

Alachua County
Mixed-Waste Materials Recovery Facility Feasibility Analysis

DRAFT

Contents

Background	1
Facility Conversion Options	1
Option 1 - Low Mechanization Conversion.....	1
Option 2 - Medium Mechanization Conversion	4
Option 3 - High Mechanization Conversion	6
Conclusions	10

Figures and Tables

Figure 1- Transfer Station Conversion, Option 1 - Low Mechanization.....	2
Figure 2 - Transfer Station Conversion, Option 2 – Medium Mechanization.....	4
Figure 3 - Transfer Station Conversion, Option 3 –High Mechanization.....	9
Figure 4 – High Mechanization Conversion.....	10
Table 1 - Materials Available.....	1
Table 2 – Option 1 Summary.....	3
Table 3 – Option 2 Summary.....	5
Table 4 – Materials Recovered ¹	7
Table 5 – Option 3 Summary.....	8
Table 6 – Cost Summary.....	11

Attachments

- A Detailed Waste Composition Data
- B Detailed Option 1 Cost Analyss
- C Detailed Option 2 Cost Analysis
- D Detailed Option 3 Cost Analysis

Background

Alachua County is evaluating its solid waste management program to increase the County's recycling rate. This effort is specifically aimed to address the 75% recycling goal defined in Florida House Bill 7243 and incorporated into the Alachua County Comprehensive Plan. As part of the overall program evaluation, the County contracted HDR to analyze the feasibility of three conceptual options to convert the County's existing transfer station into a mixed-waste materials recovery facility.

Based on data presented in the February 2010 Alachua County Waste Composition Study prepared by the University of Florida, Table 1 provides a distribution of potentially recyclable materials available at the transfer station. A more detailed table of waste composition data is provided in Attachment A.

Table 2 - Materials Available	
Potentially Recyclable Organic Materials	293 TPD
Potentially Recyclable Non-Organic Materials	124 TPD
Balance for Landfill Disposal	183 TPD
Total	600 TPD

TPD = Tons Per Day

Facility Conversion Options

HDR evaluated three conceptual approaches to converting the existing transfer station into a mixed-waste materials recovery facility. The three approaches are differentiated primarily based upon the level of mechanization involved. The conceptual designs for all three options were prepared to achieve the following objectives:

1. To process all solid waste received at the facility;
2. To segregate both organic and non-organic materials from the waste stream;
3. To maximize employee safety.

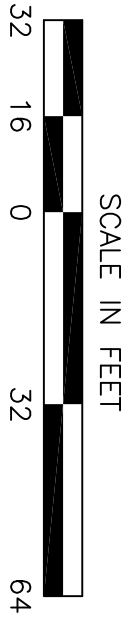
Option 1 - Low Mechanization Conversion

Option 1 involves the lowest level of mechanization relative to Options 2 and 3. As shown in Figure 1, this option creates a manual sorting area along the northern portion of the existing transfer station floor. The manual sorting area is separated from the unloading area by a large concrete barrier to protect the laborers. The first step in the sorting process is to use a small front loader to push the waste apart once deposited on the floor by the hauler. In this step, the

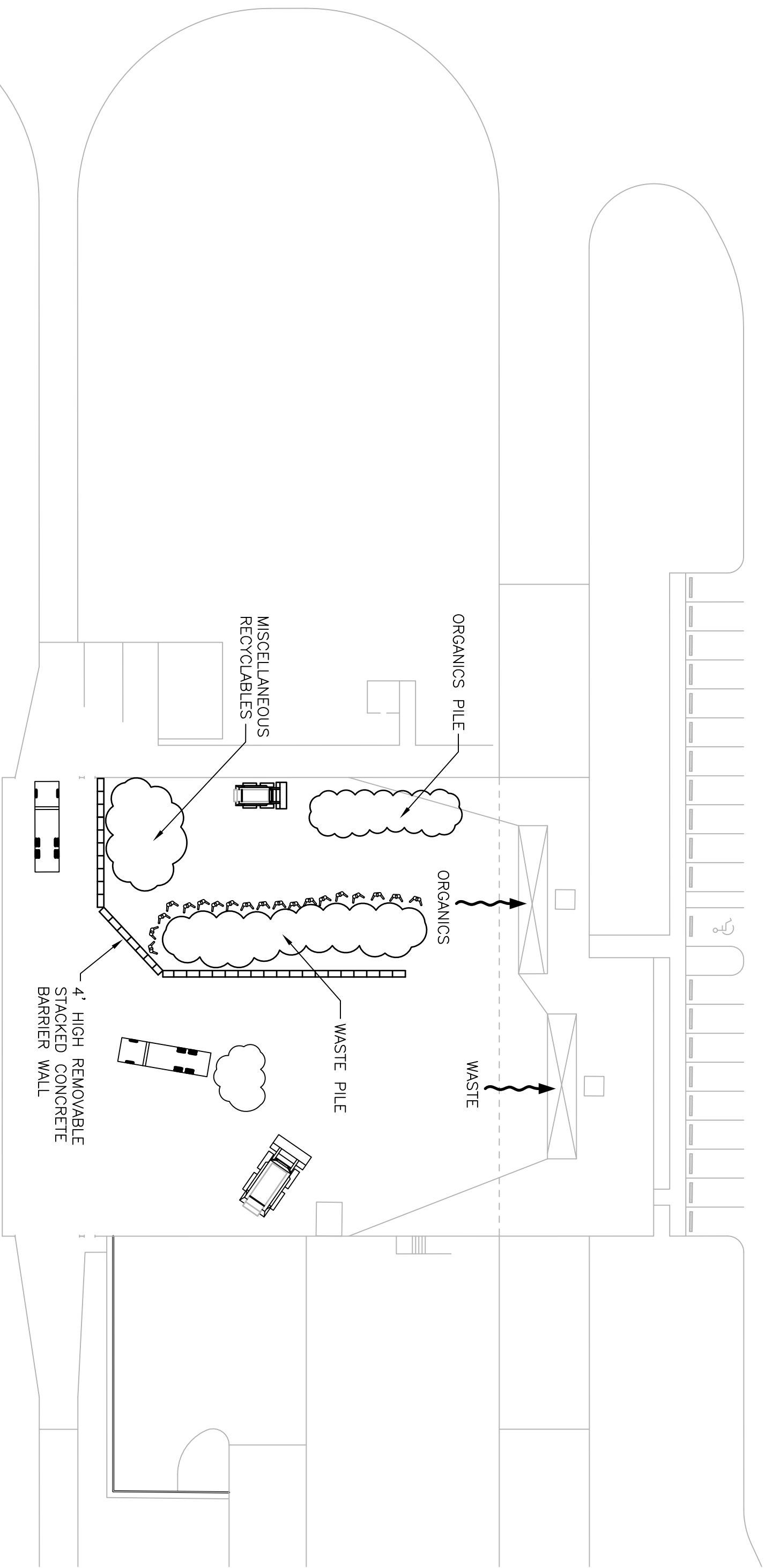
front-loader operator will remove prohibited materials from the waste stream (as they currently do at the transfer station) and segregate large, organic-rich loads (or portions of loads). It is assumed that approximately 2 percent (approximately 10TPD) of the total available organic material can be segregated during this step of the process. The operator will move the segregated organic-materials to the north hopper as shown in Figure 1. In the second step, the front loader operator will move the remaining waste to the northern portion of the floor where pickers will manually process the remainder of the waste removing organic and non-organic recyclable materials. The pickers will utilize hand tools such as shovels, hoes and rakes to pull targeted materials from the waste stream. The pickers will be protected from truck traffic and dumping by a concrete wall to be constructed between the tipping area and the picking area as shown in Figure 1. The organic materials will be temporarily placed in a pile along the northern wall. Miscellaneous recyclables will be stockpiled along the west wall for transfer later to the existing materials recovery facility for sorting. We have assumed that the average picking/sorting rate for a laborer is approximately 4 TPD. WE have also assumed that 20 laborers will perform manual sorting in the designated areas. Once manual sorting of each load is completed, the front loader operator will push the organic materials to the north hopper and the remainder of the waste to the south hopper.

Based on our assumptions, the total amount of materials that can be recovered utilizing Option 1 is approximately 90 TPD, or 15% of the total waste stream. The parameters of Option 1 are summarized in Table 2. A detailed cost analysis for Option 1 is provided in Attachment 2.

Table 2 – Option 1 Summary	
Waste Processed (TPD)	600
Projected Quantity of Recyclable Materials Recovered (TPD)	90
Primary Operating Equipment	2 Front end loaders
Estimated Number of Pickers	20
Estimated Capital Costs	\$4,985
Estimated First Year Operating Costs	\$965,295
Average Cost Per Ton Recycled	\$36.50



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**TRANSFER STATION MODIFICATIONS
 LOW TECHNOLOGY OPTION**

ALACHUA COUNTY, FLORIDA

DATE	11-02-2010
FIGURE	1

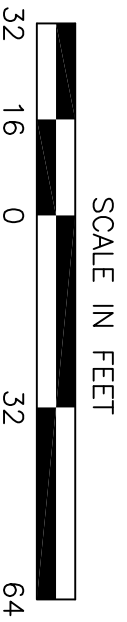
Option 2 - Medium Mechanization Conversion

Option 2 involves a level of mechanization greater than Option 1, but less than that of Option 3. As shown in Figure 2, this option includes expanding the existing transfer station building beyond the current footprint to allow for the installation of a conveyance system with picking stations. HDR evaluated incorporating the picking station arrangement on the existing tipping floor, however, due to the spatial requirements, this could not be accommodated.

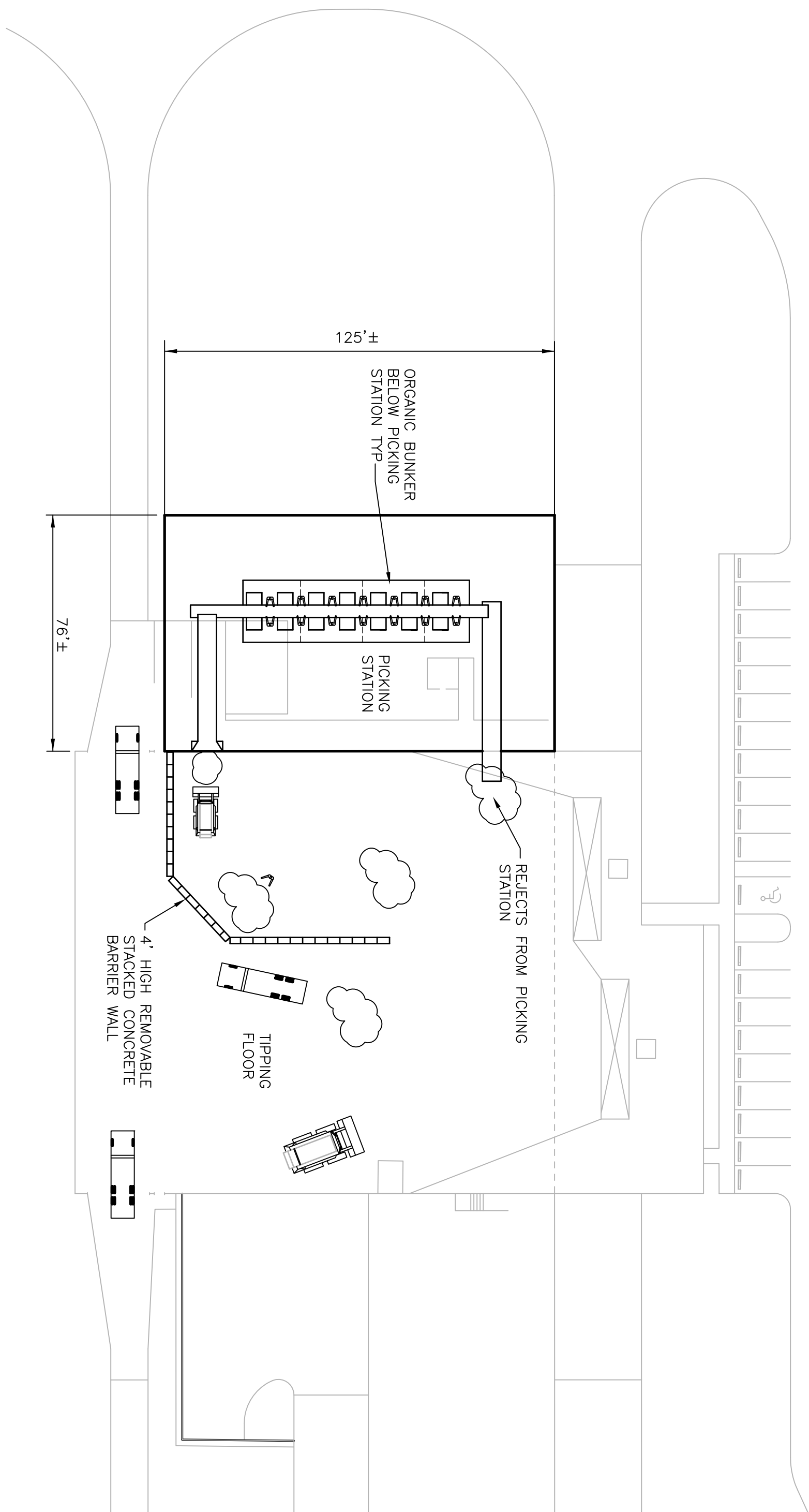
As in Option 1, the first step in the sorting process is to use a small front loader to push the waste apart once deposited on the floor by the hauler. In this step, the front loader operator will remove prohibited materials from the waste stream and segregate large, organic-rich loads (or portions of loads). It is assumed that approximately 2 percent (approximately 10 TPD) of the total available organic material can be segregated during this step of the process. The balance would be pushed into a processing area of the transfer station where a laborer will then break open any plastic bags. A small skid-steer loader would be used to further break-up/separate waste and provide the next level of screening of organics. It is assumed that an additional 2 percent of the total available organic material will be removed during this step. The small loader would then be used to load a feed conveyor for manual picking of organics (e.g., OCC, boxboard, paper) and non-organic recyclables (e.g., plastics, glass, and metals). The conveyor system increases the organic material removal rate for each picker to approximately 10TPD (compared to 4 TPD for Option 1). The recovery rate for non-organic materials is significantly less due to the lower density of the material relative to organics. A total of 14 pickers were assumed for Option 2. Waste not picked from the conveyor belt is conveyed back to the tipping floor and loaded in the south hopper.

Based on our assumptions, the total amount of materials that can be recovered utilizing Option 2 is approximately 160 TPD, or approximately 25% of the total waste stream. The parameters of Option 2 are summarized in Table 3. A detailed cost analysis for Option 2 is provided in Attachment 3.

Table 3 – Option 2 Summary	
Waste Processed (TPD)	600
Projected Quantity of Recyclable Materials Recovered (TPD)	160
Primary Operating Equipment	2 Front end loaders, conveyor system, picking stations
Estimated Number of Pickers	14
Estimated Capital Costs	\$1,940,364
Estimated First Year Operating Costs	\$1,030,975
Average Cost Per Ton Recycled	\$20.86



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**TRANSFER STATION MODIFICATIONS
MEDIUM TECHNOLOGY OPTION**

ALACHUA COUNTY, FLORIDA

DATE	11-02-2010
FIGURE	2

Option 3 - High Mechanization Conversion

Option 3 involves the highest level of mechanization relative to Options 1 and 2. As shown in Figure 3, this option would include the expansion of the building beyond the layout for the medium technology option to allow for the installation of mechanical equipment upstream of the picking stations as shown in Figure 3.

As in Option 1 and 2, the first step in the sorting process is to use a small front loader to push the waste apart once deposited on the floor by the hauler. In this step, the front loader operator will remove prohibited materials from the waste stream and segregate large, organic-rich loads (or portions of loads). It is assumed that approximately 2 percent (approximately 10 TPD) of the total available organic material can be segregated during this step of the process. The front loader will push waste onto an in-feed conveyor after the initial screening. The in-feed conveyor would move the waste into a large trommel where fines (-2 inch) and glass (after breakage) will drop under for conveyance back to load out to landfill for disposal. Movement of waste through the trommel should separate materials for picking. Materials from the trommel would be deposited onto a conveyor system and pass through a magnet to separate any ferrous from the processing stream. The remaining waste materials would then be processed through two adjacent picking station sections.

There are two methods available for picking of the materials from a processing stream. Positive picking removes the materials required from the conveyor system with the contaminants remaining like the process proposed under the medium technology option above. In the other method, which is referred to as negative picking, the organics would remain on the conveyor with the recyclables and contaminants removed. The remaining organics (with some contamination) would be conveyed back to the tipping floor for load out and transport to an organics recycling facility. Utilizing negative picking and based on 600 tons per day through-put, Table 4 shows the quantity of materials requiring removal to provide a clean feed product for an organic recycling facility.

Plastics	46.2	TPD
Film	40.2	TPD
Metals	18.0	TPD
Disposal Diaper	13.2	TPD
C&D (Concrete & Brick)	14.4	TPD
Other (tires, rubber, electronics)	34.0	TPD
HHW	6.6	TPD
Residuals Greater Than 2"	30.0	TPD
Picking	202.6	TPD

1 – Based on 600 TPD throughput

Due to the low tonnage recovery rate for picking of these materials, especially plastic film (2 tons per day per picker), it estimated that more than 50 pickers would be required in this method. Although the quantities of recovered recyclables would be much higher it would still be very difficult to achieve a clean organics waste stream.

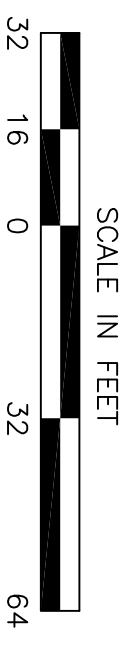
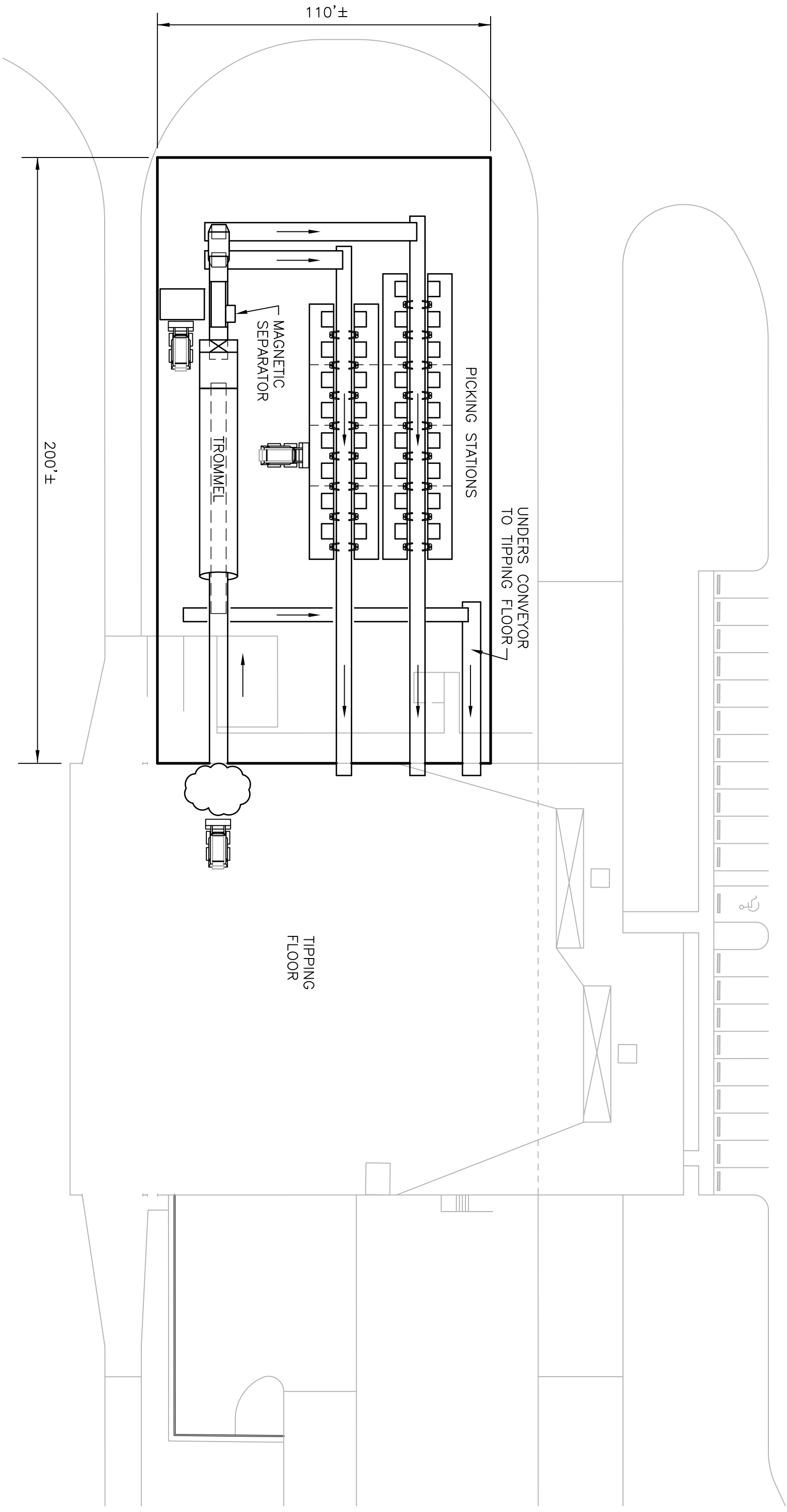
Therefore, the positive picking method was selected for use in Option 3. As shown in Figure 3, after moving through the trommel the materials pass the magnetic separator for removal of ferrous metals and proceed to the picking stations where organics and other recyclables are picked from the conveyor. Figure 4 provides a mass balance diagram of the total materials that could be recovered based on 600 tons per day processed. It is assumed that the glass portion of the waste along with approximately 10 percent of the organics would be lost through the trommel and be landfilled with the unders.

For this option it was assumed that 34 pickers would be required to remove the ORB materials and recyclables. As shown in Figure 4, a total of approximately 330 tons of recyclable material could be removed from the waste stream.

This option would result in a removal or recovery rate of approximately 55 percent of the waste processed if 100 percent of the materials available on the conveyor system could be removed. Additional picking stations could be added to remove the plastic film component of the waste stream (40.2 tons per day) to further enhance the recycling percentage.

As noted above, the mass balance presented in Figure 4 provides a detailed breakdown of the materials of the total 600 TPD waste stream and the ability to recovery those materials by processing. Since Option 3 includes a significant amount of manual labor and mechanical equipment, it is unlikely that either will be available 100% of the time throughout the year. As such, for the purposes of this feasibility study, we have applied a 90% availability factor to this operation in calculating the total annual recovered tonnage per year. The direct result is a daily recovered tonnage of 225 TPD, and 64,350 tons annually. Table 5 presents a summary of Option 3.

Table 5 – Option 3 Summary	
Waste Processed (TPD)	600
Projected Quantity of Recyclable Materials Recovered (TPD)	225
Primary Operating Equipment	2 Front end loaders, trammel, magnet, conveyors
Estimated Number of Pickers	34
Estimated Capital Costs	\$4,426,272
Estimated First Year Operating Costs	\$2,297,117
Average Cost Per Ton Recycled	\$32.58



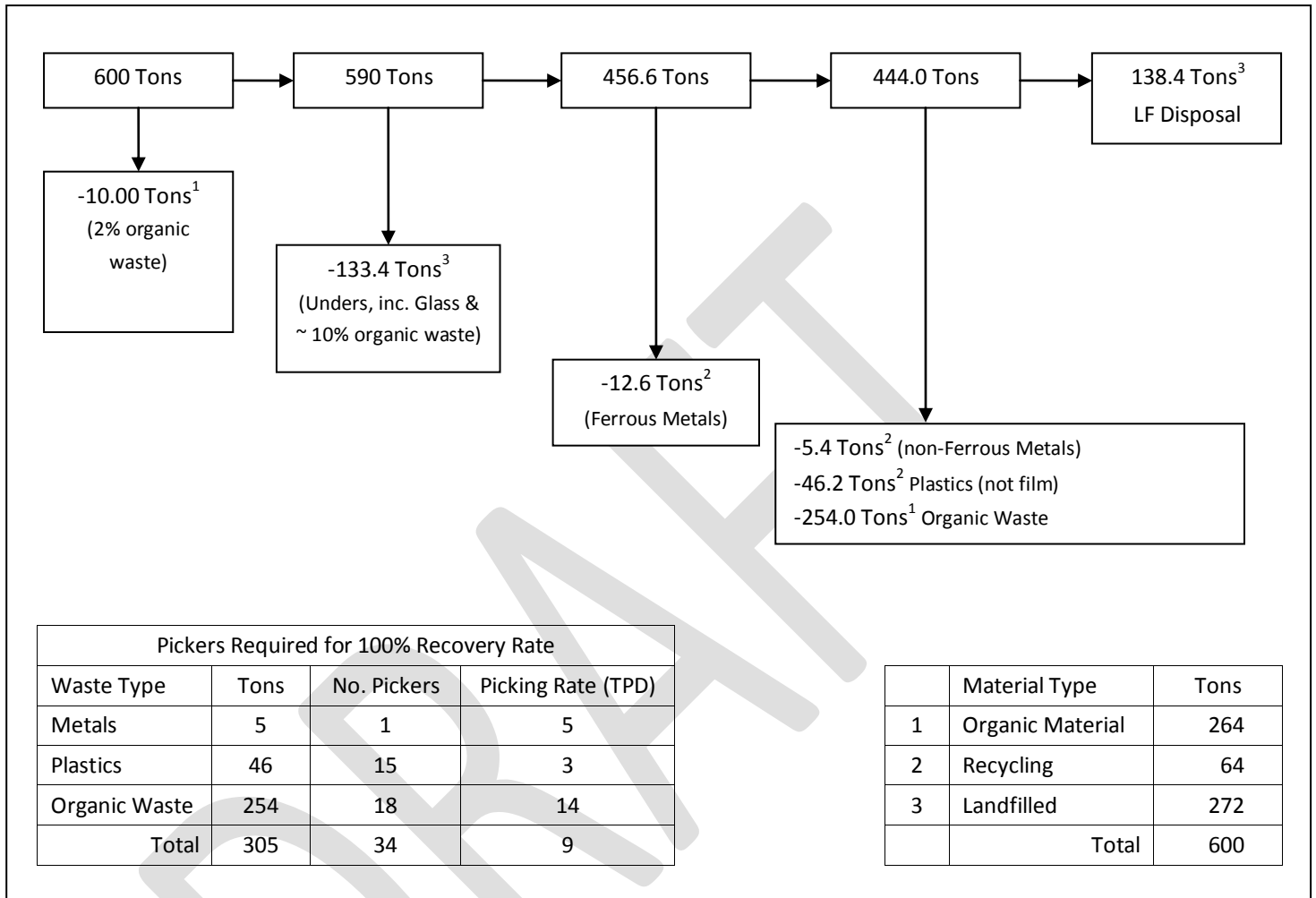
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**TRANSFER STATION MODIFICATIONS
 HIGH TECHNOLOGY OPTION**
 ALACHUA COUNTY, FLORIDA

DATE	11-02-2010
FIGURE	3

**Figure 4 – Option 3 - High Mechanization Conversion
600 Tons/Day Mass Balance**



Conclusions

The three options considered for recovering the organics waste stream from the total material delivered to the transfer station include a variety of manpower requirements, and levels of mechanical equipment. All of the options presented have considered processing the total quantity of waste received at the transfer station, which currently averages approximately 600 TPD. Table 6 provides a comparison of the quantities of materials recovered, capital costs, operating costs and annual costs of the three options reviewed.

Table 6 - Cost Summary			
	Facility Options		
	Low Mechanization	Medium Mechanization	High Mechanization
Tons Processed / Day	600	600	600
Tons Processed / Year	172,000	172,000	172,000
Tons Recovered / Day	90	160	225
Total Capital Costs	\$4,985	\$1,940,364	\$4,426,272
Annual Operating Costs (1st yr)	\$922,700	\$769,400	\$1,641,600
Total Annual Costs (1st Year)	\$965,295	\$1,030,975	\$2,230,200
Cost/Ton Processed	\$5.61	\$6.00	\$13.00
Cost/Ton Recovered	\$37.50	\$20.94	\$34.66
Average Cost/Ton Recovered	\$36.50	\$20.86	\$32.58

Based on the assumptions, analyses and estimates provided in this study, we have concluded that the cost per ton of material recovered for Option 2 is approximately 43% and 36% lower than Options 1 and 3, respectively.

Attachment A

Detailed Waste Composition Data

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The following provides a distribution of materials to the various facilities based on 600 tons per day processed through Option 3.

Material Quantities by Category			
<i>Organic Materials:</i>			
2.6 %	C&D (clean wood only)	15.6	TPD
17.6 %	Organics	105.6	TPD
28.7 %	Paper	172.2	TPD
	Subtotal	293.4	TPD
<i>Primary Non-Organic Materials:</i>			
7.7 %	Plastic (other than film)	46.2	TPD
3.3 %	Glass	19.8	TPD
3.0 %	Metal	18.0	TPD
	Subtotal	84.0	TPD
<i>Waste to Landfill/Other Disposal:</i>			
1.1 %	Household Hazardous Waste	6.6	TPD
18.5 %	All Residuals and Fines	111.1	TPD
0.5 %	Bulk Waste	3.1	TPD
5.7 %	Other Products (tires, rubber, electronics)	34.0	TPD
2.4 %	C&D (other than clean wood)	14.4	TPD
6.7 %	Plastic Film	40.2	TPD
2.2 %	Disposable Diapers	13.2	TPD
	Subtotal	222.6	TPD
	Total	600	TPD

Note: All data obtained from the Alachua County Waste Composition Study (February 2010)

Attachment B

Detailed Option 1 Cost Analysis

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Alachua County, FL				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
** Materials Recovery **																								
Cost Estimate - Option 1	Unit	Number of Units	Unit Cost																					
Subtotal - Fuel Costs				21,600	22,248																			
Total Annual Equipment Costs				27,600	28,428																			
Annual Cost				28,400	29,300	30,200	31,100	32,000	33,000	33,900	35,000	36,000	37,100	38,200	39,400	40,500	41,700	43,000	44,300	45,600	47,000	48,400	49,800	
OTR Equipment	Units	# replacements																						
Tractors (10 year life)	0	0	107,000	0	0									0										
Trailers (10 year life)	0	0	67,000	0	0							0									0			
Contingency for Tractor Equip.			0	10%	0	0								0										
Contingency for Trailer Equip.			0	10%	0	0						0									0			
Financed Tractor Equipment Costs				0	0									0										
Financed Trailer Equipment Costs				0	0							0									0			
Debt Service				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operation Costs (Facilities)																								
LABOR	\$/hr		hrs/year																					
Loader Operators	20		1	2,080	42,000																			
Spotters/Laborers	15		19	2,080	593,000																			
Total Staff			20		635,000																			
Employee Benefits	% of Labor		635,000	35%	222,250																			
Concrete Separation Walls (waste concrete blocks)	ea		100	\$40			4,502			5,067				5,703						6,419				7,224
BUILDING AND SITE MAINTENANCE	(Capital Cost)		4,000	1.5%	60																			
UTILITIES - BUILDING AND SITE			1	21,200	21,200																			
ACCOUNTING, SUPPLIES, MISC.			863,250	2%	17,265																			
Subtotal Operation Costs				895,775																				
Total Operation Costs				895,800																				
Annual Cost				922,700	950,400	978,900	1,012,700	1,038,500	1,069,600	1,101,700	1,139,800	1,168,800	1,203,900	1,240,000	1,282,900	1,315,500	1,355,000	1,395,600	1,443,900	1,480,600	1,525,000	1,570,800	1,625,100	

Attachment C

Detailed Option 2 Cost Analysis

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Alachua County, FL				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
** Materials Recovery **																									
Cost Estimate - Option 2				Unit	Number of Units	Unit Cost																			
Financed Equip. Costs						60,500	62,300					76,600							94,300						
Debt Service						\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 16,876	\$ 16,876	\$ 16,876	\$ 16,876	\$ 16,876	\$ 16,876	\$ 29,007	\$ 29,007	\$ 29,007	\$ 29,007	\$ 29,007	\$ 29,007
EQUIPMENT OPERATING AND MAINTENANCE COSTS																									
CAT Skid Steer Loader				LS	1	\$5,000	5,000	5,150																	
General O&M				LS	1	\$5,000	5,000	5,150																	
Subtotal - Equipment Operating and Maintenance Costs						10,000	10,300																		
TS ROLLING STOCK FUEL COSTS																									
						\$/gallon																			
CAT Skid Steer Loader				gal/hr	3	3.00	21,600	22,248																	
Subtotal - Fuel Costs							21,600	22,248																	
Total Annual Equipment Costs						31,600	32,548																		
Annual Cost						32,500	33,500	34,500	35,600	36,600	37,700	38,900	40,000	41,200	42,500	43,700	45,100	46,400	47,800	49,200	50,700	52,200	53,800	55,400	57,100
OTR Equipment																									
Tractors (10 year life)				Units	# replacements																				
Trailers (10 year life)				0	0	107,000	0	0																	
Contingency for Tractor Equip.				0	0	67,000	0	0																	
Contingency for Trailer Equip.				0	0	10%	0	0																	
Financed Tractor Equipment Costs				0	0	10%	0	0																	
Financed Trailer Equipment Costs				0	0		0	0																	
Debt Service						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Operation Costs (Facilities)																									
LABOR				\$/hr		hrs/year																			
Loader Operators				20	1	2,080	42,000																		
Pickers/Laborers				15	15	2,080	468,000																		
Total Staff					16		510,000																		
Employee Benefits				% of Labor		510,000	35%	178,500																	
Concrete Separation Walls (waste concrete blocks)				ea	100	\$40		4,502				5,067				5,703					6,419			7,224	
BUILDING AND SITE MAINTENANCE				(Capital Cost)		1,556,900	1.5%	23,354																	
UTILITIES - BUILDING AND SITE					1	21,200	21,200																		
ACCOUNTING, SUPPLIES, MISC.						698,500	2%	13,970																	
Subtotal Operation Costs							747,024																		
Total Operation Costs							747,000																		
Annual Cost						769,400	792,500	816,300	845,300	866,000	892,000	918,700	951,300	974,700	1,003,900	1,034,000	1,070,700	1,097,000	1,129,900	1,163,800	1,205,100	1,234,700	1,271,700	1,309,900	1,356,400

Attachment D

Detailed Option 3 Cost Analysis

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Cost Estimate - Option 3	Unit	Number of																					
		Units	Unit Cost																				
Site Information																							
Transfer Station Materials Processed (TPD)	600																						
Transfer Station Materials Recovered (TPD)	225																						
Physical Plant Life (Yrs)	20																						
Mobile Equipment Life (yrs)	7																						
Equipment Salvage Value (%)	0.00%																						
Assumed Inflation Rate	3.00%																						
Assumed Borrow Rate	6.00%																						
Assumed Discount Rate	3.70%																						
Assumed Investment Rate (for sinking fund)	5.75%																						
Financing Cost Factor (%)	10.00%																						

Pre Development Costs																					
Land Acquisition	acre	0	25,000	0	0																
DESIGN/ENGINEERING	LS	12%	4,878,530	585,424	602,986																
PERMITTING	LS	3%	4,878,530	146,356	150,747																
SURVEYING AND SOILS REPORT		1	20000	20,000	20,600																
Total Pre Development Costs				751,780	774,333																
Financed Pre-Development Costs				826,957	851,766																
Debt Service				74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300	74,300

SITWORK																					
Earthwork																					
Clearing & Grubbing	Ac	0.50	\$4,000	2,000	2,060																
General Earthwork	cy	815	\$12	9,780	10,073																
Roadway Paving	sy	0	\$30	0	0																
Site Utilities	LS	1	\$25,000	25,000	25,750																
Erosion Control/Storms	L.S.	0	\$20,000	0	0																
Landscaping (Minimal)	L.S.	0	\$10,000	0	0																
Subtotal - Sitework				36,780	37,883																

TS Building Modifications																					
Metal Building (200x110)	sf	22,000	\$75	1,650,000	1,699,500																
Concrete Slabwork	cy	550	\$350	192,500	198,275																
Concrete Footings	cy	85	\$450	38,250	39,398																
Concrete Bunkers	cy	120	\$350	42,000	43,260																
Picking Stations	ea	32	\$25,000	800,000	824,000																
Concrete Separation Walls (waste concrete blocks)	ea	0	\$40	0	0																
Mechanical	sf	22,000	\$16	352,000	362,560																
Electrical	sf	22,000	\$20	440,000	453,200																
Subtotal -Transfer Building				3,514,750	3,620,193																
Subtotal - SITE AND BUILDINGS				3,551,530	3,658,076																

CONSTRUCTION INSPECTION (10%)		3,551,530	10%	355,153	365,808																
Subtotal Initial Transfer Station Development Costs				3,906,683	4,023,883																
Total Initial Station Development Costs				3,906,683	4,023,883																
Financed Transfer Station Development Costs				4,297,351	4,426,272																
Debt Service				385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903	385,903

EQUIPMENT COSTS																					
Processing Equipment																					
Conveyors	LF	412	1,000	412,000	424,360																
Magnetic Separator	EA	1	65,000	65,000	66,950																
Trommel Screen (12' x 80')	EA	1	800,000	800,000	824,000																
Subtotal - Equipment				1,277,000	1,315,310																
Contingency for Equip.		1,277,000	10%	127,700	131,531																
Financed Equip. Costs				1,545,200	1,591,500																
Debt Service				\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754	\$ 138,754

Mobile TS Equipment																					
CAT Skid Steer Loader	EA	1	50,000	50,000	51,500																
Subtotal - Equipment				50,000	51,500																
Contingency for Equip.		50,000	10%	5,000	5,150																
Financed Equip. Costs				60,500	62,300																
Debt Service				\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160	\$ 11,160

EQUIPMENT OPERATING AND MAINTENANCE COSTS																					
CAT Skid Steer Loader	LS	1	\$5,000	5,000	5,150																
Conveyors	LS	5	\$1,500	7,500	7,725																

Alachua County, FL				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
** Materials Recovery **																									
Cost Estimate - Option 3				Unit	Number of Units	Unit Cost																			
Trommel Screen	LS	1	\$5,000	5,000	5,150																				
General O&M	LS	1	\$5,000	5,000	5,150																				
Subtotal - Equipment Operating and Maintenance Costs					22,500	23,175																			
TS ROLLING STOCK FUEL COSTS																									
CAT Skid Steer Loader	gal/hr	3	3.00	21,600	22,248																				
Subtotal - Fuel Costs					21,600	22,248																			
Total Annual Equipment Costs					44,100	45,423																			
Annual Cost					45,400	46,800	48,200	49,600	51,100	52,700	54,200	55,900	57,500	59,300	61,000	62,900	64,800	66,700	68,700	70,800	72,900	75,100	77,300	79,600	
OTR Equipment				Units	# replacements																				
Tractors (10 year life)		0	0	107,000	0	0									0										
Trailers (10 year life)		0	0	67,000	0	0																0			
Contingency for Tractor Equip.			0	10%	0	0									0										
Contingency for Trailer Equip.			0	10%	0	0									0							0			
Financed Tractor Equipment Costs					0	0									0										
Financed Trailer Equipment Costs					0	0									0								0		
Debt Service					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Operation Costs (Facilities)																									
LABOR				\$/hr	hrs/year																				
Loader Operators		20	1	2,080	42,000																				
Pickers		15	34	2,080	1,061,000																				
Total Staff			35		1,103,000																				
Employee Benefits	% of Labor		1,103,000	35%	386,050																				
BUILDING AND SITE MAINTENANCE				(Capital Cost)	3,551,530	1.5%	53,273																		
UTILITIES - BUILDING AND SITE					1	21,200	21,200																		
ACCOUNTING, SUPPLIES, MISC.					1,511,550	2%	30,231																		
Subtotal Operation Costs							1,593,754																		
Total Operation Costs							1,593,800																		
Annual Cost					1,641,600	1,690,900	1,741,600	1,793,800	1,847,700	1,903,100	1,960,200	2,019,000	2,079,500	2,141,900	2,206,200	2,272,400	2,340,500	2,410,800	2,483,100	2,557,600	2,634,300	2,713,300	2,794,700	2,878,600	

