



**Date:** September 2, 2014

**To:** Thomas J. Bonfield, City Manager

**Through:** W. Bowman Ferguson, Deputy City Manager

**From:** Donald F. Greeley, Director, Water Management

**Subject:** Water Residuals and Wastewater Bio-Solids Dewatering, Hauling, Disposal, Land Application and Associated Services – Service Contract Award to Synagro Central, LLC.

### **Executive Summary**

The Department of Water Management received proposals on May 30, 2014 for the Water Residuals and Wastewater Bio-Solids Dewatering, Hauling, Disposal, Land Application and Associated Services Contract. The project consists of various bio-solids and residuals handling and removal services associated with the treatment of water and wastewater. The Department recommends awarding the contract to Synagro Central, LLC, whose proposal presented the most desirable combination of experience and price for the services described. The contract is for a five year period from January 1, 2015 through December 31, 2020 and includes a contract escalator clause based on the Consumer Price Index (CPI). The 2015 expenditure is estimated to be \$1,100,000 based on prior year history volumes of bio-solids and residuals generated.

### **Recommendations**

The Department recommends that the City Council:

1. Authorize the City Manager to execute a multi-year contract with Synagro Central, LLC for the Water Residuals and Wastewater Bio-Solids Dewatering, Hauling, Disposal, Land Application and Associated Services Contract per the unit prices noted, including a contract escalator based on CPI for an annual expenditure of \$1,100,000.00.

### **Background**

The City's Department of Water Management (DWM) operates two water reclamation facilities (WRFs) and two drinking water treatment plants (WTPs) that serve the City of Durham and a significant portion of Durham County. All facilities are 24/7 operations and produce residuals or bio-solids. These materials are the solid or semi-solid byproducts produced from the conventional water and wastewater treatment processes at the four facilities. Bio-solids produced by the WRFs are beneficially applied as soil amendments to farms throughout the region to provide a source of nutrients. Residuals produced through the water treatment process are inorganic and therefore are not land applied but are dewatered before disposal via landfill.

Treatment and disposal of residuals and biosolids must meet local, state (NC Department of Environment and Natural Resources - DENR) and US Environmental Protection Agency (EPA) guidelines. A key element of the contract is ensuring compliance with all regulatory aspects of the residuals and biosolids handling process. Generally, since the WTP residuals are inorganic, the disposal requirements are not as challenging. However, coordinating the activities

associated with biosolids disposal by land application is more complex. The contractor is responsible for contracting with the farmers and obtaining the permits necessary for the land application and then ensuring that the biosolids are applied as specified. The contractor is also responsible for conducting soil analysis and compiling annual reports for submittal to DENR and EPA. Currently, Durham has sites permitted for land application in Alamance, Granville, Person, Chatham and Orange counties

Synagro has been the City's contractor for biosolids handling for more than a decade. The City's current five-year contract with Synagro for bio-solids and residuals handling expires December 31, 2014.

**Issues and Analysis**

Proposals from Bio-nomics, Inc. and Synagro Central, LLC were received on May 30<sup>th</sup>, 2014 and were reviewed based on company qualifications and unit price costs. The unit price results are:

Description	Units	Bio-Nomics Unit Price	Synagro Unit Price
Land Application of Dewatered Residuals	C.Y.	\$22.69	\$17.85
Transfer of Water Residuals to WRF	C.Y.	\$6.15	\$5.79
Transfer of Liquid Bio-solids	Gal.	\$0.0278	\$0.0206
VAR Compliance via Alkaline Stabilization	C.Y.	\$24.56	\$24.56
VAR Compliance via Incorporation	C.Y.	\$4.10	\$4.11
Land Application of Liquid Residuals	Gal.	\$0.0419	\$0.0423
Transfer of Dewater Residuals or other materials not suitable for land application to landfill or processing facility	Loaded Mile	\$5.65	\$4.90
Mech. Dewatering - Brown WTP	Dry Ton	\$447.00	\$435.00
Mobilization for Mech. Dewatering	L.S.	\$4,000.00	\$0.00
Disposal of Dewater Sludge at Landfill	% of Cost	10%	10%
TCLP Analysis	% of Cost	10%	10%

Synagro's unit prices were lower for all but one of the line items thus presenting the lowest annual anticipated costs for residual and bio-solids handling. Most of the unit prices remained the same as FY 2014 costs; two items reduced in price by 18% and one item increased 2.5%. The 2015 expenditure is estimated at \$1,100,000 with a yearly contract escalation in unit prices based on the CPI.

The table below presents annual plant residuals and biosolids expenditures for the last three fiscal years. Water treatment disposal costs have been decreasing due to ongoing process optimization however wastewater costs are generally anticipated to increase each year due to increasing flows at the treatment facilities and increasing requirement for nutrient removal.

	FY13-14	FY12-13	FY11-12
Brown WTP	\$ 507,026.22	\$ 559,618.43	\$ 642,355.11
Williams WTP	\$ 44,471.64	\$ 53,976.87	\$ 85,794.15
North Durham WRF	\$ 274,250.50	\$ 205,986.61	\$ 289,279.97
South Durham WRF	\$ 179,296.00	\$ 171,827.21	\$ 157,236.49
TOTAL	\$1,005,044.36	\$ 991,409.12	\$1,174,667.72

As the City's current contractor, Synagro is experienced with the operations and treatment process strategies used by water and wastewater operations which generates the residuals/biosolids.

The Department recommends the City Council award the contract to Synagro Central, LLC which provided the best combination of price and experience.

**Alternatives**

Alternative 1: Do not go forward on the project – This is not recommended at this time. DWM does not have the personnel at this time to handles these services. The pricing is competitive and the City's engineer recommends Synagro Central, LLC for selection based on the price and experience.

**Financial Impact**

Funding for this contract is budgeted yearly in each plant operations account. Based on previous year's expenditures, funds were budgeted and are available in the following accounts.

5100P501	728600	\$ 275,000
5100P502	728600	\$ 225,000
5100P121	728600	\$ 550,000
5100P122	728600	<u>\$ 50,000</u>
		<b>\$1,100,000</b>

**SDBE Summary**

The Equal Opportunity/Equity Assurance Department reviewed the proposal submitted by Synagro Central, LLC of Baltimore, Maryland and have determined that they are in compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

**SDBE REQUIREMENTS**

No MSDBE or WSDBE goals were set.

**WORKFORCE STATISTICS**

Workforce statistics for Synagro Central, LLC are as follows:  
(Corporate)

Total Workforce	842	
Total Females	101	(12%)
Total Males	741	(88%)
Black Males	66	(8%)
White Males	553	(66%)
Other Males	122	(15%)
Black Females	11	(1%)
White Females	78	(9%)
Other Females	12	(1%)