

Memorandum

MIAMI-DADE
COUNTY

Date: June 26, 2007

To: Honorable Chairman Bruno A. Barreiro and
Members, Board of County Commissioners

From: George W. Burgess
County Manager

Subject: Report: Summary of "Requests to Advertise" and "Contract Awards" Agenda Items for the
Miami-Dade Water and Sewer Department

Supplement to
Agenda Item No. ~~8(R)3(A)~~
thru 8(R)3(K)

The Miami-Dade Water and Sewer Department (MDWASD) has prepared twelve (12) "Requests to Advertise" for capital projects mandated by state and federal regulatory agencies including the South Florida Water Management District (District), the Federal Environmental Protection Agency (FDEP) and the United States Environmental Protection Agency (USEPA). A brief history summarizing the directives issued by the various regulatory agencies accompanied by a brief project description are included in this report beginning with the High Level Disinfection (HLD) projects required by FDEP and USEPA and the alternative water supply plan projects required by the District.

There are also three (3) additional items on this agenda, one (1) "Request to Advertise" and two (2) "Contract Awards" which are explained in a category labeled as "Other Projects".

FDEP and USEPA Mandates

On July 22, 2003, the Board of County Commissioners (Board) adopted Resolution R-810-03 entering into a Consent Order with the FDEP to address issues related to the fluid movement in the injection wells at the County's South District Wastewater Treatment Plant. The Consent Order which became effective April 29, 2004, requires the County to upgrade the treatment process to meet the FDEP's High Level Disinfection (HLD) criteria prior to injection. In addition to the Consent Order requirement, in December 2005, the USEPA issued a rule requiring all utilities using deep injection wells as a means of effluent disposal to provide HLD treatment to the effluent.

HLD Facility Projects

Listed below are seven (7) "Requests to Advertise" for MDWASD to design and construct the 285 million gallons per day (MGD) HLD Facility at the South District Wastewater Treatment Plant, six (6) of the seven (7) "Requests to Advertise" are for construction, the last one is for construction engineering and inspection services. There will be eight (8) more elements of this project brought before the Board in the future. Each "Request to Advertise" is listed below with a brief description of the project.

- 1) Request to Advertise: S-805 - Construction of the deep bed filter system for secondary treatment at the 285 MGD HLD Facility. This system will filter out the contaminants to meet the HLD criteria set by regulatory agencies.
- 2) Request to Advertise: S-806 - Construction of a new pump station capable of transferring the secondary treated effluent to the deep bed filter system and the construction of an electrical building to power the pump motors in the pump station.
- 3) Request to Advertise: S-813- Installation of Yard Piping – Install interconnecting pipe throughout the HLD facility which allows the water to be transferred from one process to another throughout the HLD facility, please see the details of the proposed installations below.

- a. 2,700 Linear Feet (LF) of 120-inch, 108-inch, 96-inch and 84-inch pre-stressed concrete cylinder pipe & fittings.
 - b. 3,000 LF of 48-inch and 36-inch ductile iron pipe for backwash waste.
 - c. 330 LF of 20-inch and 12-inch ductile iron pipe & fittings for gravity sewer.
 - d. 820 LF 16-inch and 8-inch ductile iron pipe & fittings for sewage applications.
 - e. 280 LF of 12-inch ductile iron pipe and fittings for potable water.
 - f. 100 LF of 12-inch polyvinyl chloride pipe C-900 pipe and ductile iron for reuse water.
 - g. 360 LF of 8-inch ductile iron rubber lined pipe for chlorine solution.
- 4) Request to Advertise S-816 – Construction of the Oxygenation Train No. 7 – Construction of a concrete structure for the oxygenation process. Pure oxygen is injected into the sewage to maximize the biological treatment process to optimize the breakdown of raw sewage.
 - 5) Request to Advertise S-825 – Field office and common facilities to house construction management staff which will be used by MDWASD staff after the HLD Facility is completed. In addition, up to 45 trailers will be provided by the contractors/subcontractors under multiple future contracts. These trailers will be removed from the site after the project is completed.
 - 6) Request to Advertise S-828 – Site preparation to prepare the land foundation for the construction of the HLD facilities consisting of earthwork to smooth out depressions or elevations in the ground, installing dewatering pipes to facilitate digging beyond the water table, installing electrical duct banks for future service, installing asphalt pavement in parking area and internal roads and removing the unnecessary existing structures and piping on site.
 - 7) Request to Advertise E07-WASD-05 – Construction Engineering and Inspection Services for the South District Wastewater Treatment Plant consisting of: Preparing daily logs, detailed review of contractor's update and revised schedules and prepare recommendations for approval, review schedule of values, contract interpretations and clarifications, process and authorize progress payments including allowance accounts, and perform/oversee plant start up services.

The HLD projects listed in Exhibit "A", as attached, require implementation to meet federal and state standards. The estimated capital cost of these improvements is approximately \$600 million for a period of six (6) years. The majority of this design work has been completed. On November 28, 2006, pursuant to Resolution R-1315-06, the Board approved Addendum Number 1 which authorized additional compensation in the amount of \$24,760,000 to the firm of Hazen & Sawyer, P.C. to perform these design services. The last contract design will be completed by January 31, 2008.

South Florida Water Management District Mandate

On April 25, 2006, the Board adopted Resolution R-449-06 authorizing the execution of an Interim Consumptive Use Authorization and Agreement (Agreement) with the District. The Interim Agreement requires Miami-Dade County to meet certain requirements to obtain a 20-Year consumptive use permit (CUP) which authorizes withdrawal allocations from the Biscayne and Floridan Aquifers. The Interim Agreement was approved by the Governing Board of the District on May 10, 2006. Since the effective

date of the Interim Agreement, the County has been working diligently to meet the milestones specified in the Interim Agreement. On May 4, 2007, MDWASD submitted the required Alternative Water Supply Plan including an implementation schedule related to the improvements required to obtain the 20-year consumptive use permit from the District.

Consumptive Use Permit Projects

Listed below are five (5) "Requests to Advertise" for MDWASD to design and construct alternative water supplies as stipulated by the District's Interim Agreement. There will be four (4) more elements of this project brought before the Board in the future.

- 1) Request to Advertise E07-WASD-01 – Construction management services for a 20 MGD nanofiltration membrane softening plant in South Miami Heights, including a 5 MGD water reservoir, a high service pump station which pumps treated water in the water distribution system, post treatment chemicals, a degasifier contact basin, electrical switch gear and rooms, generators, membrane process equipment, pretreatment strainers and building structures. Construction management services include but are not limited to conducting daily inspections, maintaining daily logs, reviewing and approving construction schedules, processing and authorizing progress payments including allowance accounts and establishing a system to track all construction documents and activities.
- 2) Request to Advertise E07-WASD-02 – Services include planning, design, permitting and construction management services for the Phase 1 construction of a 30 MGD Water Reclamation Facility at the South District Wastewater Treatment Plant. Flows from this Phase 1 Water Reclamation Facility will be utilized for ground water replenishment.
- 3) Request to Advertise E07-WASD-03 – Services include planning, design, permitting and construction management services for the construction of a 1 MGD Water Reclamation Facility at the Central District Wastewater Treatment Plant. This water reclamation facility will use the treated effluent to irrigate the Crandon Park Golf Course and other green areas in the Village of Key Biscayne.
- 4) Request to Advertise E07-WASD-04 – Services include planning, design, permitting and construction management services for the construction of a 6.8 MGD Water Reclamation Facility at the North District Wastewater Treatment Plant. This water reclamation facility will use the treated effluent to irrigate the North Miami Stadium, the Biscayne Landings Development adjacent to the North District Wastewater Treatment Plant, the North Campus of the Florida International University, various locations within the City of North Miami Beach and possibly North Miami.
- 5) Request to Advertise E07-WASD-06 – Services include planning, design, permitting and construction management services for the implementation of 10 MGD of finished water, reverse osmosis water treatment plant in North Miami-Dade County, including water supply wells and the salt residual from the reverse osmosis process. This "Request to Advertise" is being placed on the agenda to meet the District's implementation requirements in the event that MDWASD's on-going negotiations for a joint venture with the City of Hialeah to construct a 10 MGD Reverse Osmosis Plant expandable to 17.5 MGD are not successful. MDWASD is negotiating with the City of Hialeah to achieve this cooperative project. MDWASD will not advertise under this "Request to Advertise" unless the negotiations are not successful. If the negotiations are successful, we will not need to advertise our own plant.

The alternative water supply projects proposed above are listed in Exhibit "B", as attached, the estimated capital cost for these projects is approximately \$716 million for a period of five years.

Other Projects

- 1) Contract Award S-783 – Award Recommendation to Metro Equipment, Inc. – This project is needed to accommodate the increase in population density in the area. The project consists of installing approximately 1,600 linear feet of 16-inch diameter and approximately 200 linear feet of 8-inch diameter ductile iron pipe and fittings for a gravity sanitary sewer main and laterals in NE 172 Street, from Collins Avenue to North Bay Road in the City of Sunny Isles Beach.
- 2) Contract Award W-897 – Award Recommendation to H & R Paving, Inc. - This project is necessary to adjust the elevations of water main and fire hydrant valve boxes and sanitary sewer and water valve manholes throughout the County prior to the final paving on roadwork done by the Florida Department of Transportation or other cities and municipalities.

There will be a separate report from the Department of Business Development on this agenda to clarify questions that were raised on this firm's completion of a CSBE participation goal on another contract. This item may be deferred or withdrawn if the results are unsatisfactory.

- 3) Request to Advertise W-895: Alexander Orr Jr. Water Treatment Plant - Installation of a 96-Inch Filter Interconnecting Pipe. This project consist of furnishing all materials, labor, and equipment necessary for furnishing and installing approximately 170 linear feet of 96-inch pre-stressed concrete cylinder pipe to construct an interconnecting pipe to the sand filters at the Alexander Orr Water Treatment Plant. The interconnection lines between the contact tanks and filters were built during the past 50 years and age has made the interconnection lines uneven, resulting in uneven water distribution to the filters. The proposed 96-inch pipe will correct this deficiency. The existing interconnections will remain in place to be used as alternative lines with valves that will normally be in the closed position.

Project Monitoring and Reporting

MDWASD is in the procurement process for rapid implementation of project control and tracking software to be applied to all capital projects. This will be integrated with the County's financial management system and Office of Capital Improvements software to track the achievement of design and construction milestones and expenditures targets through the life of each project. MDWASD's Project Management staff will continuously monitor the projects and provide summary reports to the Board on a regular basis.


Assistant County Manager

Exhibit "A"

High Level Disinfection Projects for South District Wastewater Treatment Plant

Project Description	Required Completion Date
Oxygenation Train 7	12/26/2009 & 12/22/2010
Temporary Field Office Facilities	12/26/2009 & 12/22/2010
Site Preparation and Roadwork	12/26/2009 & 12/22/2010
Yard Piping	12/26/2009 & 12/22/2010
Chlorine Contact Tanks	12/26/2009 & 12/22/2010
Filter System	12/26/2009 & 12/22/2010
Clarifier Upgrade	12/26/2009 & 12/22/2010
Transfer Pump Station	12/26/2009 & 12/22/2010
Electrical Distribution System	12/26/2009 & 12/22/2010
Effluent Pump System	12/26/2009 & 12/22/2010
On-Site Hypochlorite Generation System	12/26/2009 & 12/22/2010
Fat, Oil, & Grease Removal Upgrade	12/26/2009 & 12/22/2010
Plant Process Control	12/26/2009 & 12/22/2010
Final Sitework	12/26/2009 & 12/22/2010
Construction Engineering & Inspection Services	12/26/2009 & 12/22/2010

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Exhibit "B"

Alternative Water Supply Projects required by the South Florida Water Management District for the 20-Year Consumptive Use Permit

Project Description	Required Completion Date
Floridan Aquifer ASR-UV at the Alexander Orr Water Treatment Plant Wellfields	03/31/2009
Aquifer Recharge Pilot	08/3/2009
Floridan Aquifer Blending at Hialeah/Preston Water Treatment Plant Wellfields	11/27/2009
Biscayne Bay Coastal Wetlands Re-hydration Demonstration	12/31/2009
New Upper Floridan Aquifer Reverse Osmosis Water Treatment Plant in North Miami-Dade	12/25/2010
South Miami Heights 20 MGD Water Treatment Plant	07/4/2011
Central District WWTP Water Reclamation Facility	10/15/2011
North District WWTP Water Reclamation Facility	10/15/2011
South District WWTP Water Reclamation Facility	12/1/2013

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