
**SEMINOLE COUNTY GOVERNMENT
AGENDA MEMORANDUM**

SUBJECT: Third Amendment To The Memorandum Of Understanding Between The St. Johns River Water Management District And Seminole County For Aquifer Storage And Recovery Construction And Testing Demonstration Project

DEPARTMENT: Environmental Services

DIVISION: Planning Engineering Inspections

AUTHORIZED BY: Andrew Neff

CONTACT: Hugh Sipes

EXT: 2117

MOTION/RECOMMENDATION:

Approve and authorize the Chairman to execute The Third Amendment to the Memorandum of Understanding Between the St. Johns River Water Management District and Seminole County for Aquifer Storage and Recovery Construction and Testing Demonstration Project

District 5 Brenda Carey

Hugh Sipes

BACKGROUND:

On July 22, 2003 the Board of County Commissioners approved the original Memorandum of Understanding (MOU) which established the responsibilities of the St. Johns River Water Management District and Seminole County for cost sharing of design, permitting, construction and testing of an Aquifer Storage and Recovery System (ASR) located within an easement at the Wilson Elementary School property on Orange Boulevard. The BCC approved the first and second amendments that addressed an additional cost share by the County and a time extension of the MOU on December 12, 2006 and July 22, 2008 respectively. This third amendment will add construction of additional facilities to accommodate treatment of the injection water to reduce chemical leaching in the aquifer during the cycle testing and storage phases. Seminole County's respective cost allocation will be for providing electrical power and control systems to the new facilities and for additional costs of water quality testing during the cycle tests. These requirements are consistent with the original MOU terms. No additional funding is requested as part of this agenda item.

STAFF RECOMMENDATION:

Staff recommends that the Board approve and authorize the Chairman to execute The Third Amendment to the Memorandum of Understanding Between the St. Johns River Water Management District and Seminole County for Aquifer Storage and Recovery Construction and Testing Demonstration Project.

ATTACHMENTS:

1. Agreement

Additionally Reviewed By:

County Attorney Review (Susan Dietrich)

**THIRD AMENDMENT TO THE MEMORANDUM OF UNDERSTANDING BETWEEN
THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
AND SEMINOLE COUNTY
FOR AQUIFER STORAGE RECOVERY CONSTRUCTION AND TESTING**

THIS AMENDMENT is entered into by and between the GOVERNING BOARD of the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT ("the District"), whose mailing address is 4049 Reid Street, Palatka, Florida 32177 and SEMINOLE COUNTY ("the County"), a political subdivision of the state of Florida whose address is Seminole County Services Building, 1101 East First Street, Sanford, Florida 32771 and is effective on the date the last party has executed same.

WHEREAS, the District and the County entered into a Memorandum of Understanding (MOU) SG341AA on August 5, 2003, for the County to co-share funding costs with the District to design, permit, and construct an Aquifer Storage Recovery system (Project) in Seminole County, Florida, and amended the Agreement on January 11, 2007 (Amendment #1), and August 8, 2008 (Amendment #2); and

WHEREAS, the District and the County, desire to further amend the MOU.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and for other good and valuable consideration, the District and the County, hereby agree to the following amendments:

- 1. **II. TERMS:** delete paragraphs D, E and F, and replace them with the following paragraphs:
 - "D. The District agrees to fund the Project for a total amount not to exceed \$6,005,000."
 - "E. The County agrees to fund the Project for a total amount not to exceed \$270,000."
 - "F. The District and County agree that all work shall be performed in accordance with Exhibit "A-2" – Revised Statement of Work, entitled "Aquifer Storage Recovery Construction and Testing Demonstration Project," attached hereto and incorporated herein."

The District and the County, agree that all other terms and conditions of the original MOU and amendments are hereby ratified and continue in full force and effect.

IN WITNESS WHEREOF, the parties hereto have duly executed this Amendment on the date set forth below.

ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT

SEMINOLE COUNTY

By: _____
Kirby B. Green III, Executive Director, or Designee

By: _____

Typed Name and Title

Date: _____

Date: _____

APPROVED BY THE OFFICE
OF GENERAL COUNSEL

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Stanley J. Niego, Sr. Assistant General Counsel

Attest: _____

Typed Name and Title

ATTEST:

**BOARD OF COUNTY COMMISSIONERS
SEMINOLE COUNTY**

**MARYANNE MORSE, Clerk to the
Board of County Commissioners in
and for Seminole County, Florida.**

, Chairman

Date: _____

**As authorized for execution by the Board of
County Commissioners at their November 10,
2009, regular meeting.**

For Use and Reliance of Seminole County Only.
Approved as to Legal Form and Sufficiency.

County Attorney

EXHIBIT A-2 - REVISED STATEMENT OF WORK

**AQUIFER STORAGE RECOVERY
CONSTRUCTION AND TESTING DEMONSTRATION PROJECT**

I. INTRODUCTION/BACKGROUND

Amendment #3 includes the incorporation of pretreatment facilities into the Aquifer Storage Recovery Construction and Testing Demonstration Project in Seminole County.

Project Definition - The St. Johns River Water Management (District) and Seminole County (County) shall jointly endeavor to design, permit, and construct an Aquifer Storage Recovery (ASR) system (Project), consisting of an exploratory well, monitoring wells, ASR test well, site work, pretreatment system, and related pipelines and appurtenances, all defined to be part of the Project.

Project Need – Aquifer storage recovery of water, treated to primary and secondary drinking water standards, is the primary storage method planned for surface water source development projects.

Memorandum of Understanding's (MOU) Goals – Demonstrate that ASR is a feasible technology for utilities in the East-Central Florida region. The District seeks to complete this cooperative project with the County and shall require its District Contractor to prepare the design of the Project in accordance with the requirements of regulatory agencies, the County, and the District and to obtain necessary permits and construct the Project in accordance with such design.

Consistency with District's Mission and Goals – This Project is included in the Water Resource Development Work Program, dated March 5, 2002, as required by Section 373.536(6)(a) 4, Florida Statutes. The design shall be consistent with District report entitled "Desktop Assessment of Aquifer Storage and Recovery for Seminole County, Florida," prepared by Camp Dresser & McKee, Inc., and dated October 2002.

Location of the Work – The Project shall be located at the Wilson Elementary School property north of the Markham Regional Water Treatment Plant (WTP) in Seminole County, Florida, or a different site if mutually agreed upon by both parties. Pretreatment facilities shall be located at the Markham Regional WTP site, or a different site if mutually agreed upon by both parties.

The ASR work shall also address the potential for mineral leaching to occur in the aquifer as a result of ASR cycle testing. Potable water, which may have higher dissolved oxygen levels and higher oxidation-reduction potential than native ground water, may create a potential leaching condition in the aquifer after recharge and/or during storage and recovery. To minimize or eliminate the potential for mineral leaching, pretreatment of the water shall be investigated. Pretreatment system design, permitting, and construction may include degasification and/or dechlorination. To benefit from regulatory flexibility offered by the Florida Department of Environmental Protection (FDEP), the County agrees to apply for a Major Modification to the FDEP Underground Injection Control (UIC) permit, which shall include an Administrative Order addressing the potential for mineral leaching.

II. OBJECTIVES

Statements of the Results To Be Achieved – The Project shall be implemented with design features approved by the District and the County, in sequential order to provide for maximum benefit of expended funds. Sequential progress shall be based on exploration, permitting, and construction. The ASR Test Well

shall be drilled in accordance with FDEP UIC requirements, and cycle-tested, to demonstrate feasibility for water storage and recovery. Cycle testing may include pretreatment as determined jointly by the District and County, and as coordinated with applicable regulatory agencies.

III. SCOPE OF WORK

Outline of Extent of Work

Tasks 1, 2, and 3 have been completed by the District Contractor. The following is an outline of the extent of work to be performed under this Agreement:

Task 4 — Site-Specific Data Collection and Preliminary System Design

Task 5 — ASR Pilot Project Design, including Pretreatment System

Task 6 — Regulatory Permitting of ASR Facilities, including Pretreatment System

Task 7 — ASR Facilities, including Pretreatment System, Construction, Monitoring, and Testing

Task 8 — Startup and Training, including Pretreatment System

Task 9 — Large Cycle Operational Monitoring and Evaluations (Note: Cycle testing may include pretreatment as determined jointly by the District and the County, and as coordinated with applicable regulatory agencies.

Task 10 — Peer Review

Brief Overview of the Steps of Project

The District shall prepare a preliminary design plan for the ASR system, including an exploratory well. Based on the results of the exploratory well, final design of the ASR system shall be conducted and coordinated with FDEP UIC permitting requirements. Once the design and permit are approved, the District shall begin construction of the ASR Test Well and related appurtenances, including pretreatment system. Pretreatment system shall include dechlorination and/or degasification components. Cycle testing may include pretreatment as determined jointly by the District and County, and as coordinated with applicable regulatory agencies.

After completion of drilling and verification of Project requirements, cycle testing shall be performed to measure storage and recovery. If at any time the Project is deemed infeasible, the District shall coordinate with the County the salvage of any constructed wells for monitoring purposes, or shall provide abandonment and decommissioning services as required. After construction, startup, and training, the completed Project shall be transferred to the County for operation and ownership.

Brief Description of the Methodology to be Used

The District shall utilize methodologies accepted in the professional practices of engineering and geology. Methodologies shall incorporate FDEP UIC permitting requirements and provide sufficient milestones for review, comment, and approval by the District and the County. Construction methods shall be in accordance with the General Conditions provided for in the District's Contractor agreement, including conformance with County local codes and requirements.

Description of Location Of Work - The Project shall be located at the Wilson Elementary School property north of the Markham Regional WTP in Seminole County, Florida. The exact Project location at the site shall be determined based on preliminary design and coordinated with the location of potable source water and discharge facilities. The ASR system shall accommodate elements of the plant's master plan, including future wellfields. Pretreatment facilities shall be located at the Markham WTP site, or a different site if mutually agreed upon by both parties.

IV. TASK IDENTIFICATION

Description of the Work to be Performed to Complete the Project

The following Tasks 4 through 10 are summarized from the District Contractor agreement. These tasks shall be performed on a work-order basis as each individual task is successfully completed.

Task 4 — Site-Specific Data Collection and Preliminary System Design

This task includes site-specific data collection and preliminary system design. A data collection plan for the Project site shall be prepared based on a review of existing information and coordination with FDEP. In particular, the plan shall address the need for initial exploratory testing as the basis of development of ASR well design. The plan shall explain that exploratory testing may be conducted without having to first obtain all permits for the subsequent ASR system.

To the extent possible based on FDEP guidelines, the District proposes to gather hydrogeologic information from the construction and testing of an initial exploratory well at the Project site, which would then be converted to an observation well for the ASR construction and testing program. The data collection plan shall be implemented, the data shall be evaluated, and a preliminary system design shall be developed. If the site is deemed to be infeasible for any reason, the District and the County shall endeavor to locate an alternative site for the Project through mutual agreement by both parties.

Task 5 — ASR Pilot Project Design, including Pretreatment System

This task includes the design of well and wellhead facilities at the selected site, including supporting infrastructure such as pipelines, electrical service, and incidental site work. The design shall also specify the proposed data collection and monitoring programs.

Task 6 — Regulatory Permitting, including Pretreatment System

The District and the County shall adhere to the necessary regulatory permitting requirements, including preparation of permit applications, and responses to requests for information from regulatory agencies. The primary permitting effort shall be through the FDEP UIC program, although other ancillary permits shall be required from local government. The District shall provide services to support the cost of preparation of a) Well Construction permit applications, b) local government permit applications as required, c) FDEP UIC permit application, d) Consumptive Use Permit (CUP) application for testing water if necessary, e) FDEP Drinking Water System extension permit application, f) other FDEP water system permits and permit modifications, if required, and g) Project reports.

The District's Agreement or contract work order with its third-party Contractor shall include site improvements required by the Project and mutually agreed upon by both parties. The County shall be responsible for processing and resolving any zoning or land use issues that may arise with regard to the Project. The County shall act as Owner of the ASR facilities for well construction, FDEP UIC, pretreatment construction, and Project related permit applications. The District shall act as the Owner's representative in all

permit related matters and pay for application fees. Upon receipt of necessary permits, the County shall provide evidence of permission to access Project site.

Task 7 — ASR Facilities, including Pretreatment System, Construction, Monitoring, and Testing

This task consists of construction of ASR and monitor wells, pretreatment system, and associated pipelines, electrical service, incidental site work, and wellhead facilities. Initial hydraulic and water quality testing shall be conducted, in addition to geophysical logging, geochemical modeling, and evaluation of any additional pretreatment requirements. A series of ASR test cycles shall then be conducted to address technical and other issues pertaining to the Project site.

The District shall provide property or easement limit field staking to define legal boundaries of construction, based on recorded easement documents furnished by County. The District shall be responsible for construction layout, inspection, testing, and progress reporting for the Project. The County shall allow the District full site access to inspect construction of the Project. The County shall alert the District of any problems it knows of and the District, when appropriate, shall require its third-party Contractor to correct any problems or non-conforming work discovered by District inspection or County's observation.

Task 8 — Startup and Training

The District shall provide operational training of County staff to ensure a smooth transition from the test Project into full operations.

Task 9 — Large Cycle Operational Monitoring and Evaluations (Note: Cycle testing may include pretreatment as determined jointly by the District and the County, and as coordinated with applicable regulatory agencies.)

Operational monitoring and evaluation of ASR system performance shall be conducted during the first year of operation, making any needed adjustments to improve system performance. The County shall own, operate, and maintain the system during this period.

Task 10 — Peer Review of District's Work

This task includes the review of work products produced by or for the District by other Contractors retained by the District for the purposes of carrying out the ASR demonstration program as considered necessary by the District. This task is not sequential and may be authorized at any time during the Project by the District's Project Manager.

V. TIME FRAMES AND DELIVERABLES

The project will be completed by September 10, 2010.

District Deliverables

The District will provide all deliverables to the County in both hard copy and electronic versions. Deliverables will generally include the following items, by task. Other elements of the Project may be added as mutually agreed upon by both parties.

Task 4, Site-Specific Data Collection and Preliminary System Design: As defined in the work order, to include the following. Note: Task 4 was completed in November 2004 and is included in this Revised Statement of Work for information purposes only.

- Data Collection Plan
- Preliminary Design Report
 - Exploratory Well Construction Plan
 - Exploratory Well Construction Specifications
 - Exploratory Well Contractor's Safety Plan
 - Exploratory Well Construction Schedule
 - Exploratory Well Sampling and Testing Plan
- Exploratory Well Construction Permit Application
- Well Salvage for Monitoring, or Abandonment if Site is Infeasible
- Completed Exploratory Well
- Water Quality Sampling and Testing
- Exploratory Well Project Report

Task 5, ASR Pilot Project Design, including Pretreatment System: As defined in the work order, to include the following.

- ASR System Construction Plans, including Telemetry Conduit Layout
- ASR System Construction Specifications
- ASR System Construction Cost Estimate
- ASR System Construction Phase Services Plan
- ASR System Contractor's Safety Plan
- ASR System Construction Schedule
- ASR System Final Project Report (as may be amended for pretreatment components)

Task 6, Regulatory Permitting, including Pretreatment System: The District shall pay for all permit application fees. One (1) or more of the following deliverables shall apply to the Project, as required:

- Well Construction Permit Application(s)
- Local Government Permit Application(s)
- FDEP UIC Construction Permit Application
- CUP Application For Testing Water
- FDEP Drinking Water System Extension Permit Application
- Other FDEP Water System Permit(s)
- Permitting Condition Progress Report(s)
- Permitting Condition Sampling And Testing Report(s)

Task 7, ASR Facilities, including Pretreatment System, Construction, Monitoring, and Testing: As defined in the work order, to include the following.

- Payment and Performance Bond
- Construction Survey Layout and Control
- Shop Drawings
- Updated ASR System Contractor's Safety Plan
- Updated ASR System Construction Schedule
- Monthly ASR System Project Progress Reports
- Laboratory Reports
- Well Testing Discharge Plan
- Construction Inspection and Testing Records

- Completed ASR System
 - ASR facilities (wells and pumps)
 - Pretreatment facilities
- Construction Record Drawings
- Certifications of Completion
- Releases for Final Payment
- Final Construction Report
- Startup and Training Plan

Task 8, Startup and Training, including Pretreatment System: As defined in the work order, to include the following.

- Operation and Maintenance Manuals
- Training Instruction
- Operating Guidelines
- Cycle Testing Plan

Task 9, Large Cycle Operational Monitoring and Evaluations (Note: Cycle testing may include pretreatment as determined jointly by District and the County, and as coordinated with applicable regulatory agencies): Cycle Testing Reports as defined in the work order.

The County shall own, operate, and maintain the system after construction is completed, startup and training has been conducted, and once cycle testing begins. The District shall provide technical oversight and assistance as required during this task, subject to the availability of District funds.

Task 10, Peer Review: As defined in the work order.

County Deliverables

The County shall deliver the following items, according to the time they are needed as jointly determined by the County and the District during the course of the work:

1. Timely review comments on Contractor submittals.
2. Execution of permit applications, as Project owner of the ASR facilities.
3. Relevant records pertaining to, or affecting, the Project which may consist of, but not be limited to, survey data and legal descriptions, easement documents, soils data, water facilities record drawings, site plans, right of way use requirements, and other technical information required for the planning, design, and construction of the ASR facilities at the proposed site.
4. Unique construction requirements not covered under local permits or codes, such as site lighting requirements, site access constraints, and any limitations on construction activities.
5. Electrical power service to the site, including offsite extensions, material purchases, new equipment, lighting, metering, and individual well service connections, in accordance with local power company requirements. The estimated capital cost to the County is listed in the Project Budget for the furnishing of labor, equipment, and materials to install the electrical service.
6. Networked telemetry, including instrumentation and control (I&C), for well operation, if needed, except that local I&C compatible with the County's telemetry and control logic shall be provided by the District. The District shall install County-furnished 2" PVC conduit and pull boxes from the ASR test well to the perimeter of the Markham WTP property for County's fiberoptic telemetry cable. The County shall furnish and install fiberoptic telemetry cable and panels at both ends; including conduit and cable extensions at the WTP site, any necessary building penetrations, and all connections to telemetry panels. The estimated capital cost to the County is

- listed in the Project Budget for the furnishing of labor and equipment for installation of cable and panels, and the furnishing of conduit and pull box materials for the networked telemetry line. The I&C for the pretreatment system shall be local-only; integration of pretreatment I&C into the County's networked telemetry system shall be performed by County.
7. Landscaping and other beautification features for the Project area, if needed, except that the District shall restore the areas of the Project site disturbed by construction in accordance with the approved plans and specifications. The District's restoration, as delineated in the plans and specifications shall include the following: a) grassing (seeding or sod) to the County's specification for graded restoration of the areas disturbed by construction and b) any desired or required fencing along the access road or at the wellhead.
 8. Water quality sampling and testing during cycle testing phase of Project, as required by the FDEP UIC construction permit. The estimated cost to the County is listed in the Project Budget for this water quality sampling and testing. This analytical work shall be consistent with regulatory agency permitting and monitoring requirements.
 9. Information regarding features and items that are required to comply with zoning and land development codes.
 10. Necessary potable water for ASR testing, permission to use County-controlled rights of way and easements for discharge purposes, and appurtenant operational requirements for the Project, including necessary coordination and related services from County's staff. In the event the County does not have an adequate allocation of water under existing CUPs for the cycle testing, then the District shall be responsible for preparing the permit application necessary for the County to submit for District review and approval of a separate (or additional) allocation of water sufficient for this purpose.

District and County Responsibilities

The District and County shall do the following in a timely manner so as not to delay the progress of the work:

1. The County shall provide a Project site and associated access for the Project. If the County does not own a site suitable for the Project and elects to purchase an appropriate Project site with its own funds, the County shall coordinate the purchase with the District. The District shall review the County's proposed purchase agreement, if applicable, for the property needed to complete the Project, within 30 days of receipt, and either approve or recommend no purchase if the site does not meet Project requirements. The District shall not unreasonably withhold approval of said purchase. The County shall provide evidence of ownership or easements providing access and control of facilities expected to be installed on the property. The District shall be responsible for providing field services for surveying for property survey and stakeout, and to establish horizontal and vertical control for the Project.
2. The County shall own the Project after completion. The County agrees to assume full ownership responsibility for Project following construction and startup. The County shall participate in and perform operational cycle testing required by regulatory agencies. The District shall provide technical assistance to the County with data collection guidelines for cycle testing during the term of this MOU. District's technical assistance shall consist of management oversight for the first cycle test, then less involvement for subsequent cycle tests as County's staff becomes more experienced with operational testing and permit compliance activities.
3. The County shall be responsible for ownership, operation and maintenance of the completed Project. The County agrees to assume total responsibility of ownership for continued operation, maintenance, and data collection for the system following completion of the term of this MOU, in perpetuity, but reserves the right to re-permit, modify, abandon, or decommission the Project in accordance with applicable rules and regulations should the Project cease to be functional for its intended purpose. In

event of abandonment or decommissioning, the District reserves the right to access the Project for well monitoring purposes.

4. Other elements of the Project as mutually agreed upon by both parties.

Comment and Review Time

Major milestone submittals defined in the work orders shall generally include four (4) weeks for review and comment by the District and the County. Review and comment for lesser submittals may be reduced to three (3) weeks.

Construction-phase data that must be reviewed and approved in a shorter timeframe to facilitate Contractor's activities shall be specified in the work order or determined by the District's Project Manager.

The District shall compile review comments from the District staff and the County Project representatives into one document for transmittal to the District Contractor. The County shall be available for explanation, discussion, and resolution of review comments.

VI. PROJECT BUDGET

The District shall be responsible for all costs of the Project, subject to the availability of District funds, with the exception of the County's capital costs listed below and like-kind services as described in this Statement of Work. The estimated cost for the District was originally estimated in the District report entitled "Desktop Assessment of Aquifer Storage and Recovery for Seminole County, Florida," prepared by Camp Dresser & McKee, and dated October 2002, and updated to reflect recent and current market conditions. The County shall be responsible for the County's capital-related costs for the Project.

The following is a summary of the District's and the County's estimated Project costs.

District Work by Contractor	
Using Current Florida Forever Funding	\$ 6,005,000
County Capital-related Cost Items, including Water Quality sampling and analysis, electrical Services, and networked telemetry):	\$ 270,000
TOTAL	\$ 6,275,000