

July 23, 2012

Mr. Dale Wyrick, PE
Field Operations Director
401 Patton Ave.
Greensboro, NC 27406

Re: Greensboro Processing and Marketing of Recovered Recyclables - RFP #11-12
RFP Evaluation Documents

Dear Mr. Wyrick:

Attached please find information supporting our review of the proposals received in response to the City's RFP #11-12 for Processing and Marketing of Recovered Recyclables. This information will be used as reference at the Council work session scheduled for 3:00 PM, July 24, 2012. Following is a brief explanation of the attached documents.

- **Map of Facility Locations** – The map indicates the location of existing and proposed facilities. The distance from the center of the City to each facility is shown for reference.
- **Summary of Financial Offers** – This table summarizes the basis of each financial offer. Additionally, the terms of the City's current contract are shown for comparison.
- **Average Commodity Revenue (ACR) Graph** – This graph shows historical ACR data for Greensboro recyclables sold from 2002 through 2012. Two "best fit" lines are also depicted. This graph is provided for information only and is not intended to represent a prediction of future market conditions.
- **Net Revenue Estimate Graph** – The bar chart summarizes the estimated net revenue over a 10 year contract period for each option considered.
- **Assumptions and Explanations** – This document clarifies the major assumptions made in the financial modeling. The first section explains the net revenue graph, the second section describes how the additional hauling cost was estimated in order to deliver your recyclables to remote facilities, and the third section describes the historical and projected average commodity revenue graph.

We look forward to discussing this further at the Council work session. If you have any questions regarding this information, please feel free to contact me.

Respectfully submitted,
HDR Engineering, Inc. of the Carolinas



Joseph Readling, PE, VP

HDR Engineering, Inc. of the Carolinas

440 S Church Street
Suite 1000
Charlotte, NC 28202-2075

Phone: (704) 338-6700
Fax: (704) 338-6760
www.hdrinc.com

\\fdtsmain\gis_data\GIS\Projects\006770_CityofGreensboro\0177193_GreensboroSWMPAssessment\map_docs\mxd\Potential_Recycling_Facility_Locations.mxd | Last Updated: 07.19.2012



Potential Recycling Facility Locations

Summary of Financial Offers

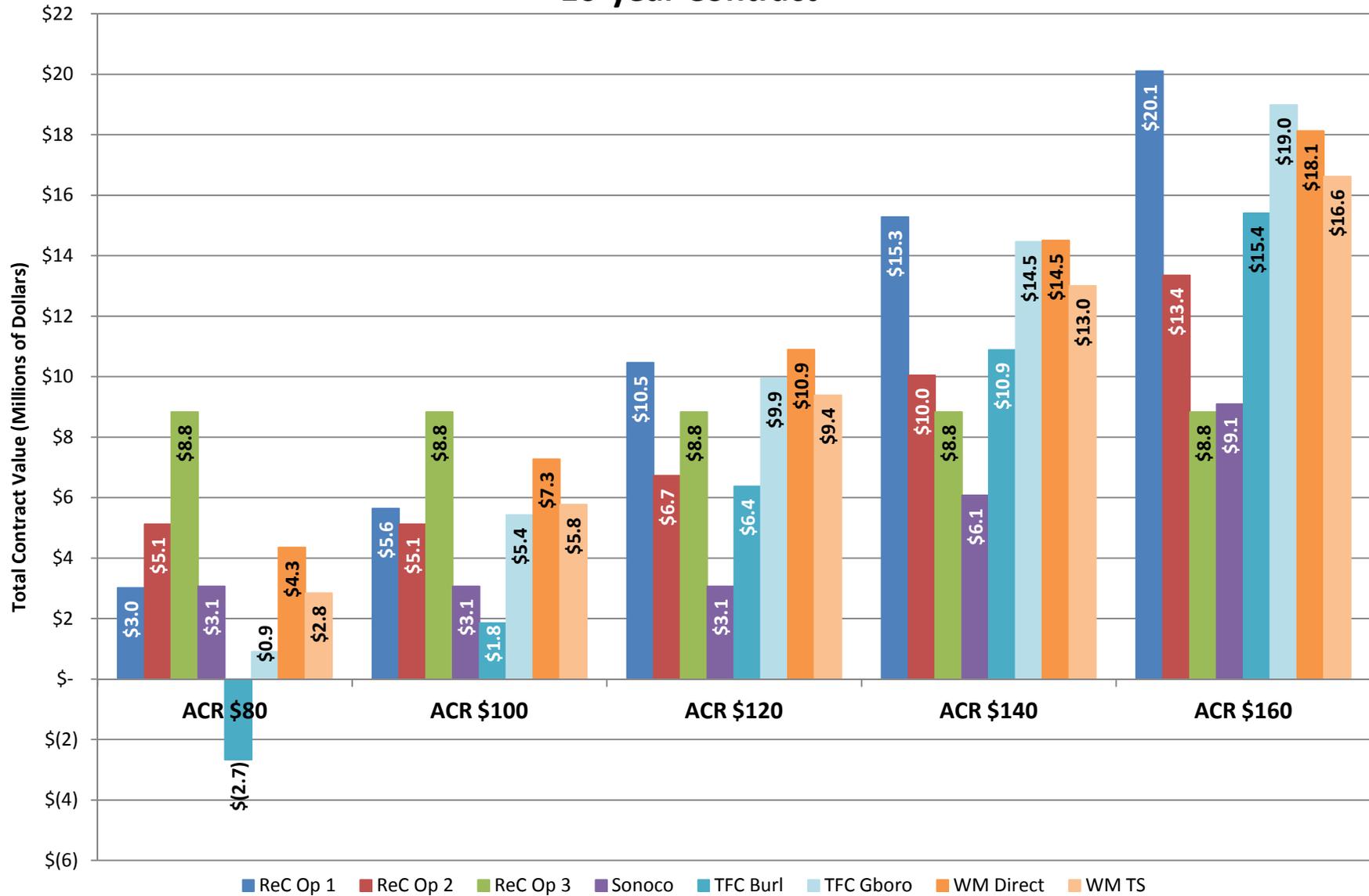
Proposer	Fee/Credit	ACR* Threshold	Revenue Share	Comments
Existing Contract	<u>Fees</u> <ul style="list-style-type: none"> • \$21.27 per ton tipping fee • \$50 per ton “put or pay” tipping fee • \$20 per ton Bonus Threshold <u>Credit</u> <ul style="list-style-type: none"> • \$5 per spot ton 	\$80 per ton	40%	<ul style="list-style-type: none"> • The tipping fee applies to all incoming Greensboro tons • The “put or pay” tipping fee is applied to tons not delivered up to 2,500 tons in a month. For instance if 2,450 tons were delivered, the additional tipping fee would apply to the remaining 50 tons not delivered. • The Bonus Threshold applies to all tons over 1,871 that are delivered monthly to market • The Credit applies to tons delivered to the MRF that were not Greensboro’s tons.
ReCommunity Option 1	<u>Credit</u> - \$10 per ton	\$66 - \$72 per ton	80%	<ul style="list-style-type: none"> • If the revenue share money that Greensboro would make per ton is greater than the credit per ton, then Greensboro only gets the revenue share money and not the credit. • The ACR threshold varied based on incoming tons per month.
ReCommunity Option 2	<u>Credit</u> - \$17 per ton	\$66 - \$75 per ton	55%	<ul style="list-style-type: none"> • If the revenue share money that Greensboro would make per ton is greater than the credit per ton, then Greensboro only gets the revenue share money and not the credit. • The ACR threshold varied based on incoming tons per month.
ReCommunity Option 3	<u>Credit</u> - \$29 – \$31 per ton	None	None	The credit varied based on incoming tons per month.
Sonoco	<u>Credit</u> - \$10 per ton	\$120 per ton	50%	
TFC Recycling	None	\$76 per ton	75%	TFC Recycling has identified a potential property in Burlington to be used as a transfer station and potentially a MRF for the Greensboro contract. TFC also suggested they could locate a MRF in Greensboro.
Waste Management	<u>Credit</u> - \$25 per ton	\$42.15 per ton	60%	<ul style="list-style-type: none"> • If the revenue share money that Greensboro would make per ton is greater than the credit per ton, then Greensboro only gets the revenue share money and not the credit. • WM also offered a \$1 per ton payment to be “allocated for ongoing recycling education”. • WM suggested using the Greensboro Transfer Station to consolidate recyclables and haul to the WM MRF.

*Average Commodity Revenue

Historic & Projected Average Commodity Revenue Rates



City of Greensboro Potential Recyclables Net Revenue Estimate 10-year Contract



ACR = Average Commodity Revenue

ASSUMPTIONS AND EXPLANATIONS

NET REVENUE GRAPH

1. Background
 - a. Data for the graph is based on the financial offerings presented in Price Forms 1 and 2 of each proposal.
 - b. Values shown are total net present value over the 10 year contract term.
 - c. A Consumer Price Index (CPI) average annual percent increase of 2.48% was used to determine the net present value.
 - d. A CPI average annual percent increase of 2.48% was used to estimate future costs for all items projected into the future with the exception of fuel.
 - e. The recycling tonnage rate was assumed to increase at an average annual rate of 2.6%. Average annual tonnage over the 10 year contract is about 34,200 tons.
 - f. Average Commodity Revenue (ACR) is the average current market price of all materials within one ton of recyclables, weighted off of percentages of each material and grade that make up the recyclables stream. The ACR was modeled at \$80, \$100, \$120, \$140, and \$160/ton, and are represented by ACR \$80, ACR \$100, etc. on the graph. The model assumes that the ACR value is static (i.e., not escalated) throughout the entire 10 year contract term.
2. Specific offerings
 - a. ReCommunity is the City's current service provider. They offered three different pricing schemes, labeled as ReC Op 1, 2, 3 and represented by the dark blue, red, and green bars.
 - b. Sonoco's offer is represented with the purple bar. Sonoco has a facility in Greensboro. If awarded the contract, a Materials Recovery Facility (MRF) would be built next to their current facility.
 - c. TFC Recycling has two scenarios represented. The first, TFC Burl (blue), requires the City to deliver recyclables to a potential TFC facility in Burlington, and then TFC will haul the material to their Chester, Virginia MRF for processing. This scenario is burdened with the additional cost for the city to haul the material to Burlington. The second, TFC Gboro (light blue), assumes that, on the first day of the contract, TFC has a new facility in Greensboro, at the same general location as the current MRF. So for this second TFC scenario, there is no additional haul cost included.
 - d. Waste Management (WM) has two scenarios modeled. WM Direct (orange) is based on the city's collection fleet delivering recyclables directly to the WM MRF located near Winston-Salem. The second scenario, WM TS (light orange) is based on the city delivering recyclables to the city's transfer station on Burnt Poplar road, transferring the material in to large trailers, and then hauling the material to the WM MRF. Therefore, both scenarios are burdened with additional hauling costs compared to the status-quo.

ADDITIONAL HAULING COSTS

1. To accurately compare each option, additional hauling costs needed to be estimated for the TFC Burlington option (TFC Burl) and both Waste Management options (WM Direct and WM TS).
2. City Fuel Cost Assumptions

- a. The initial fuel cost for City-purchased diesel is \$3.19 per gallon of diesel and increased by 7.43% per year.
 - b. The collection vehicles get 2.03 miles per gallon (mpg, this is a historical value tracked by the City) while on route and 3.5 mpg while direct hauling to Burlington or Winston-Salem.
3. Labor Cost Assumptions
 - a. The City's routing model was used to estimate the additional time, mileage, and fuel needed to haul residential recyclables to each proposer's destination.
 - b. There are 4 days in a week.
 - c. 1 truck per route and 1 employee per truck.
 - d. 8 initial routes.
 - e. Employees are paid \$22 per hour which includes benefits.
4. Additional Truck Costs
 - a. Based solely on the routing model for residential collections, the additional travel time per truck to and from the TFC Burlington facility (TFC Burl option) and the WM MRF near Winston-Salem (WM Direct option) was estimated by City staff to be 1.5 hours per truck per day, or $8 \times 1.5 = 12$ additional staff hours per day for the fleet. This warrants the addition of another truck and a ninth residential route to accommodate the fact that each truck will be spending more time traveling to and from the MRF or drop off site and less time collecting recyclables.
 - b. A new truck would be required in the first month of service for TFC (going to the Burlington facility) and Waste Management of the Carolinas, Inc. (direct hauling to the Winston-Salem facility).
 - c. The capital cost for a new collection vehicle is estimated at \$240,000.
5. Global adjustment for direct hauling to Burlington or Winston-Salem
 - a. HDR used the City's data from the residential routing to estimate the additional haul cost for the TFC Burl and WM Direct options, including fuel, labor, and additional truck(s). This additional hauling cost needed to be "scaled up" to represent the total recyclable stream (i.e., commercial, multi family, and other recycling routes the city services in addition to the residential routes). Using the city's data on total residential trips to the MRF compared to the total number of trips for all routes, the scale factor was estimated to be 1.4. Therefore, the additional hauling cost for the residential routes was multiplied by 1.4 to represent the additional cost of hauling all recyclables to Burlington or Winston-Salem.
6. Transfer Station Costs
 - a. The Waste Management proposal suggested it might save money if the City utilized its MSW transfer station on Burnt Poplar road to transfer the recyclables to larger trucks before hauling to the WM MRF in Winston-Salem. This option was modeled (WM TS on the graph).
 - b. The cost to process a ton of recyclables at the transfer station was assumed to be \$3.00 per ton. This is about half the current cost per ton to transfer MSW. Transferring the recyclables through the facility was assumed to be an incremental additional cost since staff and equipment are existing.
 - c. Transfer cost was escalated by the average annual CPI.
7. Hauling Costs from the Transfer Station
 - a. The Base haul cost was assumed to be \$2.858 per mile. This value is from the Hilco MSW proposal submitted May 10, 2012 for the 50-100 mile round trip option. Per the Hilco offer, for every 8 cents the current price of fuel is over the fuel benchmark of \$2.00 per gallon, the base cost per mile adjusts by 1%.

- b. Since the round trip distance to the WM MRF is only about 30 miles, the Hilco value quoted for the 50-100 mile MSW option is likely a low value.
- c. The cost of diesel fuel for an independent hauler was assumed to start at \$4.00 per gallon of and increased by 7.43% per year.
- d. The payload was assumed to be 13 tons per load.

HISTORIC AND PROJECTED ACR RATES GRAPH

1. Average Commodity Revenue (ACR) is the average current market price of all materials within one ton of recyclables, weighted off of percentages of each material and grade that make up the recyclables stream.
2. The historical ACR rates over the last 10 years are derived from data collected by ReCommunity (formerly FCR) for the materials processed and marketed from their Greensboro MRF.
3. The ACR from January 2002 through March 2007 averaged \$61.16 per ton.
4. The ACR from April 2007 through June 2012 averaged \$102.05 per ton.
5. Two "best fit" lines were estimated. The purple line is an extrapolation of the best fit line for the entire 10 year history. The green line is an extrapolation of the best fit line from March 2004 through June 2012. Assuming the historical values are projected into the future, the mid-point ACR (i.e., the ACR value at the end of the first five years of a ten year contract) is estimated to be \$167.53 for the purple line and \$153.78 for the green line.
6. The modeled ACR values of \$80, \$100, \$120, \$140, and \$160 are indicated on the graph for reference.
7. The ACR projection lines are provided solely for reference and are not intended to be a prediction of future market performance.