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Technical Memo

To: Bob Morgan, Deputy City Manager	
From: Joe Readling	Project: City of Greensboro Solid Waste Planning
CC: Jeryl Covington	
Date: December 9, 2010	Job No: 06770-140994-018

RE: WASTE DISPOSAL COST MODELS

EXECUTIVE SUMMARY

Waste from the City of Greensboro (City) and Guilford County is currently hauled to the Uwharrie Regional Landfill in Montgomery County which is run by Republic Services. Randolph County, which borders Guilford County to the south, is considering reopening its formerly closed municipal solid waste (MSW) landfill. Randolph County closed its MSW landfill in the late 1990's in lieu of bringing the facility into compliance with the federal Subtitle D regulations which require environmental protection features such as liner systems. The Randolph County facility is not currently available for waste disposal; however, if Randolph County were to reopen its landfill, it might represent a viable disposal alternative for City of Greensboro and Guilford County waste since the hauling distance to the Randolph County site is about half the distance to the Republic facility.

HDR was asked to help assess the likely differences in cost of service should the City be able to contract with Randolph County in the future. For this review it was assumed that waste would be delivered either from the City's transfer station or directly from the City's collection routes. Using data provided by the City, HDR developed a base case model representing the current system and costs and three alternate models based on variations involving the potential Randolph County Landfill.

1. Model A: All waste from the City's transfer station is hauled to Randolph County; the City's transfer station remains open.
2. Model B: Waste collected by City vehicles is hauled directly to Randolph County; the City's transfer station remains open for receipt of privately collected waste that is then hauled to Randolph County.
3. Model C: Waste collected by City vehicles is hauled directly to Randolph County; the City's transfer station is decommissioned.

Based on HDR's review of the information provided, it is estimated that implementing Model A could save the City approximately one million dollars a year in reduced transportation charges. Models B and C result in an estimated increase in cost to the City of $1.7M and $1.0M, respectively. It should be noted that for Model C, which includes decommissioning of the transfer station, potential revenue that could be received by the City from either leasing or selling the facility to a private waste company was not considered in this evaluation. However, it is unlikely that a lease arrangement would yield enough revenue to offset the increased cost of direct hauling. Each of the models is attached for review.

CURRENT CONDITIONS & COST MODEL

The City of Greensboro Field Operations Department currently collects waste from residential and commercial customers and delivers it to the City of Greensboro Solid Waste Transfer Station on Burnt Poplar Road. The transfer station is owned by the City and operated by the City's Environmental Services Department. In addition to the Field Operations Department, the City of Greensboro Transfer Station receives waste from other city departments and private haulers as well as non-recyclable material from the FCR Recycling Center. Approximately 52% of the 236,909 tons of waste brought to the transfer station during fiscal year 09/10 was collected by the City; the remainder was delivered by private haulers.

Waste delivered to the transfer station is currently hauled under contract by HilCo Transport, Inc. to the Uwharrie Regional Landfill which is located in Montgomery County and operated by Republic Services.

The City's major costs associated with solid waste services include City controlled collections; transfer station operations and debt service; and contracted hauling and disposal services. HDR developed a base cost model representing the current system and a series of alternative hauling models in order to analyze the potential for reducing the City's costs.

Cost information for this analysis was provided by representatives from three City departments: Field Operations (Dale Wyrick and Tonya Williams), Environmental Services (Jeryl Covington), and Budget and Evaluation (Casey Harris). References to these sources are included below and in the cost models provided with this memo.

The values in the current cost model were developed from the following data provided by the City.

Collections Data

- The split of Field Operations Department (FO) costs (collections, transfer station tip fees and FCR) was provided by FO.

Transfer Station Data

- Tonnages from the FY 2009/2010 summary sheet were provided by the Environmental Services Department (ES) and are based on transfer station scale records.
- The current tipping fee for waste delivered to the City of Greensboro Solid Waste Transfer Station is $41 per ton with a minimum charge of $12.
- Transfer station operations costs were calculated from salaries, benefits and O&M costs exclusive of contract costs for hauling & disposal provided by ES.
- The split of transfer station revenues was estimated by HDR based on total revenue and other information provided by ES.
- The annual debt service amount for the City's transfer station was provided by the Budget & Evaluation Department.

Hauling Data

- The number of loads hauled from the transfer station to the Uwharrie Landfill last year was 10,023 as provided by ES.
- Hauling charges from HilCo are based on a roundtrip mileage rate and a fuel surcharge.
- The roundtrip distance to the Uwharrie landfill as reported by ES is 143 miles.
- HilCo's mileage rate schedule is based on the total annual tonnage hauled in conjunction with the distance the waste is hauled. The current rate for trips to Uwharrie is $1.855 per mile.

- The fuel surcharge is based on the price of diesel fuel as reported by the US Department of Energy and is adjusted monthly. The August 2010 fuel surcharge rate of 11% provided by ES was used for this analysis.

Disposal Data

- The disposal cost paid by the City for waste delivered to the Uwharrie Landfill is the actual FY 09/10 total. The disposal costs for the Randolph County Landfill models are anticipated to be equivalent to the costs incurred at the Uwharrie Landfill. The disposal costs for Models A, B and C were estimated by prorating the current cost by the percentage the tonnage changed from the current model.

CURRENT COST MODEL

In order to evaluate the City's overall net cost, HDR attempted to identify and account for the line items where the costs for one department are actually revenues for another department. For example, the Field Operations Department lists tip fees for its deliveries to the transfer station as costs; these fees show up as revenue for the Environmental Services Department. The resulting model indicates a current net cost of just over $8M as shown below.

1. Current Model
    a. Key Features
        i. All City collected waste delivered to City of Greensboro Transfer Station.
        ii. Additional waste received by transfer station from other city departments, private haulers, and FCR Recycling Center.
        iii. All transfer station waste hauled to Uwharrie Regional Landfill.
    b. Results
        i. The City's total cost to collect waste, service transfer station debt, operate the transfer station, pay HilCo for hauling, and pay Republic for disposal is about $23.5M. The total revenue received from commercial customers, private haulers and other city departments is about $15.2M. These costs and revenues include fund transfers between city departments.
        ii. Net annual cost: $8.31M
    c. Comments
        i. The net annual cost is in agreement with the analysis prepared by the Budget and Evaluation Department.

ALTERNATE COST MODELS

HDR developed three alternate cost models based on variations involving the potential Randolph County Landfill.

1. Model A: All waste from the City's transfer station is hauled to Randolph County; the City's transfer station remains open.
2. Model B: Waste collected by City vehicles is hauled directly to Randolph County; the City's transfer station remains open for receipt of privately collected waste that is then hauled to Randolph County.
3. Model C: Waste collected by City vehicles is hauled directly to Randolph County; the City's transfer station is decommissioned.

Following the format used for the base model, HDR analyzed major costs associated with the specific areas of city collections, disposal, hauling, transfer station operations and transfer station debt service and

attempted to identify and account for the line items where the costs for one department are actually revenues for another department.

The following assumptions were made in developing the alternate cost models; all models assume FY 2009/2010 conditions.

Collections Data

- Direct hauling to Randolph County will require addition of collection vehicles and staff due to the fact that the collection vehicles will spend a greater fraction of the work day commuting to and from Randolph County. City FO prepared estimates of initial startup costs and additional annual costs related to these options. Start-up expenses of $5.4M are considered a one-time expense and were not included in the cost modeling.

Transfer Station Data

- Model A assumes that the City will continue to operate the City's transfer station and receive revenue from private waste haulers, FCR, and other City departments. HilCo will haul the waste, delivered to the transfer station, to the proposed Randolph County Landfill.
- Model B assumes that City-collected residential and commercial waste will be direct-hauled to the proposed Randolph County landfill. The City will continue to operate the City's transfer station and receive revenue from private waste haulers, FCR, and other City departments. HilCo would haul only the waste delivered to the transfer station.
- Model C assumes that City-collected residential and commercial waste will be direct-hauled to the proposed Randolph County landfill and that the transfer station will be decommissioned. This model results in a reduction in service caused by closing the transfer station. Private waste haulers representing approximately half of the waste currently managed at the facility would be left to find other means of waste transportation and disposal.
- Servicing the transfer station debt is continued under all models.

Hauling Data

- For Model A, the number of loads hauled from the transfer station was assumed to remain the same at 10,023.
- The roundtrip distance to the Randolph County landfill was estimated to be 60 miles.
- Waste delivered to the transfer station would continue to be hauled by HilCo for disposal.
- Based on FY 2009/2010 tonnages and HilCo's current rate schedule, a mileage rate of $2.963 per mile was assumed for hauling to Randolph County.
- The fuel surcharge was assumed to remain at 11%.

ANALYSIS OF ALTERNATE COST MODELS

HDR used these assumptions in conjunction with existing cost information provided by the City to develop a financial model for each of the three alternatives.

1. **MODEL A:**
    a. Features:
        i. All waste from the City's transfer station is hauled to Randolph County.
        ii. The City's transfer station remains open.
    b. Key variances from current model:
        i. Round trip mileage reduced from 143 to 60.
        ii. Mileage rate increased from $1.855 to $2.963 (this is derived from HilCo's rate sheet, where per-mile costs increase as round trip mileage decreases).
    c. Results:
        i. Net annual cost: $7.8M.
        ii. Savings of approximately $1 million dollars over the current model.

2. **MODEL B:**
    a. Features:
        i. Waste collected by City vehicles is hauled directly to Randolph County.
        ii. The City's transfer station remains open for other waste streams.
    b. Key variances from current model:
        i. Increase in annual cost for collection services due to direct hauling City collected waste to Randolph County.
        ii. City collected tonnage is removed from the transfer station waste stream.
        iii. For remaining transfer station waste stream:
            1. Round trip mileage reduced from 143 to 60.
            2. Mileage rate increased from $1.855 to $2.963.
    c. Results:
        i. Net cost: $10.5M.
        ii. Increase in net cost of approximately $1.7 million over the current model.
    d. Comments:
        i. One-time start-up expenses estimated at $5.4M for fleet expansion were not included.

3. **MODEL C:**
    a. Features:
        i. Waste collected by City vehicles is hauled directly to Randolph County.
        ii. The City's transfer station is decommissioned.
    b. Key variances from current model:
        i. Elimination of transfer station operating costs.
        ii. Elimination of HilCo contract.
        iii. Increase in annual cost for collection services due to direct hauling City collected waste to Randolph County.
        iv. Reduction in tonnage being delivered to a landfill by the City.
    c. Results:
        i. Net Cost: $9.8M
        ii. Increase in net cost of approximately $1.0 million over the current model.
    d. Comments:
        i. One-time start-up expenses estimated at $5.4M for fleet expansion were not included.
        ii. Servicing of the transfer station debt is assumed to continue in this model.

CONCLUSIONS

Based on HDR's review of the information provided, should Randolph County reopen its landfill and charge the same disposal rate as Republic currently does, the City could realize a savings of approximately $1M a year in transportation cost by hauling waste from the transfer station to Randolph County (Model A) instead of Uwharrie (Current Model). This estimate is based on existing conditions and is a direct result of the hauling distance to the Randolph County being about half the distance to the Republic facility.

As demonstrated in Models B and C, direct hauling of waste by City collection vehicles to a Randolph County landfill does not appear to be economically viable. The additional cost of direct-hauling exceeds the anticipated savings even if the City were to close the transfer station completely, requiring the privately-collected tons to seek alternative transfer, hauling, and disposal services. As previously stated, Model C does not consider the potential revenue that could be obtained by leasing or selling the transfer station, which could offset some of the additional cost of direct hauling. However, it is unlikely that a lease arrangement would yield enough revenue to offset the increased cost of direct hauling.

Model	Description	Net Annual Cost	Percentage Vs. Current
Current Model	Waste delivered to transfer station, then hauled to Uwharrie Regional LF	$8.8 million	--
Alternate Model A	Waste delivered to transfer station, then hauled to Randolph County LF	$7.8 million	($1.0 million)
Alternate Model B	City collected waste hauled directly to Randolph County LF Transfer station remains open	$10.5 million	$1.7 million
Alternate Model C	City collected waste hauled directly to Randolph County LF Transfer station closed	$9.8 million	$1.0 million

ATTACHMENTS

- Cost Models (4)
- Waste Disposal Volumes (tonnages)
- HilCo 2010 Rate Fee Schedule
- Additional Resources Needed for Direct Hauling

Current Model

Transfer Station to Uwharrie Landfill

		Costs	Revenues
Collection Operations (City of Greensboro)			
63,957.93	Tons Residential [1]		
58,281.79	Tons Commercial [2]		$5,454,819
	FCR (recycling rejects) [3]	$477,741	
	Collections [4]	$7,865,450	
	Transfer Station [5]	$5,037,259	
Transfer Station Annual Debt Service [6]		$826,773	
Transfer Station Operations [7]		$1,305,872	
$41	Tip Fee [8]		
63,957.93	Tons City Residential		
58,281.79	Tons City Commercial		
122,239.72	Total City Collections [9]		$5,037,259
11,658.63	Tons FCR (recycling rejects) [10]		$477,741
100,070.23	Tons Private [11]		$4,143,241
2,940.90	Tons Other City Departments [12]		$104,181
236,909.48	Total Tons [13]		
Hauling (HILCO) [14]		$2,937,447	
143	estimated miles roundtrip [15]		
$1.855	per roundtrip mile (base rate) [16]		
11%	estimated fuel surcharge [17]		
10,023	number of tractor trailer loads per year [18]		
Landfill Disposal			
	Republic's Uwharrie LF [19]	$5,555,470	
	City of Greensboro Totals	$24,006,012	$15,217,241
	City of Greensboro Net Cost	$8,788,771	

Notes: Unless otherwise noted analysis based on results for fiscal year 2009/2010.

1 Tonnage based on lines 8 & 9 of *Waste Disposal Volumes* table dated 8/3/2010. Table Provided by Jeryl Covington, ES.
2 Tonnage based on line 10 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue provided by Tonya Williams, FO.
3 Interdepartmental cost due to contract with FCR. Cost provided by Tonya Williams of Field Operations (FO)
4 Cost provided by Tonya Williams (FO) on 11/9/10.
5 Inter-departmental cost, provided by Tonya Williams on 11/9/10
6 Provided by Budget and Evaluation's Casey Harris. Sum of principal, interest and service charges; accounts 5811, 5821, and 5832
7 Costs provided by Jeryl Covington based on Environmental Service's (ES) budget only. Other department budgets may include support costs such as mechanics and management.
8 Transfer station tip fee is $41 per ton with a minimum charge of $12 (loads less than ~585 pounds)
9 Revenue based on value reported by Field Operations and not calculated. Difference presumably due to minimum charge
10 Tonnage based on line 7 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue based on value reported by Field Operations and not calculated. Difference from calculation presumably due to minimum charge
11 Tonnage from 11, 12 & 13 of *Waste Disposal Volumes* table. Revenue based on value reported by Environmental Services and not calculated. Difference from calculated value presumably due to minimum charge
12 Tonnage based on lines 14, 15, 16 and 17 of *Waste Disposal Volumes* table minus 7.79 tons per ES. Revenue calculated as difference between the $9,762,422.13 total reported by Environmental Services and revenues reported by others shown on the previous three lines.
13 Based on sum of lines 7 through 17, inclusive from*Waste Disposal Volumes* table dated 8/3/2010 minus 7.79 tons in order to match the 236,909.48 ton total reported by Environmental Services.
14 Actual FY 09/10 cost as provided by Environmental Services email dated 10/14/2010. Numbers below are for reference only
15 Roundtrip distance as provided by Environmental Services email dated 10/14/2010
16 Mileage rate from HilCo's *Rate Fee Schedule* for calendar year 2010.
17 The fuel surcharge is adjusted monthly based on a DOE index. The 11% fuel surcharge used for Models A& B, was also the rate between June and September of 2010. For FY 09/10 the surcharge rate ranged from 6% to 13%.
18 Actual FY 09/10 loads as provided by Environmental Services email dated 10/14/2010
19 Actual FY 09/10 Cost as provided by Environmental Services email dated 10/14/2010

Randolph County Model A

Transfer Station to Randolph County Landfill

		Costs	Revenues
Collection Operations (City of Greensboro)			
63,957.93	Tons Residential [1]		
58,281.79	Tons Commercial [2]		$5,454,819
	FCR (recycling rejects) [3]	$477,741	
	Collections [4]	$7,865,450	
	Transfer Station [5]	$5,037,259	
Transfer Station Annual Debt Service [6]		$826,773	
Transfer Station Operations [7]		$1,305,872	
$41	Tip Fee [8]		
63,957.93	Tons City Residential		
58,281.79	Tons City Commercial		
122,239.72	Total City Collections [9]		$5,037,259
11,658.63	Tons FCR (recycling rejects) [10]		$477,741
100,070.23	Tons Private [11]		$4,143,241
2,940.90	Tons Other City Departments [12]		$104,181
236,909.48	Total Tons [13]		
Hauling (HILCO) [14]		$1,977,897	
60	estimated miles roundtrip [15]		
$2.963	per roundtrip mile (base rate) [16]		
11%	estimated fuel surcharge [17]		
10,023	number of tractor trailer loads per year [18]		
Landfill Disposal			
	Randolph Co. Landfill [19]	$5,555,470	
	City of Greensboro Totals	$23,046,462	$15,217,241
	City of Greensboro Net Cost	$7,829,221	

Notes: Unless otherwise noted analysis based on results for fiscal year 2009/2010.

1 Tonnage based on lines 8 & 9 of *Waste Disposal Volumes* table dated 8/3/2010. Table Provided by Jeryl Covington, ES.
2 Tonnage based on line 10 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue provided by Tonya Williams, FO.
3 Interdepartmental cost due to contract with FCR. Cost provided by Tonya Williams of Field Operations (FO)
4 Cost provided by Tonya Williams of Field Operations (FO) on 11/9/10
5 Inter-departmental cost, provided by Tonya Williams on 11/9/10
6 Per Casey Harris. Sum of principal, interest and service charges; accounts 5811, 5821, and 5832.
7 Costs provided by Jeryl Covington based on Environmental Services' (ES) budget only. Other department budgets may include support costs such as mechanics and management.
8 Transfer station tip fee is $41 per ton with a minimum charge of $12 (loads less than ~585 pounds)
9 Revenue based on value reported by Field Operations and not calculated. Difference presumably due to minimum charge
10 Tonnage based on line 7 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue based on value reported by Field Operations and not calculated. Difference from calculation presumably due to minimum charge
11 Tonnage from 11, 12 & 13 of *Waste Disposal Volumes* table. Revenue based on value reported by Environmental Services and not calculated. Difference from calculated value presumably due to minimum charge
12 Tonnage based on lines 14, 15, 16 and 17 of *Waste Disposal Volumes* table minus 7.79 tons per Environmental Services. Revenue assumed to be unchanged from Current Model.
13 Based on sum of lines 7 through 17, inclusive from *Waste Disposal Volumes* table dated 8/3/2010 minus 7.79 tons in order to match the 236,909.48 ton total reported by Environmental Services.
14 Calculated value based on tonnage times miles, mileage rate and fuel surcharge
15 Roundtrip distance calculated from 30 miles one way per Google maps
16 Mileage rate from HilCo's *Rate Fee Schedule* for calendar year 2010.
17 The fuel surcharge is adjusted monthly based on a DOE index. The 11% fuel surcharge used for this analysis, was also the rate between June and September of 2010. For FY 09/10 the surcharge rate ranged from 6% to 13%.
18 Actual FY 09/10 loads as provided by Environmental Services email dated 10/14/2010
19 Actual FY 09/10 Cost as provided by Environmental Services email dated 10/14/2010. Assumes cost will be equivalent to Uwharrie

Randolph County Model B

Direct Haul to Randolph County Landfill

		Costs	Revenues
Collection Operations (City of Greensboro)			
63,957.93	Tons Residential [1]		
58,281.79	Tons Commercial [2]		$5,454,819
	FCR (recycling rejects) [3]	$477,741	
	Current Collections [4]	$7,865,450	
	Additional Residential Garbage [5]	$1,588,000	
	Additional Residential Bulk [5]	$770,000	
	Additional CBD/Special Services [5]	$161,500	
	Additional Commercial [5]	$1,204,000	
	Startup ($5,400,000) not included [5]		
Transfer Station Annual Debt Service [6]		$826,773	
Transfer Station Operations [7]		$1,305,872	
$41	Tip Fee [8]		
-	Tons City Residential		
-	Tons City Commercial		
-	Total City Collections [9]		
11,658.63	Tons FCR (recycling rejects) [10]		$477,741
100,070.23	Tons Private [11]		$4,143,241
2,940.90	Tons Other City Departments [12]		$104,181
114,669.76	Total Tons [13]		
Hauling (HILCO) [14]		$959,052	
60	estimated miles roundtrip [15]		
$2.963	per roundtrip mile (base rate) [16]		
11%	estimated fuel surcharge [17]		
4,860	number of tractor trailer loads per year [18]		
Landfill Disposal			
	Randolph Co. Landfill [19]	$5,555,470	
	City of Greensboro Totals	$20,713,858	$10,179,982
	City of Greensboro Net Cost	$10,533,876	

Notes: Unless otherwise noted analysis based on results for fiscal year 2009/2010.

1 Tonnage based on lines 8 & 9 of *Waste Disposal Volumes* table dated 8/3/2010. Table Provided by Jeryl Covington, ES.
2 Tonnage based on line 10 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue provided by Tonya Williams, FO.
3 Interdepartmental cost due to contract with FCR. Cost provided by Tonya Williams of Field Operations (FO).
4 Cost provided by Tonya Williams of Field Operations (FO) on 11/9/10.
5 Inter-departmental cost, provided by Tonya Williams.
6 Per Casey Harris. Sum of principal, interest and service charges; accounts 5811, 5821, and 5832.
7 Costs provided by Jeryl Covington based on Environmental Services' (ES) budget only. Other department budgets may include support costs such as mechanics and management. For this scenario costs are assumed to be the same as current operations.

8 Transfer station tip fee is $41 per ton with a minimum charge of $12 (loads less than ~585 pounds).
9 This waste stream assumed to be direct hauled
10 Tonnage based on line 7 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue based on value reported by Field Operations and not calculated. Difference from calculation presumably due to minimum charge.
11 Tonnage from 11, 12 & 13 of *Waste Disposal Volumes* table. Revenue based on value reported by Environmental Services and not calculated. Difference from calculated value presumably due to minimum charge.
12 Tonnage based on lines 14, 15, 16 and 17 of *Waste Disposal Volumes* table minus 7.79 tons per Environmental Services. Revenue assumed to be unchanged from Current Model.
13 Total tons delivered to transfer station. Waste collected by Field Operations and FCR assumed to be direct hauled to landfill.
14 Calculated value based on tonnage times miles, mileage rate and fuel surcharge.
15 Roundtrip distance calculated from 30 miles one way per Google maps.
16 Mileage rate from HilCo's *Rate Fee Schedule* for calendar year 2010.
17 The fuel surcharge is adjusted monthly based on a DOE index. The 11% fuel surcharge used for this analysis, was also the rate between June and September of 2010. For FY 09/10 the surcharge rate ranged from 6% to 13%.
18 Loads based on current model prorated for reduced tonnages.
19 Actual FY 09/10 Cost as provided by Environmental Services email dated 10/14/2010. Assumes cost will be equivalent to Uwharrie

Randolph County Model C

Close Transfer Station & Direct Haul to Randolph Co. LF

		Costs	Revenues
Collection Operations (City of Greensboro)			
63,957.93	Tons Residential [1]		
58,281.79	Tons Commercial [2]		$5,454,819
	FCR (recycling rejects) [3]	$477,741	
	Current Collections [4]	$7,865,450	
	Additional Residential Garbage [5]	$1,588,000	
	Additional Residential Bulk [5]	$770,000	
	Additional CBD/Special Services [5]	$161,500	
	Additional Commercial [5]	$1,204,000	
	Startup ($5,400,000) not included [5]		
Transfer Station Annual Debt Service [6]		$826,773	
Transfer Station Operations [7]		$0	$0
-	Total Tons		
Hauling (HILCO) [8]		$0	
-	number of tractor trailer loads per year		
Landfill Disposal			
	Randolph Co. Landfill [9]	$2,866,492	
	City of GreensboroTotals	$15,282,215	$5,454,819
	City of Greensboro Net Cost	$9,827,396	

Notes: Unless otherwise noted analysis based on results for fiscal year 2009/2010.

1 Tonnage based on lines 8 & 9 of *Waste Disposal Volumes* table dated 8/3/2010. Table Provided by Jeryl Covington, ES.

2 Tonnage based on line 10 of *Waste Disposal Volumes* table dated 8/3/2010. Revenue provided by Tonya Williams, FO.

3 Assumes alternative to TS will allow FCR contract costs to remain the same

4 Cost provided by Tonya Williams of Field Operations (FO) on 11/9/10

5 Costs provided by Tonya Williams, Field Operations (FO)

6 Per Casey Harris. Sum of principal, interest and service charges; accounts 5811, 5821, and 5832.

7 Transfer station closed. No cost to close are included in this scenario. No provisions made for other city departments or existing contracts such as GDOT, Parks and Recreation, Water Resources or FCR. All private haulers left to find alternate solutions.

8 No hauling by HilCo required without transfer station. All City collected waste direct hauled.

9 Actual FY 09/10 Cost prorated by tonnage. Assumes cost will be equivalent to Uwharrie

WASTE DISPOSAL VOLUMES

FY 2009-2010

	DEPARTMENT	WASTE TYPE	DISPOSAL LOCATION	VOLUME (TONS)
1	FIELD OPERATIONS	YARD WASTE	COMPOST OPERATIONS	14,864.31
2	PRIVATE	YARD WASTE	COMPOST OPERATIONS	2,765.37
3	PRIVATE	C&D	LANDFILL	36,410.84
4	WATER RESOURCES	SCREENING	LANDFILL	1,293.02
5	*WATER RESOURCES	ASH	LANDFILL	6,946.93
6	WATER RESOURCES	SPECIAL PROJECTS C&D	LANDFILL	6.09
7	FCR	MSW REMOVED FROM RECYCLING	TRANSFER STATION	11,658.63
8	FIELD OPERATIONS	MSW - AUTOMATED COLLECTION	TRANSFER STATION	54,016.80
9	FIELD OPERATIONS	MSW - REAR PACKER COLLECTION	TRANSFER STATION	9,941.13
10	FIELD OPERATIONS	MSW - COMMERCIAL COLLECTION	TRANSFER STATION	58,281.79
11	PRIVATE	MSW	TRANSFER STATION	96,515.50
12	PRIVATE	CARCASSES	TRANSFER STATION	24.20
13	PRIVATE	C&D	TRANSFER STATION	3,530.53
14	TRANSPORTATION	STREET SWEEPING	TRANSFER STATION	2,738.67
15	TRANSPORTATION	CARCASSES	TRANSFER STATION	52.62
16	**TRANSPORTATION	C&D	TRANSFER STATION	157.05
17	***WATER RESOURCES	INDUSTRIAL	TRANSFER STATION	0.35
			TOTAL	**299,203.83**

*Water Resources Waste Type "Ash" was not on the original report request but it looks like this tonnage was included in the report for FY 2008-09.

**Charged to Field Operations (1791) in error.

***Water Resources Waste Type "Industrial" was not on the original report request.

Rate Fee Schedule

City of Greensboro
Greensboro, NC

Prices for MSW Transportation Services Only to Landfill as of January 1, 2010:

PRICE - TRANSPORTATION OF MSW[1] $/Mile (Round-Trip Mile)			
Annual Tonnage	50 – 100	101 – 150	151 – 200
60,000 – 100,000	3.140	1.873	1.859
100,001 – 150,000	2.963	1.855	1.859
150,001 – 200,000	2.963	1.855	1.859
200,001 – 250,000	2.963	1.855	1.859

[1] Prices are for truck miles (round-trip miles), while providing transportation services for a minimum of 1,000 tons per day of waste having an average bulk density of 300 to 400 pounds per cubic yard.

Contractor's price is based on a usable trailer capacity of 122-130 cubic yards

II. ADDITIONAL RESOURCES NEEDED – RESIDENTIAL GARBAGE *(See Randolph County Routing Data)*

RESIDENTIAL GARBAGE	CURRENT	PROPOSED	DIFFERENCE
ROUTES	16	24	+8
EQUIPMENT – SIDE LOADER	21	32	+11
EQUIPMENT COSTS (ANNUAL)	$1.260M	$1.920M	+$660K
OPERATORS – N10	21	32	+11
OPERATOR COSTS (ANNUAL)	$1.008M	$1.536M	+$528K
FUEL/RADIO COSTS (ANNUAL)	$200K	$600K	+$400K
			+$1.588M annually

III. ADDITIONAL RESOURCES NEEDED – RESIDENTIAL BULK GARBAGE

RESIDENTIAL BULK GARBAGE	CURRENT	PROPOSED	DIFFERENCE
ROUTES	4	8	+4
EQUIPMENT – REAR PACKER	6	11	+5
EQUIPMENT COSTS (ANNUAL)	$240K	$440K	+$200K
OPERATORS – N09	12	22	+10
OPERATOR COSTS (ANNUAL)	$504K	$924K	+$420K
FUEL/RADIO COSTS (ANNUAL)	$50K	$200K	+$150K
			+$770,000 annually

IV. ADDITIONAL RESOURCES NEEDED – CBD/ SPECIAL SERVICES

CBD/SPECIAL SERVICES	CURRENT	PROPOSED	DIFFERENCE
ROUTES	1	2	+1
EQUIPMENT – REAR PACKER	1	2	+1
EQUIPMENT COSTS (ANNUAL)	$40K	$80K	+$40K
OPERATORS – N09	2	4	+2
OPERATOR COSTS (ANNUAL)	$84K	$168K	+$84K
FUEL/RADIO COSTS (ANNUAL)	$12.5K	$50K	+$37.5K
			+$161,500 annually

V. ADDITIONAL RESOURCES NEEDED – COMMERCIAL GARBAGE

COMMERCIAL GARBAGE	CURRENT	PROPOSED	DIFFERENCE
ROUTES	12	18	+6
EQUIPMENT – FRONT LOADER	16	24	+8
EQUIPMENT COSTS (ANNUAL)	$1.040M	$1.560M	+$520K
OPERATORS – N10	16	24	+8
OPERATOR COSTS (ANNUAL)	$768K	$1.152M	+$384K
FUEL/RADIO COSTS (ANNUAL)	$150K	$450K	+300K
			+$1.204M annually

VI. ADDITIONAL RESOURCES NEEDED – COMBINED TOTAL: $ 3,723,500