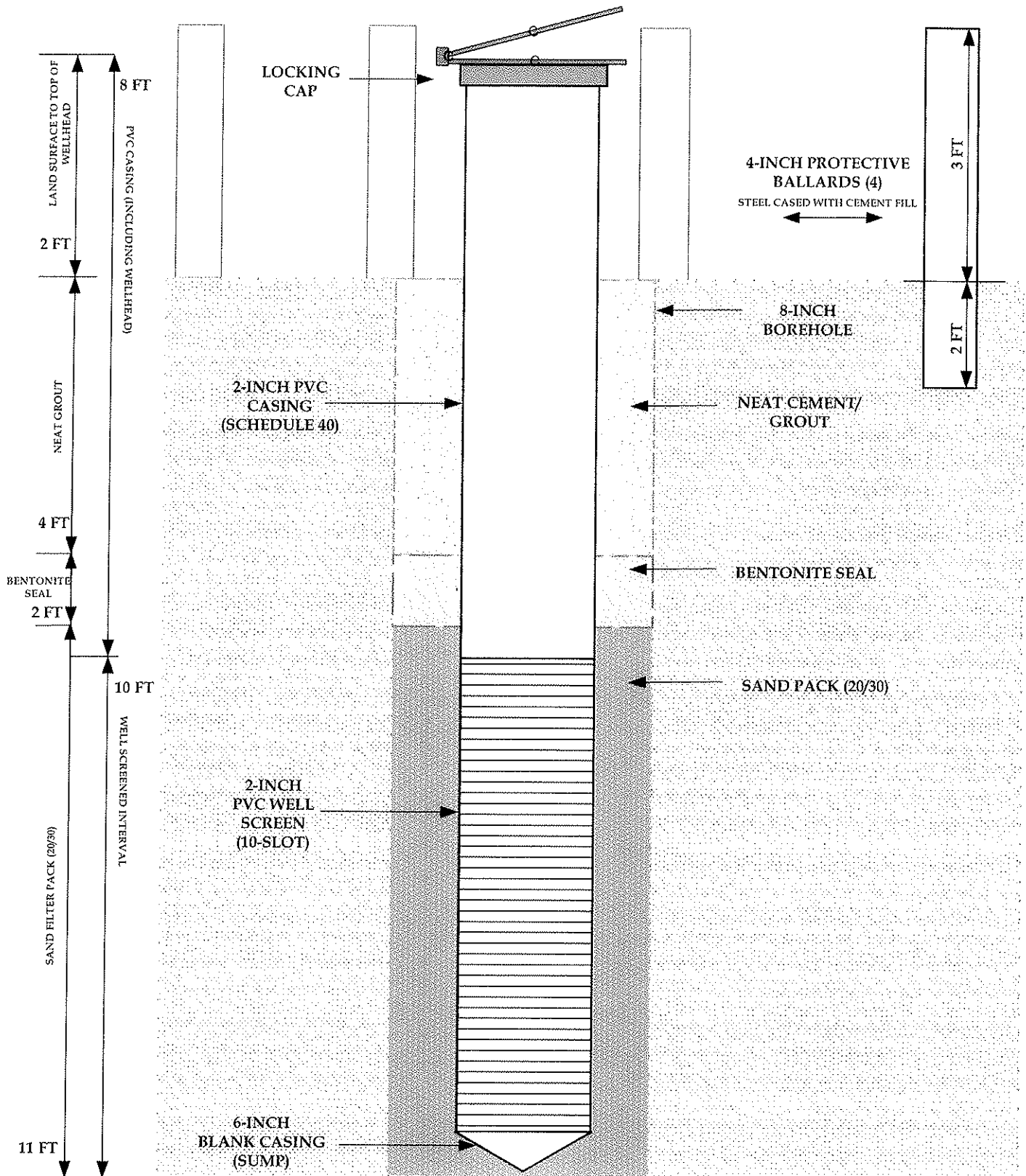
DRAWING 3
CITY OF SARASOTA DIW PROJECT
PRE-CONSTRUCTION DRAWING OF UZMW
INCLUDING PRELIMINARY ESTIMATES OF GEOLOGIC AND HYDROGEOLOGIC UNITS



DRAWING 4
CITY OF SARASOTA DEEP INJECTION WELL PROJECT
PRE-CONSTRUCTION DRAWING OF LOWER ZONE MONITOR WELL
INCLUDING PRELIMINARY ESTIMATES OF GEOLOGIC AND HYDROGEOLOGIC UNITS



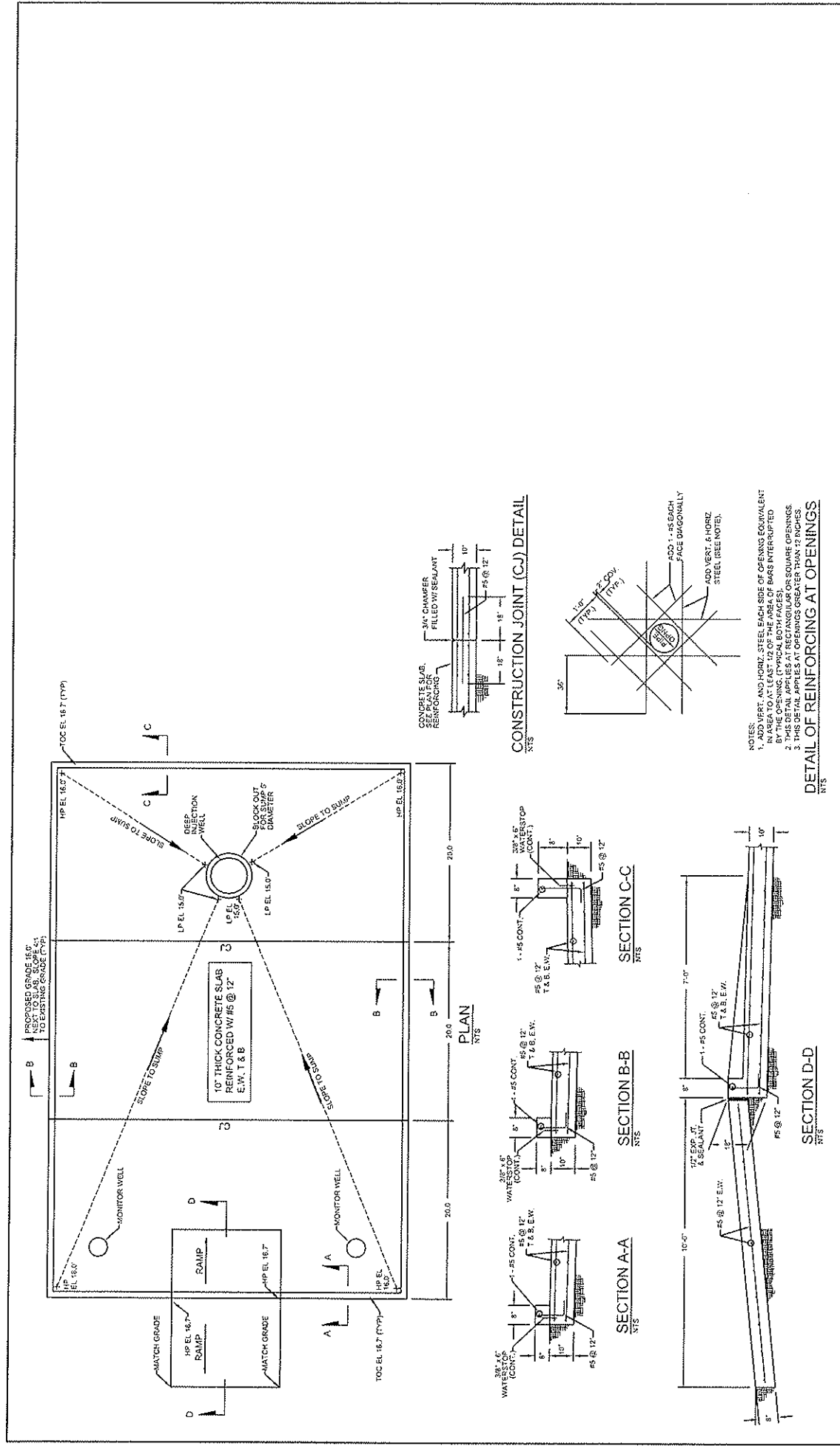
DRAWING No. 5
SURFICIAL AQUIFER MONITOR WELL
COMPLETION DIAGRAM





DRAWING NO. 6

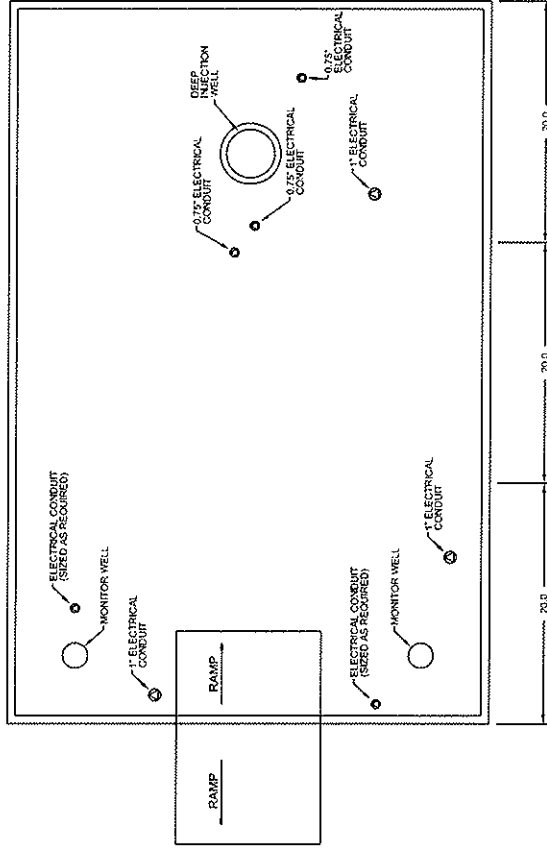
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CLIENT: CITY OF SARASOTA PUBLIC WORKS UTILITIES DIVISION 1750 TWELFTH STREET SARASOTA, FLORIDA 34236	PROJECT: CITY OF SARASOTA RO WTP DEEP INJECTION WELL	TASK: STRUCTURAL WELL PAD PLAN, SECTIONS, AND DETAILS	ORIGINAL: NOV. 2018 REVISIONS: 1 2 3 4 5	6 7 8 9 10 11 12	13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28	29 30 31 32 33 34 35 36	DRAWING 7
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PBSJ
an Atkins company

PROFESSIONAL ADDRESS:
 REG. NO. 10000000000000000000
 TAMPA, FLORIDA 33609
 FOR CERT. OF AUTH. # 24
 PROFESSIONAL ADDRESS:
 PARKWAY, SUITE 200
 PARKWAY, SUITE 200
 PHOENIX, ARIZONA 85007
 PHONE: (602) 944-2427



PLAN
NTS

DRAWING NO. 8

PBSJ an Atkins company	PROJECT ADDRESS: 4003 W. BOY SCOUT BLVD TAMPA, FL 33607 PROJECT NO. 17-0001 PROJECT NAME: SARASOTA RO WTP PROJECT ADDRESS: 1750 TWELFTH STREET SARASOTA, FL 34236	CITY OF SARASOTA PUBLIC WORKS UTILITIES DIVISION 1750 TWELFTH STREET SARASOTA, FL 34236	PROJECT: CITY OF SARASOTA RO WTP DEEP INJECTION WELL NO. 1	TASK: STRUCTURAL WELL PAD PLAN, SECTIONS, AND DETAILS	ORIGINAL: FEBRUARY 2011 REVISIONS: 1 2 3 4 5	NO. 14-0001-001-001 UNLESS OTHERWISE NOTED PROFESSIONAL ENGINEER E. L. JONES P.E.	JOB NO. 17-0001 DRAWN BY: E.L. DESIGNED BY: E.L. CHECKED BY: E.L. DATE: 02/01/11 SHEET 8
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ATTACHMENT A.

FDEP Well Construction Permit



Florida Department of
Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Mimi A. Drew
Secretary

**STATE OF FLORIDA
UNDERGROUND INJECTION CONTROL
CLASS I, TEST INJECTION WELL
CONSTRUCTION PERMIT**

PERMITTEE

William G. Hallisey, Director
Public Works Utilities
City of Sarasota
1750 - 12th Street
Sarasota, Florida 34236
William.Hallisey@sarasotagov.com

PROJECT:

Test Injection Well IW-1

FACILITIES

City of Sarasota, RO Water Treatment
Plant
City of Sarasota Waste Water Treatment
Plant

PERMIT/CERTIFICATION

Permit File No.: 0298881-001-UC/1X
Facility ID Nos.: PWS 658-0326, FL0040771
WACS ID No.: 51729
Date of Issue:
Expiration Date:
County: Sarasota

Permit Processor: Bill Kelsey, P.G.

PROJECT LOCATION

Section/Township/Range: Sec. 18 / T36S / R18E
Latitude: 27° 21' 1.00" North
Longitude: 82° 39' 2.95" West

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-520, 62-528, 62-550, 62-600, 62-601 and 62-660 Florida Administrative Code (F.A.C.). The above-named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part of hereof and specifically described as follows:

TO CONSTRUCT: One Class I, Test Deep Injection Well (IW-1), and two ground water monitor wells, Upper Zone Monitor Well (UZMW-1) and Lower Zone Monitor Well (LZMW-1), in order to obtain hydrologic and geologic information to determine the feasibility of the disposal of reverse osmosis brine reject water and wet weather disposal of treated municipal effluent into the Avon Park Formation of the Upper Floridan aquifer. Injection Well IW-1 will be constructed to a total depth of approximately 1,700 feet below land surface (bls) with a 54-inch steel pit casing to approximately 60 feet bls, 48-inch steel casing to approximately 300 feet bls, 40-inch steel casing to approximately 1000 feet bls, 28-inch seamless steel casing to approximately 1,100 feet bls. The well will be finished with 18-inch fiber glass reinforced pipe injection tubing set to 1,080 feet bls. The construction of two monitor wells, Upper Zone Monitor Well-1 (UZMW-1) and Lower Zone Monitor Well-1 (LZMW-1) is also allowed under this permit. The specifications for monitor wells UZMW and LZMW are tabulated below in Specific Condition 7.

Permittee: City of Sarasota, RO Water Treatment Plant
Class I, Test Injection Well

Permit No.: 0298881-001-UC/1X
Facility ID: FL0040771

IN ACCORDANCE WITH: The Application to Construct DEP Form No. 62-528.900(1) submitted by The City of Sarasota Public Works Department on December 18, 2009, with accompanying supporting documentation and additional information submitted through May 6, 2010.

LOCATION: City of Sarasota Water Treatment Plant, 1750 - 12th Street, Sarasota Florida.

TO SERVE: City of Sarasota Reverse Osmosis Water Treatment Plant [WTP].

SUBJECT TO: Specific Conditions 1 through 11.

SPECIFIC CONDITIONS:

1. General Requirements

- a. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action.
- b. This permit does not relieve the permittee from liability for harm to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties there from; nor does it allow the permittee to cause pollution in contravention of State of F.S. and Department rules, unless specifically authorized by an order from the Department.
- c. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - 1) A description of and cause of noncompliance; and
 - 2) The period of noncompliance, including dates and times; or, if not corrected the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent the recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- d. All reports and other submittals required to comply with this permit shall be signed by a person authorized under Rules 62-528.340(1) or (2), F.A.C. All reports shall contain the certification required in Rule 62-528.340(4), F.A.C.
- e. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

- f. No underground injection is allowed that causes or allows movement of fluid into an underground source of drinking water.
- g. If historical or archaeological artifacts, such as Indian canoes, are discovered at any time within the project site, the permittee shall notify the Department's Southwest District Office and the Bureau of Historic Preservation, Division of Archives, History and Records Management, R.A. Gray Building, Tallahassee, Florida 32301, telephone (850) 487-2073.
- h. The permittee is reminded of the necessity to comply with the pertinent regulations of any other regulatory agency, as well as any county, municipal, and federal regulations applicable to the project. This permit should not be construed to imply compliance with the rules and regulations of other regulatory agencies.

2. Site Requirements

- a. A drilling pad shall be provided to collect spillage of contaminants and to support the heaviest load that will be encountered during drilling.
- b. The disposal of drilling fluids, cuttings, formation water or waste shall be in a sound environmental manner that avoids violation of surface and ground water quality standards. The disposal method shall be approved by the Department prior to start of construction.
- c. Provide specific drilling pad dimensions and design drawings for Department record prior to commencing construction and shortly after selection of the drilling contractor.
- d. Hurricane Preparedness - Upon the issuance of a "Hurricane Watch" by the National Weather Service, the preparations to be made include, but are not necessarily limited to, the following:
 - 1) Secure all on-site salt and other stockpiled additive materials to prevent surface and/or ground water contamination.
 - 2) Properly secure drilling equipment and rig(s) to prevent damage to well(s) and on-site treatment process equipment.
- e. The water table monitoring wells surrounding the well pads shall be sampled and analyzed prior to drilling the test injection or monitor wells and then weekly thereafter. Sampling shall include specific conductance, pH, chloride, temperature, and water level.

3. Quality Assurance/Quality Control Requirements

- a. This permit approval is based upon evaluation of the data contained in the permit application and the plans and/or specifications submitted in support of the application. Any changes in the plans and/or technical specifications, except as provided elsewhere in

this permit, must be approved by the Department before being implemented. Changes of negligible impact to the environment and staff time will be reviewed by the program manager, cleared when appropriate and incorporated into this permit. Changes or modifications other than those described above will require submission of a completed application and appropriate fee per Rule 62-4.050, F.A.C.

- b. A professional engineer registered pursuant to Chapter 471, F.S., shall be retained throughout the construction period to be responsible for the construction operation and to certify the application, specifications, completion report and other related documents. The Department shall be notified immediately of any change of engineer.
- c. Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.), F.S., applicable portions of permit applications and supporting documents that are submitted to the Department for public record shall be signed and sealed by the professional(s) who approved or prepared them.
- d. All water quality samples required in this permit shall be collected and analyzed in accordance with Department Standard Operating Procedures (SOP), pursuant to the FDEP Quality Assurance Rule, Chapter 62-160, F.A.C. The various components of the collection of the FDEP SOPs are found in DEP-SOP-001/01 (Field Procedures) and DEP-SOP-002/-1 (Laboratory Procedures).
- e. The Department shall be notified immediately of any problems that may seriously hinder compliance with this permit, construction progress, or good construction practice. The Department may require a detailed written report describing the problem, remedial measures taken to assure compliance and measures taken to prevent recurrence of the problem.
- f. Continuous on-site supervision by qualified personnel (engineer and/or geologist, as applicable) is required during all testing and geophysical logging operations.
- g. The issuance of this Class I Test Injection Well permit does not obligate the Department to authorize operation of the injection well, unless the well qualifies for an operation permit applied for by the permittee and issued by the Department.

4. Construction and Testing Requirements

- a. Prior to the commencement of any work, the name of the Florida-licensed driller(s) supervising the drilling operations and the driller's registration number shall be submitted to the Department. The permittee or the engineer of record shall provide the Department with copies of all required federal, state or local permits prior to spudding the well.
- b. If any problem develops that may seriously hinder compliance with this permit, construction progress or good construction practice, the Department shall be notified immediately. The Department may require a detailed written report describing what

problems have occurred, the remedial measures applied to assure compliance and the measures taken to prevent recurrence of the problem.

c. Department review and approval is required for the following stages of well construction:

- 1) Intermediate casing seat selection for injection well.
- 2) Final casing seat selection for injection well and monitor wells.
- 3) Prior to conducting the short-term injection test.
- 4) Prior to operational (long-term) testing with effluent.
- 5) The permittee shall submit all necessary supporting documentation/data with interpretation, to the TAC for review.

Annotated copies of geophysical logs, lithologic descriptions and logs and water quality data (from drilling and packer tests) must be submitted to the Department in support of the proposed casing seat selections.

- d. The cementing program, as required in Rule 62-528.410(5), F.A.C., shall be submitted to the Department for review. Cementing operations shall not commence prior to approval being granted.
- e. A natural background ground-water quality sample shall be obtained from the completed injection well and monitor wells for primary and secondary standards (Rules 62-550.310 and 62-550.320, F.A.C.), excluding asbestos, dioxin, acrylamide and epichlorohydrin. The sample shall also be tested for minimum criteria for municipal effluent (see condition 6.g. of this permit). "Natural background" means the condition of waters in the absence of man-induced alterations based on the best scientific information available to the Department (Rule 62-520.200(12), F.A.C.). The samples shall be taken after final completion and clearance of drilling fluids from the well.
- f. All dual induction, sonic, and caliper geophysical logs run on the pilot holes of the injection and monitor wells shall be submitted with scales of one inch equals one hundred feet (1"=100'), two inches equals hundred feet (2"=100'), and five inches equals one hundred feet (5"=100').
- g. Reverse air water quality samples of the pilot holes for IW-1A, UZMW, and LZMW shall be taken every 30 feet and analyzed for chloride and specific conductance. Every other sample below the bottom of the 40-inch intermediate injection well casing shall also be analyzed for ammonia and total kjeldahl nitrogen.
- h. Mechanical Integrity Testing.
 - 1) Mechanical integrity of the injection well will be determined pursuant to F.A.C. Rule 62-528.300(6) and Rule 62-528.425(1)(d). The pressure test for the final casing and casing/tubing annulus will be accepted if tested with a liquid-filled casing at 1.5 times the expected operating pressure with no more than a 5% change in pressure. Verification of pressure gauge calibration must be provided at the scheduled test and

with the test report. Test pressure gauges shall be calibrated within 6 months prior to testing.

- 2) The Department shall be notified 72 hours prior to all testing for mechanical integrity of the injection well.
- 3) All testing for mechanical integrity shall be initiated during daylight hours, Monday through Friday.
- 4) Within 48 hours after receiving written notice from the Department that a well lacks mechanical integrity, the permittee shall cease injection into the well unless the Department allows continued injection pursuant to (5) below. Injection may not resume without written authorization from the Department.
- 5) The Department may allow the permittee to continue operation of a well that lacks mechanical integrity if the permittee satisfactorily demonstrates that fluid movement into or between underground sources of drinking water is not occurring.

5. Reporting Requirements

- a. This project shall be monitored by the Department with the assistance of the Technical Advisory Committee (TAC). All reports and surveys required by this permit must be submitted concurrently to all the members of the TAC. The TAC consists of representatives from these agencies:

Florida Department of Environmental Protection
Southwest District - UIC Program
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Florida Department of Environmental Protection
Underground Injection Control Program
2600 Blair Stone Road, MS 3530
Tallahassee, Florida 32399-2400

Southwest Florida Water Management District
Well Construction Permitting
2379 Broad Street
Brooksville, Florida 34604-6899

- b. During the construction period allowed by this permit, daily progress reports shall be submitted to the Department and the Technical Advisory Committee each week. The reporting period shall run for seven (7) days and reports shall be mailed or emailed within 48 hours of the last day of the reporting period. The report shall include, but is not limited to, the following:
 - 1) A cover letter summarizing each week's activities and a projection of activities for the next reporting period;

- 2) Description of daily footage drilled by diameter of bit or size of hole opener or reamer being used;
 - 3) Description of work during installation and cementing of casing, including amounts of casing and cement used, amount of salt and depth used;
 - 4) Lithologic log with cuttings description, formation and depth encountered;
 - 5) Collection of drilling cuttings every 10 feet and at every formation change;
 - 6) Water quality analyses;
 - 7) Description of work and type of testing accomplished including geophysical logging and pumping tests;
 - 8) Description of any construction problems that developed during the reporting period and current status;
 - 9) Copies of the driller's log are to be submitted with the weekly summary;
 - 10) Description of any deviation survey conducted; and
 - 11) Details of any packer tests, pump tests and core analyses.
- c. The Department must be notified seventy-two (72) hours prior to all testing for mechanical integrity on the test injection well. Testing should begin during daylight hours Monday through Friday.
- d. Upon completion of construction of the wells detailed in this permit, a complete set of as-built engineering drawings (Florida-licensed Professional Engineer, signed and sealed) shall be submitted to the Department.
- e. Within 30 days of well completion the permittee or the authorized representative shall submit to the Department the following information:
- 1) Certification of Class I Well Construction Completion, DEP Form 62-528.900(4);
 - 2) A copy of the Southwest Florida Water Management District (SWFWMD) Application to Construct, Repair, Modify or Abandon a Well (Form 41.10-410(1) Rev. 4/95); and
 - 3) A copy of the SWFWMD Well Completion Report (Form 41.10-410(2) Rev. 6/95).
- f. The permittee shall provide copies of all correspondence relative to this permit to each member of the TAC. Such correspondence includes but is not limited to reports, schedules, analyses and geophysical logs required by the Department under the terms of this permit. The permittee is not required to provide specific correspondence to any TAC member who submits to the permittee a written request to be omitted as a recipient of specific correspondence.
- g. After completion of construction and testing, a final engineering report shall be submitted to the Department and the TAC, with a cover letter only sent to the USEPA (see below). The report shall include, but not be limited to, all information and data collected under Rules 62-528.450(2) and 62-528.450(3), F.A.C., with appropriate interpretations. Mill certificates for the casings shall be included in the report. To the extent possible, the

transmissivity of the injection zone and the maximum capacity within safe pressure limits shall be estimated.

United States Environmental Protection Agency, Region IV
UIC Section
61 Forsythe Street, SW
Atlanta, Georgia 30303-8909

- h. After completion of construction and testing, the following items shall be submitted to the State Geologist at the Florida Geological Survey, 903 West Tennessee Street, Tallahassee, Florida 32304-7707:
- 1) Cuttings obtained during well construction;
 - 2) Any cores obtained during well construction when no longer needed by the permittee;
 - 3) Any geophysical logs run during well construction; and
 - 4) A copy of the final engineering report described in Specific Condition 5.h. above.

6. Operational Testing Requirements

- a. The permittee shall conduct operational testing of the injection well system to demonstrate that the well can absorb the design and peak daily flows that are expected, prior to granting approval for operation.
- b. No wastewater shall be injected into this test injection well without prior written authorization from the Department.
- c. The Engineer of Record or designated qualified representative must be present for the start-up operations and the Department must be notified in writing of the date operational testing commenced for the subject well.
- d. Prior to Department authorization for operational testing, the permittee shall obtain all necessary state, federal and local permits for the selected temporary alternative discharge method for emergency disposal, pursuant to Rule 62-528.450(3)(a)4., F.A.C. All temporary alternative discharge methods shall be fully operational prior to test injection.
- e. If any monitoring data indicates the movement of injected fluid or formation fluid into underground sources of drinking water, the Department shall prescribe such additional requirements for construction, corrective action (including possible closure of the injection well), operation, monitoring, or reporting as are necessary to prevent such movement. These additional requirements shall be imposed by modifying the permit, or via enforcement action, where applicable.
- f. The permittee shall calibrate all pressure gauge(s), flow meter(s), chart recorder(s), and other related equipment associated with the injection well system on a semi-annual basis, using standard engineering methods. The permittee shall maintain all monitoring

equipment and shall ensure that the monitoring equipment is calibrated and in proper operating condition at all times. Laboratory equipment, methods, and quality control will follow EPA guidelines as expressed in Standard Methods for the Examination of Water and Wastewater.

- g. Prior to operational testing, the background water quality for the injection zone shall be established. The analysis shall include the Primary and Secondary Water Quality Standards listed in Rules 62-550.310 and 62-550.320, F.A.C., and the minimum criteria for sewage effluent listed below.

Minimum Criteria for Sewage Effluent

Aldrin
Ammonia
Anthracene
Antimony
Bromodichloromethane
Butylbenzylphthalate
Chloroethane
2-Chlorophenol
Dibromochloromethane
1,2 Dichloroethylene
Dieldrin
Diethylphthalate
Dimethylphthalate
Naphthalene
Phenanthrene
Phenol
2,4,6-Trichlorophenol
Organic nitrogen
Total Kjeldahl nitrogen
Nitrite (as N)
Total nitrogen
Soluble orthophosphate
Total phosphorus

- h. Prior to operational testing, at a minimum the following items must be submitted for TAC review and Department approval [Rule 62-528.450(3) (a)3., F.A.C.]:
- 1) Borehole television surveys of final casing and tubing;
 - 2) Geophysical logs with interpretations;
 - 3) Mechanical integrity test data;
 - 4) Short term injection test data and evaluation;
 - 5) Confining zone data (cores, etc.);
 - 6) Background water quality data (injection zone and monitor zones);
 - 7) Waste stream analysis (submitted and complete during application process);

- 8) As-built well construction specifications;
- 9) Other well construction data;
- 10) Certificate of completion and as-built specifications for surface equipment pursuant to Rule 62-600.540(4), F.A.C.; and
- 11) Operation and Maintenance Manual, or update to current Manual.
- 12) Proof of the plugging and abandonment of the 1247 foot deep test well at the WTP owned by the permittee. The well shall be plugged and abandoned as per SWFWMD regulations.

7. Operational Testing Conditions

a. Construction Details:

Well IW-1

O.D. Inches / Type	Depth ft (bls)	Aquifer
54" / steel	60'	Surficial
48" / steel	300'	Intermediate Confining Unit/ Intermediate Aquifer System
40" / steel	± 1,000'	Upper Floridan
28" / seamless steel	± 1,100'	Upper Floridan
18" OD/ Fiberglass	± 1,080'	Upper Floridan
18" Open hole	± 1,700'	Upper Floridan

Monitor Well UZMW-1

O.D. Inches / Type	Depth ft (bls)	Aquifer
16" / steel	± 300'	Intermediate Confining Unit/ Intermediate Aquifer System
6" / Fiberglass	± 800'	Upper Floridan
6" Open hole	± 850'	Upper Floridan

Monitor Well LZMW-1

O.D. Inches / Type	Depth ft (bls)	Aquifer
16" / steel	± 300'	Intermediate Confining Unit/ Intermediate Aquifer System
6" / Fiberglass	± 900'	Upper Floridan
6" Open hole	± 950'	Upper Floridan

The Injection Well System shall be monitored in accordance with Rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. The following injection well performance and monitor zone

data shall be recorded and reported in the Monthly Operating Report as indicated below. All samples must be collected and analyzed in accordance with the quality assurance requirements of F.A.C. Chapter 62-160. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

Parameter	Units	Recording Frequency	Frequency of Analysis		
			IW-1	UZMW-1	LZMW-1
Flow Rate, max.	gpm	continuous	D/M		
Flow Rate, min.	gpm	continuous	D/M		
Flow Rate, avg.	gpm	continuous	D/M		
Total Injection Volume ^{&}	mg	continuous	D/M		
Injection Pressure, max.	psi	continuous	D/M		
Injection Pressure, min.	psi	continuous	D/M		
Injection Pressure, avg.	psi	continuous	D/M		
Annular Pressure, max.	psi	continuous	D/M		
Annular Pressure, min.	psi	continuous	D/M		
Annular Pressure, avg.	psi	continuous	D/M		
Annular Pressure Added	psi	continuous	D/M		
Annular Pressure Removed	psi	continuous	D/M		
Annular Fluid Added	gal	continuous	D/M		
Annular Fluid Removed	gal	continuous	D/M		
Water level/Press., max.	psi or ft NGVD	continuous		D/M	D/M
Water Level/Press., min.	psi or ft NGVD	continuous		D/M	D/M
Water Level/Press., avg.	psi or ft NGVD	continuous		D/M	D/M
Dissolved Oxygen +	mg/L			M	M
Turbidity +	NTU			M	M
pH +	std. units		M ^{WTP}	W	W
Specific Conductivity +	µmhos/cm		M ^{WTP}	W	W
Temperature +	°C		M ^{WTP}	W	W
Sulfate	mg/L		M ^{WTP}	W	W
Chloride	mg/L		M ^{WTP}	W	W
Total Dissolved Solids	mg/L		M ^{WTP}	W	W
Ammonia (as N)	mg/L		M ^{WRF}	W	W
Total Kjeldahl Nitrogen	mg/L		M ^{WRF}	W	W
Nitrate	mg/L		M ^{WRF}		
Nitrite (as N)	mg/L		M ^{WRF}		
Total Phosphorus	mg/L		M ^{WRF}	W	W
Bicarbonate-HCO ₃	mg/L		M ^{WTP}	M	M
Calcium	mg/L		M ^{WTP}	M	M
Magnesium	mg/L		M ^{WTP}	M	M
Potassium	mg/L		M ^{WTP}	M	M

Sodium	mg/L		M ^{WTP}	M	M
Total Iron	mg/L		M ^{WTP}	M	M
Gross Alpha	pCi/L		M ^{WTP}		M
226/228Radium	pCi/L		M ^{WTP}		M

D-daily; D/M - daily and monthly; M-monthly; W - weekly monitor well parameters may be reduced to monthly after a 6-month minimum testing period with written Department approval

& - The daily and monthly volumes for municipal effluent and brine concentrate shall be reported separately and each wastestream shall be sampled and analyzed separately.

^{WTP} - Water Treatment Plant Effluent

^{WRF} - Water Quality WRF Effluent

+ - field samples, unless otherwise noted

- b. A specific injectivity test, in accordance with Rule 62-528.430(2)(c) and 62-528.450(3)(a)7., F.A.C., shall be performed monthly on the injection well with the pumping rate set at a predetermined level and reported as the specific injectivity index (gallons per minute/specific pressure). The permittee shall propose the pumping rate to be used based on the expected flow, the design of the pump type(s), and the type of pump control used. The test shall include a period of time sufficient to observe and record pressure fall-off and stabilization by shutting in the well after the test. The proposed specific injectivity test shall be submitted to the Department for approval prior to operational testing. The specific injectivity test data shall be submitted monthly along with the monitoring results of the injection well and monitor wells.
- c. The permittee shall submit the monthly operational and water quality data required by this permit to the Department on or before the last day of the month immediately following the month of record. Standardized reporting forms (ExcelTM) will be developed for this project prior to the beginning operational testing and shall be used for the monthly reporting requirement. The monthly submittal shall include the standardized reporting forms, signatory pages, laboratory pages and supporting documents. The report shall be in AdobeTM (.pdf) format and should be sent concurrently via electronic mail to each of the following Program e-mail addresses:

- 1) SWD_UIC@dep.state.fl.us
- 2) joe.haberfeld@dep.state.fl.us

The permittee may be asked to submit a hard copy of the monthly submittal to Department staff at the following addresses:

- 1) Department of Environmental Protection
Underground Injection Control Program
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

2) Department of Environmental Protection
Underground Injection Control Program
2600 Blair Stone Road, MS 3530
Tallahassee, Florida 32399-2400

- d. Operational testing of this injection well system shall cease within 2 years from the start of operational testing or the expiration of this permit, whichever is less, unless the Department has issued intent to issue an operation permit, or a timely renewal application (Rule 62-4.090, F.A.C.) of this construction permit has been submitted to the Department. However, under no circumstance shall the duration of the operational testing period exceed two years as specified in Rule 62-528.450(3)(b), F.A.C.

8. Abnormal Events

- a. In the event the permittee is temporarily unable to comply with any conditions of this permit due to breakdown of equipment, power outages, destruction by hazard of fire, wind or by other cause, the permittee shall notify the Department. Notification shall be made in person, by telephone or by electronic mail within 24 hours of breakdown or malfunction to the UIC Program staff, Southwest District office.
- b. A written report of any noncompliance referenced in a. above shall be submitted to the Southwest District office within five days after discovery of the occurrence. The report shall describe the nature and cause of the breakdown or malfunction, the steps being taken or planned to be taken to correct the problem and prevent its reoccurrence, emergency procedures in use pending correction of the problem, and the time when the facility will again be operating in accordance with permit conditions.

9. Financial Responsibility

- a. The permittee shall maintain the resources necessary to close, plug, and abandon the injection well system at all times (Rule 62-528.435(9), F.A.C.).
- b. The permittee shall review annually the plugging and abandonment cost estimates. An increase of 10 percent or more over the cost upon which financial responsibility is based shall require the permittee to submit documentation to obtain an updated Certificate of Demonstration of Financial Responsibility.
- c. In the event that the mechanism used to demonstrate financial responsibility should become invalid for any reason, the permittee shall notify the Department in writing within 14 days of such invalidation. The permittee shall then within 30 days of said notification submit to the Department for approval new financial documentation in order to comply with Rule 62-528.435(9), F.A.C., and the conditions of this permit.

10. Emergency Disposal

Permittee: City of Sarasota, RO Water Treatment Plant
Class I, Test Injection Well

Permit No.: 0298881-001-UC/IX
Facility ID: FL0040771

- a. All applicable federal, state and local permits shall be in place to allow for any alternative discharges due to emergency or planned outage conditions.
- b. Any changes in emergency disposal methods shall be submitted for TAC review and Department approval.
- c. The permittee shall notify the Department within 24 hours whenever an emergency discharge has occurred (Rule 62-528.415(4)(c)1., F.A.C.). Written notification shall be provided to the Department within 5 days after each occurrence. The Permittee shall indicate the location and duration of the discharge and the volume of fluid discharged.

11. General Conditions

The permittee shall be aware of and operate under General Conditions Rule 62-528.307(1)(a) through (x), and (2)(a) through (f) F.A.C. (copy attached). General Conditions are binding upon the permittee and enforceable pursuant to Chapter 403, F.S..

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Jeffrey S. Greenwell, P.E.
Water Facilities Administrator
Southwest District

Attachment: Rule 62-528.307, F.A.C.

62-528.307 Underground Injection Control: General Conditions for Permits.

The following general conditions shall be included in each of the respective types of underground injection control permits.

(1) All UIC Permits.

(a) The terms, conditions, requirements, limitations and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to section 403.141, F.S.

(b) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action.

(c) As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

(d) This permit conveys no title to land, water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

(e) This permit does not relieve the permittee from liability for harm to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefrom; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

(f) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, or are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

(g) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

1. Have access to and copy any records that must be kept under conditions of this permit;
2. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
3. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time will depend on the nature of the concern being investigated.

(h) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

1. A description of and cause of noncompliance; and
2. The period of noncompliance, including dates and times; or, if not corrected the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent the recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

(i) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where

such use is proscribed by sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

(j) The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

(k) This permit is transferable only upon Department approval in accordance with rules 62-4.120 and 62-528.350, F.A.C. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

(l) This permit or a copy thereof shall be kept at the work site of the permitted activity.

(m) The permittee shall comply with the following:

1. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records shall be extended automatically unless the Department determines that the records are no longer required.

2. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

3. Records of monitoring information shall include:

- a. the date, exact place, and time of sampling or measurements;
- b. the person responsible for performing the sampling or measurements;
- c. the dates analyses were performed;
- d. the person responsible for performing the analyses;
- e. the analytical techniques or methods used;
- f. the results of such analyses.

4. The permittee shall furnish to the Department, within the time requested in writing, any information which the Department requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

5. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

(n) All applications, reports, or information required by the Department shall be certified as being true, accurate, and complete.

(o) Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each scheduled date.

(p) Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(q) It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(r) The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

(s) This permit may be modified, revoked and reissued, or terminated for cause, as provided in 40 C.F.R. sections 144.39(a), 144.40(a), and 144.41 (1998). The filing of a request by the permittee for a permit modification, revocation or reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(t) The permittee shall retain all records of all monitoring information concerning the nature and composition of injected fluid until five years after completion of any plugging and abandonment

procedures specified under rule 62-528.435, F.A.C. The permittee shall deliver the records to the Department office that issued the permit at the conclusion of the retention period unless the permittee elects to continue retention of the records.

(u) All reports and other submittals required to comply with this permit shall be signed by a person authorized under rules 62-528.340(1) or (2), F.A.C. All reports shall contain the certification required in rule 62-528.340(4), F.A.C.

(v) The permittee shall notify the Department as soon as possible of any planned physical alterations or additions to the permitted facility. In addition, prior approval is required for activities described in rule 62-528.410(1)(h).

(w) The permittee shall give advance notice to the Department of any planned changes in the permitted facility or injection activity which may result in noncompliance with permit requirements.

(x) The permittee shall report any noncompliance which may endanger health or the environment including:

1. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water; or

2. Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) All UIC Construction Permits.

(a) If injection is to continue beyond the expiration date of this permit the permittee shall apply for, and obtain an operation permit. If necessary to complete the two-year operational testing period, the permittee shall apply for renewal of the construction permit at least 60 days prior to the expiration date of this permit.

(b) Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

(c) The injection system shall be monitored in accordance with rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(d) The permittee shall submit monthly to the Department the results of all injection well and monitor well data required by this permit no later than the last day of the month immediately following the month of record. The results shall be sent to the Department of Environmental Protection, [Name] District Office, [Address]. A copy of this report shall also be sent to the Department of Environmental Protection, Underground Injection Control Program, MS 3530, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

(e) Operational testing. Prior to operational testing, the permittee shall comply with the requirements of rule 62-528.450(3)(a),(b), and (c), F.A.C.

(f) Mechanical Integrity.

1. Injection is prohibited until the permittee affirmatively demonstrates that the well has mechanical integrity. Prior to operational testing the permittee shall establish, and thereafter maintain the mechanical integrity of the well at all times.

2. If the Department determines that the injection well lacks mechanical integrity, written notice shall be given to the permittee.

3. Within 48 hours of receiving written notice that the well lacks mechanical integrity, unless the Department requires immediate cessation of injection, the permittee shall cease injection into the well unless the Department allows continued injection pursuant to subparagraph 4 below.

4. The Department shall allow the permittee to continue operation of a well that lacks mechanical integrity if the permittee has made a satisfactory demonstration that fluid movement into or between underground sources of drinking water is not occurring.

(3) All UIC Operation Permits.

(a) In accordance with rules 62-4.090(1) and 62-528.455(3)(a), F.A.C., the permittee shall submit an application for permit renewal at least 60 days prior to expiration of this permit.

(b) Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

(c) The injection system shall be monitored in accordance with rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(d) The permittee shall submit monthly to the Department the results of all injection well and monitor well data required by this permit no later than the last day of the month immediately following the month of record. The results shall be sent to the Department of Environmental Protection, [Name] District Office, [Address]. A copy of this report shall also be sent to the Department of Environmental Protection, Underground Injection Control Program, MS 3530, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

(e) Mechanical Integrity.

1. The permittee shall maintain the mechanical integrity of the well at all times.

2. If the Department determines that the injection well lacks mechanical integrity, written notice shall be given to the permittee.

3. Within 48 hours of receiving written notice that the well lacks mechanical integrity, unless the Department requires immediate cessation of injection, the permittee shall cease injection into the well unless the Department allows continued injection pursuant to subparagraph 4 below.

4. The Department shall allow the permittee to continue operation of a well that lacks mechanical integrity if the permittee has made a satisfactory demonstration that fluid movement into or between underground sources of drinking water is not occurring.

(4) All UIC Plugging and Abandonment Permits.

(a) The well shall be plugged and abandoned in a manner that will not allow fluid movement into or between underground sources of drinking water.

(b) In accordance with rule 62-528.435(11), F.A.C., the permittee shall submit to the Department a plugging and abandonment report within 90 days of completion of plugging and abandonment.

Specific Authority 403.061, 403.087, 403.088 FS. Law Implemented 403.061, 403.087, 403.088 FS.

History - New 7-15-99.

CITY OF SARASOTA
TERMS AND CONDITIONS
For
SEALED BIDS, GENERAL

1. QUESTIONS OR CLARIFICATIONS

Any questions or requests for clarification must be sent via facsimile, hand delivered, or mailed to the City of Sarasota ("CITY") Purchasing Department, fax # (941) 954-4157 unless otherwise noted in the specifications. Any request must include the bid number and title.

2. CONTRACT FORMS

Any agreement, contract, or Purchase Order resulting from the acceptance of a bid shall be in a form either supplied by or approved by the CITY.

3. BID DELIVERY REQUIREMENTS

Any bids received after the stated time and date will not be considered. It shall be the sole responsibility of bidder to have their bids delivered to the CITY's Purchasing Department on or before the stated time and date. If a bid is sent by U.S. Mail or delivery service, the bidder shall be responsible for its timely delivery to the CITY's Purchasing Department. Bids delayed by mail or delivery service shall not be considered, shall not be opened at the public opening, and arrangements shall be made for their return at the bidder's request and expense.

4. CLARIFICATION & ADDENDA

For information or questions concerning this bid, contact the City of Sarasota Purchasing Department, 1565 First Street, Room 205, Sarasota, Florida 34236 or P. O. Box 1058, Sarasota, FL 34230, phone #(941) 954-4151, unless otherwise noted in the specifications. After the issuance of the Invitation For Bid, prospective bidders or any agent, representative or person acting at the request of such bidder or proposer shall not contact, communicate with or discuss any matter relating in any way to the bid with any officer, agent or employee of the CITY other than the Purchasing Manager or their designee (unless otherwise noted in the specifications). This prohibition begins with the issuance of any Invitation For Bid, and ends upon execution of the final contract or when the invitation or request has been canceled.

Detailed specifications describe the commodities or services to be acquired by the CITY. To be considered for award a bid must comply in all material respects with the specifications. No alternate bids or deviations from the specifications will be accepted unless requested in the specifications or bid form.

Each bidder shall examine all Invitation for Bid documents and shall judge all matters relating to the adequacy and accuracy of such documents. Any inquiries, suggestions or requests concerning interpretation, clarification or additional information pertaining to the Invitation for Bid shall be made in writing, submitted and received at least eight (8) calendar days prior to date when bids are due; to the City of Sarasota Purchasing Department, unless otherwise noted in the bid specifications.

The CITY shall not be responsible for oral interpretations given by any CITY employee, representative, or others. The issuance of a written addendum by the CITY's Purchasing Department is the only official method whereby interpretation, clarification or additional information can be given. If any addenda are issued to this Invitation for Bid, the CITY will attempt to notify all prospective bidders who have secured same; however, it shall be the responsibility of each bidder, prior to submitting their bid, to determine if addenda were issued and to make such addenda a part of their bid.

5. **BID EXPENSES**

Bidders shall bear all costs and expenses incurred in developing, preparing, and submitting bids.

6. **IRREVOCABLE OFFER**

Any bid may be withdrawn until the date and time set for opening of the bid. Any bid not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of one-hundred and twenty (120) days to sell to the CITY the goods or services set forth in the attached specifications.

7. **RESERVED RIGHTS**

The CITY reserves the right to accept or reject any or all bids, in whole or in part, for any reason whatsoever, to waive minor irregularities and technicalities, and to request resubmission. Also, the CITY reserves the right to accept all or any part of the bid and to increase or decrease quantities to meet additional or reduced requirements of the CITY. Any sole response received by the first submission date may or may not be rejected by the CITY depending on available competition and current needs of the CITY.

To be responsive, a bidder shall submit a bid which conforms in all material respects to the requirements set forth in the Invitation for Bid. To be a responsible bidder, the bidder shall have the capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance. Also, the CITY reserves the right to make such investigation, as it deems necessary to determine the ability of any bidder to deliver the goods or service requested. Information the CITY deems necessary to make this determination shall be provided by the bidder. Such information may include, but shall not be limited to: current financial statements, verification of availability of equipment and personnel, and past performance records.

Bidders are required to bid their prices on the bid forms supplied by the CITY in the bid document. Bids, at the sole discretion of the CITY, may be deemed non-responsive if these bid forms are not used and duly signed by an authorized representative of the bidder.

The CITY reserves the right, in its sole opinion, to purchase items listed in this bid through the State of Florida Contracts. The CITY reserves the right to solicit separate bids for requirements that are a portion of a larger contract bid as a whole. Additionally, at the CITY's sole option, additional contracts may be entered into as a result of such situations as unusual volumes, time/delivery requirements, special requirements, other brands, lease, project specific requirements, or similar situations. After award of this bid the CITY reserves the right to add or delete items/services at prices to be negotiated at the time of addition or deletion.

8. **APPLICABLE LAWS**

Bidders must be authorized to transact business in the State of Florida. **Copy of Registration Certificate MUST be submitted with bid.** All applicable laws and regulations of the State of Florida and ordinances and regulations of the City of Sarasota will apply to any resulting agreement. Any involvement with the City of Sarasota shall be in accordance with the CITY Administrative Regulation Nos. 024.A003.0194 and 024.A007.0195, and CITY Ordinance 92-3580. A protest with respect to this Invitation for Bid shall be submitted in accordance with Administrative Regulation No. 024.A001.0195.

It shall be the responsibility of the bidder to assure compliance with any OSHA, EPA and/or other federal, state, county, or city codes, rules, regulations or other requirements, as each may apply.

9. **TAXES**

The City of Sarasota is exempt from Federal Excise and State Sales Taxes; therefore, bidders are prohibited from delineating a separate line item in their bid for any sales or service taxes. Nothing herein shall affect the bidder's normal tax liability. The CITY reserves the right, at the CITY's sole option, to issue Direct Purchase Orders for applicable supplies and equipment to be utilized in this project.

10. **MATHEMATICAL ERRORS**

In the event of multiplication/extension error(s), the unit price shall prevail. In the event of addition error(s) the extension totals will prevail. Written prices shall prevail over figures. All bids shall be reviewed mathematically and corrected, if necessary, using these standards, prior to additional evaluation.

11. **QUALITY GUARANTEE**

Unless otherwise specifically provided in the specifications, all equipment, materials and articles incorporated in the work covered by this contract shall be new, unused, and of the most suitable grade for the purpose intended. Refurbished parts or equipment are not acceptable unless otherwise specified in the specifications.

Unless otherwise specifically provided in the specifications, reference to any equipment, material, article or patented process, by trade name, brand name, make or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. If a bidder wishes to make a substitution in the specifications, the bidder shall furnish to the CITY, no later than ten (10) business days prior to the bid opening date, the name of the manufacturer, the model number, and other identifying data and information necessary to aid the CITY in evaluating the substitution. Any such substitution shall be subject to CITY approval through the issuance of a written addendum by the CITY's Purchasing Department. Substitutions shall be approved only if determined by the CITY to be equivalent to the prescribed specifications.

A bid containing a substitution is subject to disqualification if the substitution is not approved by the CITY. Items bid must be identified by brand name, number, manufacturer and model, and shall include full descriptive information, brochures, and appropriate attachments.

If any product/service does not meet performance representations or other quality assurance representations as published by manufacturers, producers or distributors of such products or the specifications listed in this bid, the vendor shall pick up the product from the CITY at no expense to the CITY. The CITY reserves the right to reject any or all materials if, in its judgment, the item reflects unsatisfactory workmanship or manufacturing or shipping damage. Also, the vendor shall refund to CITY any money which has been paid for same.

12. PUBLIC ENTITY CRIMES

In accordance with Section 287.133, Florida Statutes, a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases or real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 for Category Two for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

13. DISCRIMINATION

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

14. ROYALTIES AND PATENTS

The vendor shall pay all royalties and license fees for equipment or processes in conjunction with the equipment and/or services it furnished. Vendor shall defend all suits or claims for infringement of any patent, trademark or copyright, and shall save the CITY harmless from loss on account thereof, including costs and attorney's fees.

15. EQUAL EMPLOYMENT OPPORTUNITY

The CITY will affirmatively ensure that minority business enterprises will be afforded full opportunity to submit bids in response to this Invitation for Bid and will not be discriminated against on the grounds of race, color, sex, religion, disability or national origin in consideration for an award.

16. PURCHASING COOPERATIVE

It is the intent of this Invitation to Bid to include requirements and to obtain bids on behalf of the City of Sarasota and reserve the right for the following entities belonging to the Sarasota County Cooperative Purchasing Group, which consists of the Town of Longboat Key, City of North Port, City of Venice, Sarasota County, Sarasota County School Board, Sarasota-Bradenton Airport Authority, Manatee County, City of Bradenton and the City of Sarasota to obtain purchases from this

bid proposal. This opportunity is also made available to any and all local, County, and State of Florida governments. Pursuant to their own governing laws, and subject to the agreement of the Contractor, other entities may be permitted to make purchases at the terms and conditions contained herein.

17. DELIVERY

Unless otherwise specified, all prices are to be FOB-Delivered prices, to any location in the City of Sarasota.

18. PRE-BID CONFERENCE

Failure to attend a mandatory pre-bid conference will result in your bid being considered non-responsive.

19. FUNDING

This bid is subject to the appropriation of funds in an amount sufficient to allow continuation of the CITY's performance in accordance with the terms and conditions of this bid. The CITY shall provide prompt written notice to the vendor that sufficient funds have not been appropriated to continue its full and faithful performance under the terms of this bid, and shall, effective thirty (30) days after giving such notice or upon the expiration of the time for which funds were appropriated, whichever occurs first, be thereafter released of all further obligations in any way related to the bid.

20. SUBCONTRACTING

Construction contractors shall obtain prior written approval of subcontractors and the work they will perform. A subcontractor is defined as any entity performing work within the scope of the contractors project who is not an employee of the contractor.

21. TRAVEL EXPENSE

Travel expenses will be reimbursed in accordance with Section 112.061, Florida Statutes, whether or not the resulting contract provides for a different method.

22. PUBLIC RECORDS

Bidder acknowledges that all information contained within its bid is a public record, as defined in Chapter 119 of the Florida Statutes. No information should be labeled confidential unless exempted under said laws.

23. INVOICING

All invoices must contain the Purchase Order number, required identification information, and reflect the Contract prices, terms, and conditions. Invoices containing deviations or omissions will be returned to the vendor for correction and resubmission. Vendors shall not perform any service or provide products until they have been issued a Purchase Order number.

24. WARRANTY

The equipment must be warranted for twelve (12) month parts and labor. Should the equipment be taken out of service for more than forty-eight (48) hours to have warranty work performed, a loaner machine of equal size shall be provided for use until the repaired equipment is returned to service.

25. Right To Audit

The contractor shall maintain such financial records and other records as may be prescribed by the City of Sarasota or by applicable federal and state laws, rules, and regulations. The contractor shall retain these records for a period of five years after final payment, or until they are audited by the City of Sarasota, whichever event occurs first. These records shall be made available during the term of the contract and the subsequent five-year period for examination, transcription, and audit by the City of Sarasota, its designees or other authorized bodies.

26. SALVAGE OF CONSTRUCTION MATERIALS

Objective:

The City of Sarasota strives towards its goal of becoming a sustainable community. Salvage and reuse of construction materials is sustainable activity worthy of becoming a standard operating practice by the City, its crews, and private contractors working in the City. To that end, the following specification and clauses shall be included and enforced to the extent possible during construction activities in the City.

Specification: Salvage of Brick and Other Construction Materials

The City of Sarasota is a sustainable community. Best practices in sustainable projects call for salvage and reuse of construction materials, and the City has adopted this practice as a core value in construction projects. Any contractor performing work on behalf of the City of Sarasota shall follow this practice to the extent practical.

The City of Sarasota additionally has identified brick found on, under, or around City roadways to be a critical resource. In a case when any brick is found by the contractor, the contractor shall notify the project manager immediately. The project manager will identify if the brick is of suitable quality for reuse. If so, brick shall be salvaged, and taken to the City of Sarasota Public Services Complex. Typically the contractor will be responsible to neatly stack any found brick on a pallet for pickup by a City crew, who will be made available to transport the brick. If substantive quantities of brick are found by the contractor, the City shall establish a force-account or other payment mechanism to reimburse the contractor for these costs.

Materials other than brick known to be present prior to the onset of a project, unless specifically noted or specified otherwise, may be considered by the contractor as salvageable as part of their bid. For instance, the contractor may consider millings removed from the roadway, or concrete sidewalk removed from the site, to be in control of the contractor. Therefore any of this material may be taken to suitable location for reuse (i.e. millings to asphalt plant, concrete to a pulverization/ crushing site). The contractor may reuse this material as they see fit, but the fact the material has been placed in the control of the contractor does not remove the requirement for beneficial reuse of these materials; the City is

simply leaving the disposition of how to reutilize these materials to the contractor's discretion. Any proceeds from the salvage of this material may be received by the contractor.

Clause: R/O/W Use Permit

The contractor/ owner is hereby notified that any brick found in City of Sarasota Right-Of-Way is considered to be property of the City of Sarasota. The contractor/ owner shall immediately notify the City's Public Services Department, at 941-365-2200, if brick is found within the City's property while carrying out any work. The brick shall be stacked neatly on a City-provided pallet, and placed in a suitable location for pickup by a City crew. The contractor/ owner is also encouraged to recycle any other construction materials to the extent practical, such as taking removed concrete sidewalk to a pulverization plant.

27. E-VERIFY:

Vendor/ contractor shall utilize the U.S. Department of Homeland Security's E-Verify system, in accordance with the terms governing use of the system, to confirm the employment eligibility of;

- 1. All persons employed by the Vendor/ Contractor during the term of the Contract to perform employment duties within Florida; and**
- 2. All persons, including subcontractors, assigned by the Vendor/ Contractor to perform work pursuant to the contract with the Agency**

**** website for E-Verify: <http://www.uscis.gov/e-verify>**

PROJECT IDENTIFICATION: **CITY OF SARASOTA**
 Class I Deep Injection Well System
 Bid # 11-19W

SOCIAL SECURITY NUMBER: _____

(In the event where bidder does not have a Federal Employers Identification Number as assigned by the IRS, a Social Security Number is requested when submitted by an individual/ independent contractor).

The City of Sarasota collects your social security number for tax reporting purposes.

***REQUIRED DOCUMENTS
TO BE SUBMITTED
WITH BID***

SUMMARY OF SUBMITTAL REQUIREMENTS

The following documents are to be attached to and made a condition of this Bid:

- | | | |
|--|---|--------------------------|
| 1. | Bid Forms: | BF-1 to BF-10 |
| 2. | Local Vendor Certification | BF-11 |
| 3. | Bid Security (Surety Bond with Power of Attorney or Cashier's Check)
for bids in excess of \$50,000.00 or more | BF-12 |
| 4. | Minority Business Enterprise Utilization Plan (Minority Subcontractor list)
or written justification for the reasons why the contractor was unable to meet
the minority business enterprise participation goal. | BF-13 |
| <p><i>** Please Note: If claiming minority status or utilizing minority subcontractors,
provide State Certification as per Florida Statutes 287.0943(1) and/or 287.0943.</i></p> | | |
| 5. | Sworn Statement on Public Entity Crimes | BF-14 & BF-15 |
| 6. | Non-Collusive Affidavit | BF-16 |
| 7. | Form 3A, Interest in Competitive Bid for Public Business (if applicable) | BF-17 |
| 8. | Trench Safety Form (if applicable) | BF-18 |
| 9. | Drug Free Work Place | BF-19 |
| 10. | Subcontractor's List | BF-20 |
| 11. | Contractor Qualification Form | BF-21 |
| 12. | Contractor Qualifications | BF- 22 |

Registration Certificate from the **Florida Department of State, Division of Corporations**,
establishing your firm as eligible to conduct business in the State of Florida. Please refer to
website: ***www.sunbiz.org***

ALL BIDS MUST BE SIGNED, SEALED AND EXECUTED BY A CORPORATE AUTHORITY.

City of Sarasota
Bid Form

Company Name: _____ Bid Opening Date: _____

SUBMITTED: _____
(Date)

PROJECT IDENTIFICATION:

CITY OF SARASOTA
Class I Deep Injection Well System
Bid # 11-19W

SIGNATURE OF BIDDER: _____

NAME & TITLE: _____
(TYPED OR PRINTED)

COMPANY NAME: _____

BUSINESS ADDRESS: _____

PHONE NO: _____

FAX NO: _____

FEDERAL I.D. NUMBER: _____

CONTRACTOR'S LICENSE NO. _____

THIS BID IS SUBMITTED TO: City of Sarasota, Florida (hereinafter called OWNER) acting through its City Council.

1. The undersigned BIDDER offers and agrees to enter into an Agreement with OWNER in the form included in the Bidding Documents, to complete all Work for the Contract Price and within the Contract Time of **365 calendar days after the date of the Notice to Proceed** for all work (except warranty items) in accordance with the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Bidding Documents, including without limitation, those dealing with the OWNER'S time for accepting for Bid and the disposition of Bid Bond.

Contractor: _____

3. In submitting this Bid, BIDDER makes all representations required by the Instructions to BIDDERS and further warrants and represents that:

(a) BIDDER has examined copies of all the Bidding Documents and of the following addenda:

No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____

- (b) BIDDER has examined the site and locality where the Work is to be performed and the legal requirements (federal, state and local laws, ordinances, rules and regulations) and conditions affecting cost, degree of difficulty, progress or performance of the Work and has made such independent investigations as BIDDER deems necessary.
- (c) This Bid is genuine and not made in the interest or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or a corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for himself any advantage over any other BIDDER or over OWNER.
- (d) BIDDER hereby agrees, if this Bid is accepted, to commence Work under this Contract on or before **ten (10) calendar days** from the receipt of the Notice to Proceed and to fully complete all Work on the Project within the Contract Time stipulated in item one (1) above. BIDDER further agrees to pay **Three Thousand Dollars (\$3,000.00) in liquidated damages** for each consecutive calendar day completion of the Work is delayed.
4. BIDDER submits the following unit price bid items to perform all the Work as required by the Drawings and Specifications. All Bid items shall include all materials, equipment, labor, permit fees, taxes, tests, miscellaneous costs of all types, overhead, and profit for the item to be complete, in place, and ready for operation in the manner contemplated by the Contract Documents.

Please submit a copy of your registration certificate establishing your firm as authorized to conduct business in the State of Florida.

ALL BIDS MUST BE SIGNED, SEALED AND EXECUTED BY A CORPORATE AUTHORITY.

Contractor: _____

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
A. SHALLOW MONITOR WELLS					
A1	Initial Mobilization to Site and Site Prep	LS	1		\$ -
A2	Demobilization from last site and cleanup after completion of drilling	LS	1		\$ -
A3	Drilling four 8-inch diameter holes to a depth of approx. 15 feet	LF	60		\$ -
A4	Furnish and install four 2-inch diameter PVC casings and well screens	LF	68		\$ -
A5	Gravel pack the screens, install a bentonite seal, and cement the 2-inch diameter casings to depths of +/- 15 feet bls in accordance with the Specifications and Drawings	EA	4		\$ -
A6	Supply install and operate temporary pumping equipment capable of producing up to 25 gpm for not less than two hours at each of the four wells	HR	8		\$ -
A7	Install protective poles for each monitor well in accordance with the Specifications	EA	4		\$ -
A8	Cap and provide locking devices with padlocks for each of the monitor wells	EA	4		\$ -
					\$ -
SUBTOTAL A -SHALLOW MONITOR WELLS (Total of Items A1-A8)					\$ -
B. TEST INJECTION WELL					
B1	Initial mobilization to site and site prep	LS	1		\$ -
B2	Demobilization from site after completion of well	LS	1		\$ -
B3	Drilling one 12-inch diameter pilot hole by mud rotary to a depth of +/- 300 feet bls, conduct inclination surveys	LF	300		\$ -
B4	Reaming nominal 54-inch diameter hole to +/- 300 feet bls by mud rotary	LF	300		\$ -
B5	Furnishing, installing and cementing the 48-inch surface casing to a depth of +/- 300 feet	LF	300		\$ -
B6	Drilling one 12-inch diameter pilot hole by reverse-air rotary to a depth of +/- 1000 feet bls, conduct inclination surveys	LF	700		\$ -
B7	Back-plug 12-inch pilot hole with cement from 1000 feet bls to 300 feet bls	LS	1		\$ -
B8	Ream one 47-inch diameter hole to +/- 1000 feet bls using reverse-air rotary	LF	700		\$ -

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
B9	Furnishing, installing and cementing the 40-inch intermediate casing to a depth of +/- 1000 feet	LF	1,000		\$ -
B10	Drilling one 12-inch diameter pilot hole by reverse-air rotary from +/- 1000 feet bls to a depth of +/- 1700 feet bls, conduct inclination surveys	LF	700		\$ -
B11	Back-plug 12-inch pilot hole with cement from 1700 feet bls to 1100 feet bls	LS	1		\$ -
B12	Ream one 39-inch diameter hole from +/- 1000 feet bls to +/- 1110 feet bls using reverse-air rotary	LF	110		\$ -
B13	Gravel fill for 12-inch diameter pilot hole and cement to facilitate 28-inch diameter casing installation	LS	1		\$ -
B14	Furnishing, installing and cementing the 28-inch diameter final casing to a depth of +/- 1100 feet bls	LF	1,100		\$ -
B15	Filling cavernous zones with gravel if required	CF	600		\$ -
B16	Cementing with gelling additives due to unknown geological faults				
	from 0-1000 CF	CF	1,000		\$ -
	from 1000-5000 CF	CF	4,000		\$ -
B17	Installing and removing temporary flow control devices, if needed	LS	1		\$ -
B18	Furnish and install drillable bridge plug in 12-inch pilot hole	LS	1		\$ -
B19	Reaming one 27-inch diameter hole from +/- 1100 feet bls to a depth of 1700 feet bls by reverse-air	LF	600		\$ -
B20	Water sampling using a packer in accordance with the specifications in addition to air reverse water quality sampling	EA	6		\$ -
B21	Furnish and install 18-inch diameter FRP tubing and packer assembly to a depth of 1080 feet bls	LF	1,080		\$ -
B22	Supply, install and operate equipment capable of conducting a pressure test on the final 28-inch well casing while plugged at the bottom at a minimum pressure of 150 psi and a maximum pressure of 200 psi for not less than 1 hour	LS	1		\$ -

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
B23	Supply, install and operate equipment capable of conducting a pressure test on the annulus between the final 28-inch well casing and the 18-inch tubing at a minimum pressure of 150 psi and a maximum pressure of 200 psi for not less than 1 hour	LS	1		\$ -
B24	Supply, install and operate pumping equipment to produce 300 gallons per minute for 2 hours at a time for up to 24 hours at the test well for packer tests	HR	24		\$ -
B25	Supply, install and remove pressure transducer and readout unit as required by the Specifications	LS	1		\$ -
B26	Collect, label, and preserve the 10-foot geologic cores from the test well in accordance with the Specifications	EA	4		\$ -
B27	Analyze cores in laboratory in accordance with the Specifications (Complete Analysis)	EA	8		\$ -
B28	Geophysical logging, including radioactive tracer survey, TV surveying, and water sample collection on test well in accordance with the specifications complete	LS	1		\$ -
B29	Water sample during drilling and testing by approved laboratory in accordance with the Specifications	EA	47		\$ -
B30	Full analysis of water sample collected prior to cessation of development phase in accordance with the specifications (all parameters in list)	LS	1		\$ -
B31	Furnish and install well head fittings on test well, including all gauges and fittings as shown in the drawings, including tubing hanger assembly and painting	LS	1		\$ -
B32	Disposal of all waste material and excess water away from the well site to an approved disposal site and cleanups of spilled excess water	LS	1		\$ -
B33	Conduct injection test with reclaimed water at a rate of 9,722 gpm (14 MGD) for a period of 12 hours followed by a 24 hour shut in period	LS	1		\$ -
					\$ -
SUBTOTAL B - TEST INJECTION WELL (Total of Items B1-B33)					

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
C. LOWER ZONE MONITOR WELL					
C1	Initial mobilization to site and site prep	LS	1		\$ -
C2	Demobilization from site after completion of well	LS	1		\$ -
C3	Drilling nominal 10-inch diameter pilot hole to +/- 300 feet bls by mud rotary	LF	300		\$ -
C4	Ream nominal 22-inch diameter hole by mud rotary to +/- 300 feet bls	LF	300		\$ -
C5	Furnishing, installing and cementing the 16-inch steel casing to a depth of +/- 300 feet bls	LF	300		\$ -
C6	Drill nominal 10-inch diameter pilot hole by reverse air rotary to +/- 950 feet bls	LF	650		\$ -
C7	Conduct single packer test and water quality sampling at depth of +/- 900 feet bls to determine casing setting depth	EACH	1		\$ -
C8	Ream pilot hole to nominal 16-inch diameter to +/- 900 feet bls	LF	600		\$ -
C9	Furnish, install, and cement in place the 6-inch diameter FRP casing to +/- 900 feet bls	LF	900		\$ -
C10	Clean pilot hole to total depth of +/- 950 feet bls using a 6-inch diameter bit	LF	50		\$ -
C11	Conduct all geophysical logging and TV surveying for the Lower Zone Monitor Well in accordance with the specifications	LS	1		\$ -
C12	Conduct water sampling during drilling and testing by approved laboratory in accordance with the specifications during reverse air drilling	EACH	22		\$ -
C13	Full analysis of water sample collected prior to cessation of development phase in accordance with the specifications (all parameters in list)	LS	1		\$ -
C14	Supply, install and operate equipment capable of conducting a pressure test on the final 6-inch well casing while plugged at the bottom at a minimum pressure of 150 psi and a maximum pressure of 200 psi for not less than 1 hour	LS	1		\$ -
C15	Supply, install and operate pumping equipment to produce 300 gallons per minute for 2 hours for up to 24 hours	HR	24		\$ -

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
C16	Supply sufficient tanker truck capacity to carry excess fluids resulting from 24-hour development, away from site for disposal for the lower zone monitor well	LS	1		\$ -
C17	Supply, install, and remove pressure transducer and readout unit as required by the specifications for injection testing	LS	1		\$ -
C18	Installing and removing temporary flow control devices, if needed	LS	1		\$ -
C19	Disposal of all waste material and excess water away from the well site to an approved disposal site and cleanups of spilled excess water	LS	1		\$ -
C20	Furnishing and installing final well head fittings on monitor well, complete	LS	1		\$ -
					-
SUBTOTAL C - LOWER ZONE MONITOR WELL (Total of Items C1-C20)					\$ -
D. UPPER ZONE MONITOR WELL					
D1	Initial mobilization to site and site prep	LS	1		\$ -
D2	Demobilization from site after completion of well	LS	1		\$ -
D3	Drilling nominal 10-inch diameter pilot hole to +/- 300 feet bls by mud rotary	LF	300		\$ -
D4	Ream nominal 22-inch diameter hole by mud rotary to +/- 300 feet bls	LF	300		\$ -
D5	Furnishing, installing and cementing the 16-inch steel casing to a depth of +/- 300 feet bls	LF	300		\$ -
D6	Drill nominal 10-inch diameter pilot hole by reverse air rotary to +/- 850 feet bls	LF	550		\$ -
D7	Conduct single packer/straddle packer tests and water quality sampling at depth of +/- 800 feet and conduct specific capacity and water quality tests to verify monitor zone is above the USDW	EACH	2		\$ -
D8	Ream pilot hole to nominal 16-inch diameter to +/- 800 feet bls	LF	500		\$ -
D9	Furnish, install, and cement in place the 6-inch diameter FRP casing to +/- 800 feet bls	LF	800		\$ -
D10	Clean pilot hole to total depth of +/- 850 feet bls using a 6-inch diameter bit	LF	50		\$ -
D11	Conduct all geophysical logging and TV surveying for the Upper Zone Monitor Well in accordance with the specifications	LS	1		\$ -

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
D12	Conduct water sampling during drilling and testing by approved laboratory in accordance with the specifications during reverse air drilling	EACH	18		\$ -
D13	Full analysis of water sample collected prior to cessation of development phase in accordance with the specifications (all parameters in list)	LS	1		\$ -
D14	Supply, install and operate equipment capable of conducting a pressure test on the final 6-inch well casing while plugged at the bottom at a minimum pressure of 150 psi and a maximum pressure of 200 psi for not less than 1 hour	LS	1		\$ -
D15	Supply, install and operate pumping equipment to produce 300 gallons per minute for 2 hours for up to 24 hours	HR	24		\$ -
D16	Supply sufficient tanker truck capacity to carry excess fluids resulting from 24-hour development, away from site for disposal for the lower zone monitor well	LS	1		\$ -
D17	Supply, install, and remove pressure transducer and readout unit as required by the specifications for injection testing	LS	1		\$ -
D18	Installing and removing temporary flow control devices, if needed	LS	1		\$ -
D19	Disposal of all waste material and excess water away from the well site to an approved disposal site and cleanups of spilled excess water	LS	1		\$ -
D20	Furnishing and installing final well head fittings on monitor well, complete	LS	1		\$ -
					\$ -
SUBTOTAL D - UPPER ZONE MONITOR WELL (Total of Items D1-D20)					\$ -
E. Plug and Abandon Existing Onsite Monitor Well					
E	Plug and Abandon Existing Onsite Well 24-inch casing to 1,102 ft, open hole to 1,247 ft	LS	1		\$ -

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
SUMMARY OF BID ITEMS					
A. Shallow Monitor Wells					\$ -
B. Test Injection Well					\$ -
C. Lower Zone Monitor Well					\$ -
D. Upper Zone Monitor Well					\$ -
E. Plug and Abandon Onsite Monitor Well					\$
TOTAL BID PRICE - ITEMS A-E					\$ -
TOTAL BID PRICE (WRITTEN IN WORDS):					

Note: Bid Prices on this form correspond to the Items listed in the Measurement and Payment Section 01026.

**** Award will be based on Total Bid Price -- Items A -- E.**

**** Standby time will not be considered in determining award.**

A bidder is required to submit an hourly rate for **Standby Time**, if required by the Owner or the Engineer, for the Shallow Monitor Wells, Test Inspection Wells, Lower Zone Monitor Well, or the Upper Zone Monitor Well.

This hourly rate is to be bid separately and not to be included in the total bid price, and will not be considered in the bid evaluation process or the selection of the Contractor..

However, if the selected Contractor submits an invoice for any Standby Time, the Contractor will bill the City of Sarasota at an hourly rate of \$ _____ dollars (\$ _____) per hour.

(A bidder must submit their hourly rate for Standby Time above)

**CITY of SARASOTA
SARASOTA, FLORIDA
PRICE SCHEDULE
DEEP INJECTION WELL No. 1
BID NO. 11-19W**

BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
----------	-------------	------	-----	------------	--------------

THIS BID MADE BY AND ON BEHALF OF:

Company: _____

FEI Number: _____

Address: _____

(SEAL) _____

Fax # : _____

E-Mail Address: _____

BY: _____

Authorized Signature

PRINT: _____

TITLE: _____

LOCAL VENDOR CERTIFICATION

City - The Term "City" shall mean a person, firm, corporation, or other business entity which is duly licensed and authorized to engage in the particular business at issue, and which has maintained a permanent place of business with full-time employees within the City limits of the City of Sarasota, for a minimum of one (1) year prior to the date bids were received for the purchase or contract at issue.

County - The Term "County" shall mean a person, firm, corporation, or other business entity which is duly licensed and authorized to engage in the particular business at issue, and which has maintained a permanent place of business with full-time employees within Sarasota County, for a minimum of one (1) year prior to the date bids were received for the purchase or contract at issue.

Check the appropriate box:

City Vendor ☐

County ☐

Business Name:	
*Physical Address:	
Previous Address: (if less than 1 year)	
Length of time at address:	
Number of full-time employees:	
*Occupational License (attach)	

Signature of Authorized Representative

Date

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20 by _____ (name and title of corporate officer) of _____ (name of corporation), a _____ (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

(Signature line for notary public)

Seal:

- *Post office boxes are not verifiable and shall not be used for the purpose of establishing said physical address.*
- *In order to be eligible for local preference, the vendor must provide a copy of the occupational license.*

STATE OF FLORIDA
COUNTY OF SARASOTA

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal, and _____, as Surety, a Corporation chartered and existing under the laws of the State of _____, with its principal offices in the City of _____, and firmly bound unto the Sponsor in the full and just sum of _____ Dollars (\$_____) good and lawful money of the United States of America, to be paid upon demand by Sponsor, to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, and assigns, joint and severally and firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the attached Bid, dated _____, 2_____, for a Contract entitled: _____, **Bid #11-19W**

NOW, THEREFORE, if the Principal shall withdraw said Bid prior to the date of opening same, or shall within ten (10) days after the prescribed forms are presented to him for signature enter into a written Contract with City of Sarasota, Florida, in accordance with the Bid as accepted, and give a Performance and payment Bond with good and sufficient Surety or Sureties as may be required, for the faithful performance and proper fulfillment of such Contract and for the prompt payment of all persons furnishing labor or materials in connection therewith; or, in the event of failure to enter into such Contract and give such Bond within the time specified, if the principal shall pay the City of Sarasota the difference between the amount specified in said Bid and the amount for which the City of Sarasota may procure the required work and/or supplies, provided the latter amount to be in excess of the amount specified in said Bid, then the above obligations shall be void; otherwise, to remain in full force and effect.

IN WITNESS WHEREOF, the above written parties here executed this instrument under their several seals this _____ day of _____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(Sign here if the Contractor is a Partnership or an Individual)

IN THE PRESENCE OF:

_____	_____ (SEAL)
_____	<i>Individual Principal</i>
_____	_____
<i>Address</i>	<i>Business Address</i>
_____	_____ (SEAL)
_____	<i>Corporate Surety</i>
_____	_____
<i>Address</i>	<i>Business Address</i>

(Sign here if Contractor is a Corporation)

ATTEST:

_____	<i>Individual Principal</i>
_____	BY: _____
	<i>As President</i>

	<i>Business Address</i>
<i>(AFFIX CORPORATE SEAL)</i>	_____
	<i>Corporate Surety</i>
	BY: _____
	<i>As Authorized Agent</i>
<i>(AFFIX CORPORATE SEAL)</i>	_____

	<i>Business Address</i>

**SWORN STATEMENT UNDER SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

This form must be signed and sworn to in the presence of a notary public or other officer authorized to administer oaths.

1. This sworn statement is submitted to _____
(Print name of the public entity)

by _____
(Print individual's name and title)

for _____
(Print name of entity submitting sworn statement)

whose business address is _____

(If applicable) its Federal Employer Identification Number (FEIN) is _____

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: On the attached sheet.) Required as per IRS Form W-9.

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, and bid or contract for goods or services to be provided to any public entity or agency or political subdivision or any other state or of the United States, and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:
1. A predecessor or successor of a person convicted of a public entity crime:
or:
 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those offices, directors, executives, partners, shareholders, employees, members and agents who are active in the management of the affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not fair market value under an arm's length agreement, shall be a facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
5. I understand that a "person" as defined in Paragraph 287.133(1)(c), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of the entity.

6. **Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting those sworn statements. (Please indicate which statement applies.)**

_____ Neither the entity submitted this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity nor affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, member, or agents who are active in management of the entity, or an affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, member, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearing and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (Attach a copy of the final order)

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OR ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature)

(Date)

STATE OF _____
COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority, _____

(Name of individual signing)

who, after first being sworn by me, affixed his/her signature in the space provided above on this _____ day
of _____, 2_____.

(NOTARY PUBLIC)

My Commission Expires: _____

NON-COLLUSIVE AFFIDAVIT
(Prime Bidder)

State of _____
County of _____

_____, being first duly sworn, deposes and says that he is
_____, the party making the fore-going proposal or bid, that such proposal
(partner or officer of the firm, etc.)

or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any other bidder, or to fix overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the City of Sarasota of any person interested in the proposed contract; and that all statements in said proposal or bid are true.

(Bidder, if the bidder is an individual;
Partner, if the bidder is a partnership;
Officer, if the bidder is a corporation)

(Company Name)

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____ by
_____ (name and title of corporate officer) of _____
(name of corporation), a _____ (state or place of incorporation) corporation, on behalf of the
corporation. He/she is personally known to me or has produced _____ (type of identification) as
identification.

(Signature line for notary public)

(Name of notary type, printed or stamped)

(Title or rank)

My commission expires:

(Serial number, if any)

FORM 3A INTEREST IN COMPETITIVE BID FOR PUBLIC BUSINESS

LAST NAME, FIRST NAME, MIDDLE NAME	OFFICE POSITION HELD
MAILING ADDRESS	AGENCY
CITY ZIP COUNTY	ADDRESS OF AGENCY

WHO MUST FILE THIS STATEMENT

Sections 112.313(3) and 112.313(7), Florida Statutes, prohibit certain business relationships on the part of public officers and employees, their spouses, and their children. See Part III, Chapter 112, Florida Statutes and/or the brochure entitled "A Guide to the Sunshine Amendment and Code of Ethics for Public Officers, Candidates and Employees" for more details on these prohibitions. However, Section 112.313(12), Florida Statutes (1983), provides certain limited exemptions to the above-referenced prohibitions, including one where the business is awarded under a system of sealed, competitive bidding; the public official has exerted no influence on bid negotiations or specifications; and where disclosure is made, prior to or at the time of the submission of the bid, of the official's or his spouse's or child's interest and the nature of the intended business. This form has been promulgated by the Commission on Ethics for such disclosure, *if and when applicable* to a public officer or employee.

INTEREST IN COMPETITIVE BID FOR PUBLIC BUSINESS (Required by 112.313(12)(b), Fl. Stat. (1983))

1. The competitive bid to which this statement applies has been/will be (strike one) submitted to the following government agency:		
2. The person submitting the bid is:	Name	Position
3. The business entity with which the person submitting the bid is associated is:		
4. My relationship to the person or business entity submitting the bid is as follows:		
5. The nature of the business intended to be transacted in the event that this bid is awarded is as follows:		
a. The realty, goods and/or services to be supplied specifically include:		
b. The realty, goods and/or services will be supplied for the following period of time: _____		
c. Will the contract be subject to renewal without further competitive bidding? Yes No if so, how often? _____		
6. Additional comments:		
7. Signature	Date Signed	Date Filed
FILING INSTRUCTIONS If you are a state officer or employee required to disclose the information above, please file this form with the Secretary of State at the Capitol, Tallahassee, Florida 32301. If you are an officer or employee of a political subdivision of this state and are subject to this disclosure, please file the statement with the Supervisor of Elections of the county in which the agency in which you are serving has its principal office.		
NOTICE: UNDER THE PROVISIONS OF FLORIDA STATUTES #112.317 (1983), A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED \$5,000.00		

TRENCH SAFETY

Bidder acknowledges that included in the appropriate bid items of the proposal and in the Total Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) effective October 1, 1990. The bidder further identifies the costs of such compliance to be summarized below:

Trench Safety Measure (Description)	Units of Measure (LF, SF)	Unit (Quantity)	Unit Cost	Extended Cost
A. _____	_____	_____	_____	_____
B. _____	_____	_____	_____	_____
C. _____	_____	_____	_____	_____
D. _____	_____	_____	_____	_____
TOTAL \$ _____				

If applicable, the Contractor certifies that all trench excavation done within his control in excess of five (5') feet in depth shall be in accordance with the Florida Department of Transportation's Special Provisions Article 125-1 and Subarticle 125-4.1 (TRENCH EXCAVATION SAFETY SYSTEM AND SHORING, SPECIAL-TRENCH EXCAVATION).

Failure to complete the above may result in the bid being declared non-responsive.

(Signature)

(Company Name)

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____ by _____ (name and title of corporate officer) of _____ (name of corporation), a _____ (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

(signature line for notary public)

(name of notary typed, printed or stamped)

(title or rank)

My commission expires:

_____ (serial number, if any)

DRUG FREE WORKPLACE

Preference must be given to vendors submitting a certification with their bid form certifying they have a drug-free work place in accordance with Section 287.087, Florida Statutes. This requirement effects all public entities of the State and became effective January 1, 1991. The special condition is as follows:

Identical Tie Bids - Preference shall be given to businesses with drug-free work place programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free work place program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free work place program. In order to have a drug-free work place program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the work place and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the work place, the business policy of maintaining a drug-free work place, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the work place no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free work place through implementation of this section.

SUBCONTRACTORS LIST

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

CONTRACTOR QUALIFICATIONS FORM

Project Name: _____

Contract Date: _____ Original Contract Days: _____ Actual Days to Complete: _____

Owner Name: _____ Contact Name: _____

Address: _____

Phone No.: _____

Prime Contractor Project Manager: _____

Prime Contractor Superintendent: _____

Project Qualifications Amount: \$1,000,000

Awarded Amount*: _____ Completed Amount**: _____

Specific Experience Project: Similar complexity is defined as acting as prime contractor for:

Acting as prime contractor of a Class I Industrial tubing and packer deep injection well with a minimum depth of 1,500 feet and a minimum tubing diameter of 16-inches. ____YES ____NO

*Amount of Contract Award For Project Named Above

**Amount of Contract After Final Completion

List projects similar in size and scope completed in accordance with Instructions, Terms, and Conditions, Article 45.1. Failure to fill out this form may be cause for the Contractor's bid to be declared non-responsive.

CONTRACTOR QUALIFICATIONS

In compliance with Instructions, Terms, and Conditions, minimum qualifications shall include the following:

Bidders must have successfully constructed, as prime contractor, at least 2 (Two) projects of similar size and complexity within the last 10 (Ten) years.

Similar complexity is defined as acting as prime contractor for:

Acting as a prime contractor of a Class I Industrial tubing and packer deep injection well with a minimum depth of 1,500 feet and a minimum tubing diameter of 16-inches.

Similar sized projects shall be defined as projects of not less than \$1,000,000 for an individual project.

Contractor shall provide a project manager and superintendent experienced in the qualifications listed above.

To demonstrate qualifications to perform this work, each bidder shall fill out and submit with their bid package a Contractor Qualifications Form, CQF-1, documenting their firm's ability to meet the projects experience requirements as listed below.

In addition, the bidder must be prepared to submit, within five days of the City of Sarasota's request, written evidence of documents, such as financial data, additional data related to previous experience, and evidence of authority to conduct business in the jurisdiction where the project is located.