

Board of County Commissioners
DEPARTMENT OF PUBLIC WORKS
SOLID WASTE MANAGEMENT DIVISION

P.O. Box 340, Lecanto, Florida 34460
 Telephone: (352) 527-7670 FAX: (352) 527-7672
 email: landfillinfo@bocc.citrus.fl.us
 TDD Telephone: (352) 527-5303
 Citrus Springs/Dunnellon/Ingles/Yankeetown area Toll Free (352) 489-2120

December 4, 2006

Susan J. Pelz, P.E.
 Solid Waste Section
 Florida Department of Environmental Protection
 13051 N. Telecom Parkway
 Temple Terrace, FL 33637-0926

Dept of Environmental
 Protection

Re: Citrus County Central Landfill
 Permit No. 21375-008-SO/01
 Remaining capacity report

DEC 12 2006

Dear Ms. Pelz:

Southwest District

The attached report was prepared by SCS Engineers for the County and reports the remaining disposal capacity and site life for the referenced facility. This is in accordance with Specific Condition C.13.f. which requires such report be delivered no later than January 15th.

The date of the survey upon which these calculations are based is October 6, 2006. The remaining capacity was 1,259,962 cubic yards and the projected time to fully fill that capacity is at the end of May 2013.

Please contact me if you have questions or require additional information.

Yours truly,

Susan J. Metcalfe

Susan Metcalfe, P.G.
 Director

SM

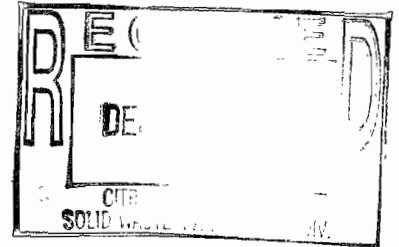
Attachment

CC: Glenn W. McCracken, Director, Public Works Department (w/o attachments)
 Michael K. Arnold, Assistant Director, Public Works Department (w/o attachments)
 John Banks, SCS Engineers, Tampa (w/o attachments)

SCS ENGINEERS

November 30, 2006
File No. 09204067.03

Ms. Susan J. Metcalfe, P.G., Director
Solid Waste Management Division
Citrus County Department of Public Works
P.O. Box 340
Lecanto, Florida 34460



Subject: Citrus County Central Landfill, Lecanto, Florida
Operations Permit No. 21375-008-SO/01
Remaining Site Life Calculation for Phase 1, 1A, and 2

Dear Ms. Metcalfe:

SCS Engineers (SCS) has calculated the remaining site life for the Phase 1, 1A and 2 areas of the Central Landfill in accordance with Specific Condition C13. f. of the current permit. SCS estimated the remaining air space through Phase 2 as of October 6, 2006 and used projections of future waste receipts to predict the remaining disposal capacity as described below.

SCS calculated the remaining air space volume by comparing the final design contours of Phases 1, 1A and 2 to an aerial topographic map of the same area provided by Kucera International, Inc (Kucera) dated October 6, 2006. The final contours through Phase 2 used for these calculations are based on the final closure design approved for this site. SCS assumed that the waste will be filled up to final capacity and allowed to settle before placing the cover soil. Hence, no final cover soil subtractions were made in the calculations. The difference between the two surfaces is the approximate total remaining air space available for refuse disposal. The estimated remaining air space volume through Phase 2 as of October 6, 2006 was 1,259,962 cubic yards (CY). Attachment 1 shows SCS' volume calculations.

As shown in the calculations given in Attachment 2, SCS estimated the effective waste density by comparing waste tonnage information supplied by the County for fiscal year 2005/2006 with the landfill volume consumed for the same period of time. The waste tonnages included only those categories of waste received at the facility that are actually landfilled. These include Scale Weight Garbage, Flat Fee Garbage, Special Handle Waste, Dried Sludge, and Free Garbage.

The calculation resulted in an estimated effective density of 1,270 pounds per cubic yard (lbs/cy). This translates to an airspace utilization rate of 1.57 cubic yards per ton of waste received. SCS projected future waste generation rate based on the current waste generation and a growth rate of 4 percent per year as observed over the past few years. The projected tonnage for each year is multiplied by the utilization rate to calculate the volume of airspace

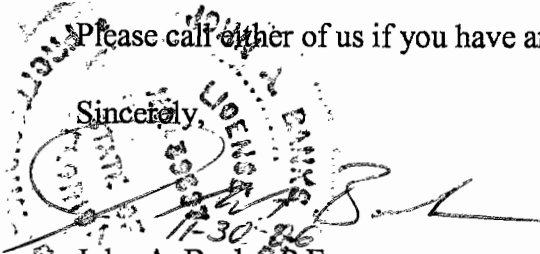


Ms. Susan Metcalfe, P.G.
November 30, 2006
Page 2


consumed. The attached calculations indicate the Phase 2 area has an estimated life to May 2013.

Please call either of us if you have any questions or comments regarding this report.

Sincerely,



John A. Banks, P.E.
Project Director



Raymond J. Dever, P.E., BCEE
Vice President
SCS ENGINEERS

JAB/RJD:sj

Attachment

ATTACHMENT 1
SCS VOLUME CALCULATIONS

KUCERA INTERNATIONAL INC.

GEOGRAPHIC INFORMATION PROFESSIONALS / PHOTOGRAMMETRISTS

KUCERA SOUTH

a wholly owned subsidiary of Kucera International, Inc.

Certificated of Authorization Number 6643

2215 South Florida Avenue

Lakeland, Florida 33803-7226

Corporate Headquarters

38133 Western Parkway

Willoughby, OH 44094-7589

(440) 975-4230

Fax (440) 975-4238

map @ kucerainternational.com

http://www.kucera-gis.com

REPORT OF TOPOGRAPHIC MAP SURVEY OF LANDS IN THE SE 1/4 OF SECTION 1-TWP19 SOUTH-RNG18 EAST,

Tallahassee Meridian

IN CITRUS COUNTY FLORIDA

Known as Citrus County Central Landfill

Our Project No. 35913-Date of Photography October 6, 2006

Kucera South

2215 South Florida Avenue

Lakeland, FL 33803-7226

(863) 686-8640

Fax (863) 688-9594

kucera2@gte.net

Ground Surveys and Custodianship

Ground surveys for mapping were performed by Citrus County, Division of Engineering, Survey Section Lecanto, Florida, under the direct supervision of Mr. Patrick L. Henson, PLS No. 4547. Elevations shown hereon are based on N.G.V.D. of 1929, D.O.T. B.M. No. 54, EL = 115.05.

Kucera West

Suite 215

11049 W. 44th Avenue

Wheat Ridge, CO 80033-2554

(303) 456-1820

Fax (303) 456-1821

kucera@west1@aol.com

This topographic map and report is not valid without the signature and original seal of a Florida licensed surveyor and mapper which can be found at the end of this report. The map and report are not full and complete without the other.

Henderson Aerial Surveys

3889 Grove City Road

Grove City, OH 43123-9193

(614) 539-3925

Fax (614) 539-3928

hasmaps@cs.com

ACCURACY

Horizontal and vertical ground surveys meet minimum relative accuracy for photogrammetric topographic mapping at 1" = 100' with 1' contours.

Keddal Aerial Mapping

Suite 3100, 1121 Boyce Road

Pittsburgh, PA 15241-3936

(724) 942-2881

Fax (724) 942-2885

kam@cobweb.net

Photogrammetric topographic mapping meets accuracy standards as classified in the Florida Minimum Technical Standards – Chapter 61G17-6.

LIMITATIONS

No ground surveys were obtained to check photogrammetric horizontal and vertical accuracy's. However, if future ground surveys reveal an accuracy error greater than Minimum Technical Standards the photogrammetrist will remap the area of concern and resubmit approved mapping with appropriate report and notes.

Kucera Southeast

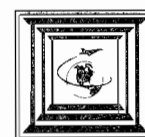
225 Mackinley Circle

Paruleys Island, SC 29585

(843) 357-8500

Fax (843) 357-8599

Planimetric features and vertical data that is obscured from the stereo operators view due to heavy brush, long grass, tree cover or other physical features are to be considered horizontally and vertically indefinite and further ground surveys must be taken to bring these features to an accuracy that meets Minimum Technical Standards.



YOUR WINDOW TO THE WORLD

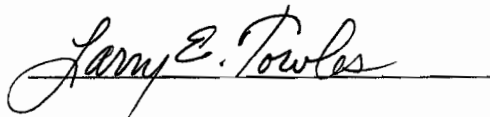
Report of Topographic Map
Our Project No. 35913
October 6, 2006

DIGITAL IMAGE

The geo-referenced ortho image is based on the topographic mapping and points file data.

Prepared for:
SCS Engineers
3012 U.S. Hwy. 301 North
Suite 700
Tampa, Florida 33619

Survey and Mapper in Responsible Charge:
Larry E. Towles
KUCERA SOUTH
Professional Surveyor and Mapper
License Number LS5413



Date Signed: 10-6-06



Danzey, Michael

From: Engdahl, Tom
Sent: Tuesday, November 14, 2006 1:46 PM
To: Danzey, Michael
Subject: RE: Citrus
Attachments: CUT-FILL-EXIST04 V EX10-06-06_NO SKTPL.dwg

Michael,

The process I used is as follows:

- 1. I connected the contours through the stockpile. See "print screen" below.*
- 2. Put the stockpile on another layer.*
- 3. Rebuilt the Existing 04-10-06 surface.*
- 4. Compared Existing 04-10-06 (as modified) Vs Existing 10-06-06.*
- 5. Created new tics for the isopac. These are in the attached drawing to be xrefed into what you have.*

The new figures are as follows:

CITRUS 20FT

Cut = 25,460 yards Fill = 106,783 yards

Net = 81,322 yards FILL

The difference between this and what you have is the stockpile.



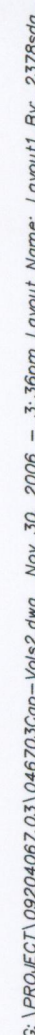
From: Danzey, Michael
Sent: Tuesday, November 14, 2006 11:21 AM
To: Engdahl, Tom
Subject: RE: Citrus

Tom, I am looking to increase the net yards on the Citrus Central Landfill project for my remaining landfill life calculation. So, to do this the volume of the stock pile before the cut took place in that area has to be known.

Thanks for your help

From: Engdahl, Tom
Sent: Tuesday, November 14, 2006 1:00 PM
To: Danzey, Michael
Subject: Citrus

11/14/2006



SURVEY PERFORMED BY KUCERA SOUTH, 2215
SOUTH FLORIDA AVENUE, LAKE LAND FLORIDA 33803,
TEL: (863) 686-8640. SURVEY INFORMATION SHOWN
WAS COMPILED USING PHOTOGRAMMETRIC METHODS
WITH A PHOTO DATE OF APRIL 10, 2006.

90 EXISTING ELEVATIONAL CONTOUR
(5 FOOT INTERVAL) 04/10/06 SURVEY

EXISTING ELEVATIONAL CONTOUR
(1 FOOT INTERVAL) 04/10/06 SURVEY

117.58 EXISTING SPOT ELEVATION

90 PROPOSED BUILDOUT CONTOUR (5 FOOT INTERVAL)

PROPOSED BUILDOUT CONTOUR (1 FOOT INTERVAL)

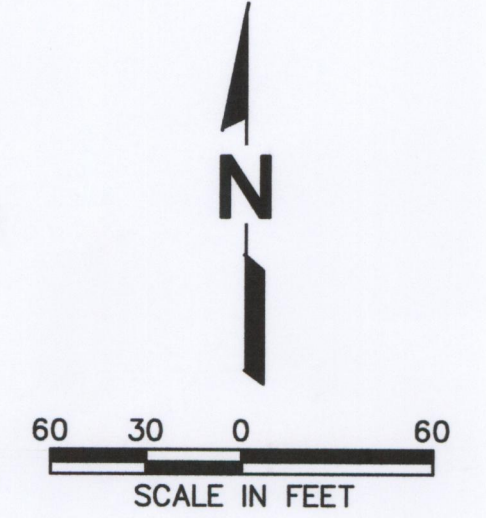
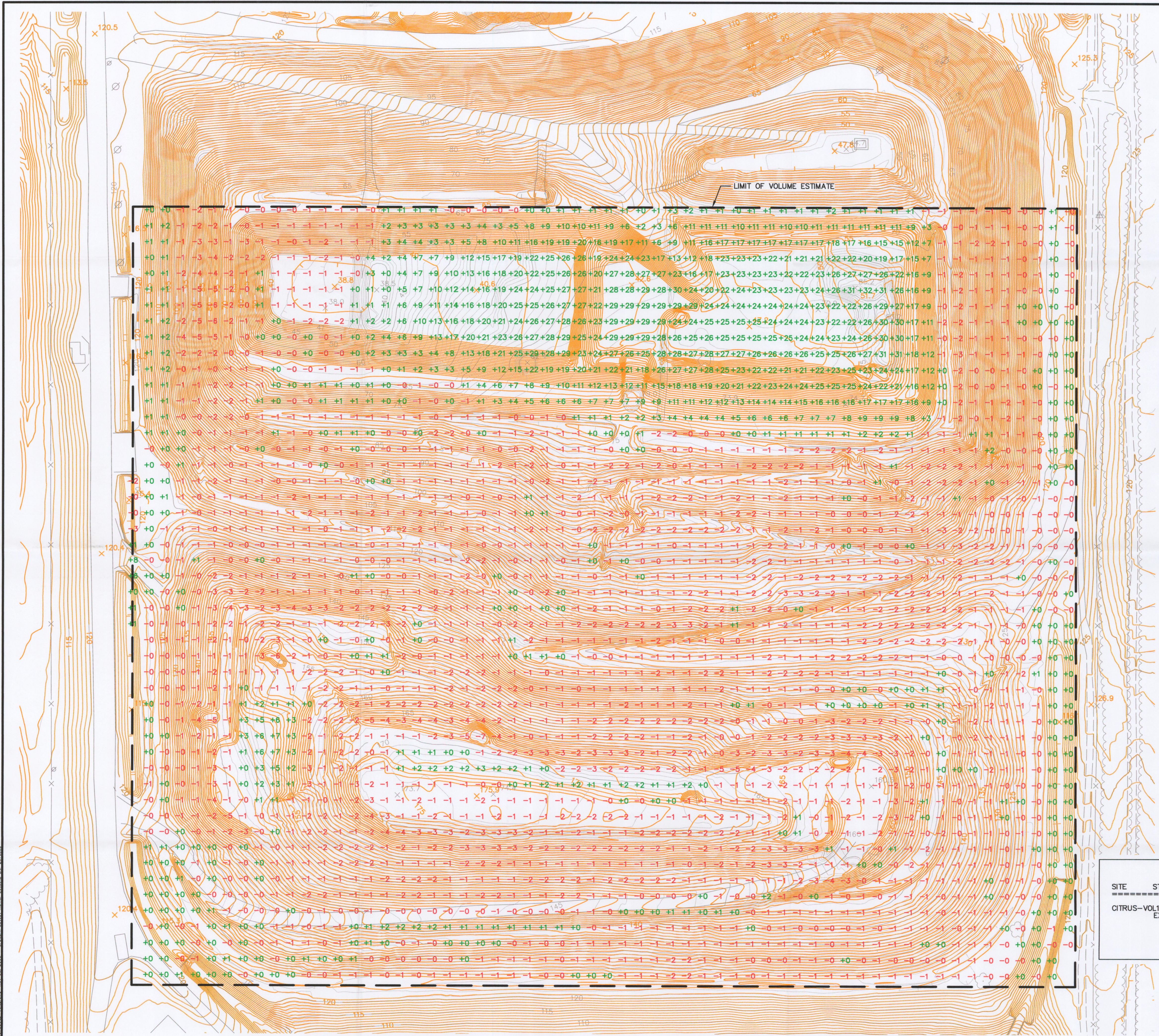
FILL AREA AND DEPTH (FEET)
BETWEEN 04/10/06 SURVEY AND PROPOSED BUILDOUT

CUT AREA AND DEPTH (FEET)
BETWEEN 04/10/06 SURVEY AND PROPOSED BUILDOUT

Department of Environment
Protection
DEC 07 2006
Northwest District

CADD FILE:	046703Cap-Vols1
DATE:	MAY 2006
SCALE:	AS SHOWN
DRAWING NO.	

1 of 1



- LEGEND**
- 90— EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL) 04/10/06 SURVEY
 - EXISTING ELEVATIONAL CONTOUR (1 FOOT INTERVAL) 04/10/06 SURVEY
 - × 117.58 EXISTING SPOT ELEVATION
 - 80— EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL) 10/14/05 SURVEY
 - EXISTING ELEVATIONAL CONTOUR (1 FOOT INTERVAL) 10/14/05 SURVEY
 - +10 FILL AREA AND DEPTH (FEET) BETWEEN 04/10/06 SURVEY AND 10/14/05 SURVEY
 - 12 CUT AREA AND DEPTH (FEET) BETWEEN 04/10/06 SURVEY AND 10/14/05 SURVEY

SITE VOLUME TABLE: UNADJUSTED							
SITE	STRATUM	SURF1	SURF2	CUT YARDS	FILL YARDS	NET YARDS	METHOD
CITRUS-VOL1 EXIST101405PORTION vs EXIST041006 EXIST101405PORTION EXIST041006				33,045	114,411	81,365 (F)	Grid

SURVEY SOURCE NOTE:
SURVEY PERFORMED BY KUCERA SOUTH, 2215 SOUTH
FLORIDA AVENUE, LAKELAND FLORIDA 33803, TEL: (863)
686-8640. SURVEY INFORMATION SHOWN WAS COMPILED
USING PHOTOGRAMMETRIC METHODS WITH PHOTO DATAS
OF OCTOBER 14, 2005 AND APRIL 10, 2006.

Dept. of Environmental
Protection
DEC 07 2006
Southwest District

DRAWING TITLE 10/14/05 SURVEY vs. 04/10/06 SURVEY VOLUME ESTIMATE SITE PLAN	BY [Signature]
PROJECT TITLE CITRUS COUNTY LECANTO, FLORIDA	DESCRIPTION [Blank]
REV [Blank]	DATE [Blank]
CENTRAL LANDFILL OPERATIONS DRAWINGS	
CLIENT SCS ENGINEERS STEARNES CONRAD AND SCHMIDT CONSULTING ENGINEERS 30115 UNIVERSITY BLVD., SUITE 200 PALM BEACH, FLORIDA 33411 TEL: (561) 821-0000 FAX: (561) 821-0001 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004882	
DESIGN NO. 03204067.03	DATE NOVEMBER 2005
APP. BY JAB	SCALE AS SHOWN
CHECK BY JAB	DRAWING NO. 1 of 1
DATE NOVEMBER 2005	
SCALE AS SHOWN	
DRAWING NO. 1	

ATTACHMENT 2

SCS ENGINEERS' SITE LIFE CALCULATIONS

Client Citrus County	Project Central Landfill, Florida	Job No. 9204067.03
Subject Remaining site life calculations for Phase 2	By MED	Date 30-Nov-06
	Checked <i>[Signature]</i>	Date <i>11-30-06</i>

Objective: Calculate remaining site life for Phase 2 using waste tonnage records from Citrus County and calculated waste generation projections.

Approach: Calculate "Effective Density" using volume consumed between October 2005 and April 2006

Airspace available from October 2006 to Final Grade =	1,259,962 CY	(As per Final Buildout vs. 10/06/06 Survey)
Airspace available from 10/14/05 to 4/10/06=	81,365 CY	
Airspace consumed between 04/10/06 and 10/6/06=	81,322 CY	(As per 04/10/06 Survey vs. 10/06/06 Survey)
Air space consumed between 10/14/05 and 10/06/06 =	162,687 CY	

Effective Density calcs:

Waste disposed between 10/14/05 to 4/10/06=	55,072 tons (per scalehouse records).	
Waste disposed between 04/10/06 and 10/06/06 =	48,229 tons (per scalehouse records).	
Total waste disposed=	103,301 tons	

Effective density = $\frac{103,301 \text{ tons}}{162,687}$ = 1,270 lbs/CY

Effective airspace consumption rate = 1.57 CY/ton

Assuming the waste will be filled up to the final capacity and allowed to settle before placing the cover soil

Cap volume = 0 CY

Subtract Cap Volume from air volume to determine useable waste volume for site life calculation

Waste Volume = 1,259,962 CY (as of 10/2006)

SITE LIFE CALCULATION (based on County waste tonnage records and population projections from University of Florida)

Year	Tonnage *	Volume Consumed (CY)	Net Remaining Airspace (CY)
2005-06	103,301	162,687	1,259,962 (approx. air volume remaining as of October 2006)
2006-07	107,433	169,194	1,090,768
2007-08	111,730	175,962	914,805
2008-09	116,200	183,001	731,805
2009-10	120,848	190,321	541,484
2010-11	125,681	197,934	343,550
2011-12	130,709	205,851	137,699
2012-13	135,937	214,085	-76,386
2013-14	141,375	222,648	-299,034
2014-15	147,030	231,554	-530,589
2015-16	152,911	240,817	-771,405
2016-17	159,027	250,449	-1,021,854

* Annual tonnage based on a 4% increase per year.

CONCLUSION:

2012-13 average monthly disposal rate =	17,840	CY/month
Number of months used in 2012-13 =	8	months
Approximate Fill Completion Date =	May, 2013	

SCS ENGINEERS

SHEET _____ OF _____

CLIENT	Citrus County	PROJECT	Remaining Capacity	JOB NO.	0920406703
SUBJECT	Landfill Tons Apr. 1 - Oct 06	BY	MED	DATE	11/10/06
		CHECKED	JB	DATE	11/29/06

FY 2006 Totals

Scale Weight Garbage = 99,469.91 Tons

Flat Fee Garbage = 5,155.00 Tons

Special Handle Waste = 82.94 Tons

Dried sludge = 1,182.93 Tons

Free Garbage = 2,083.75 Tons

Calculate Ratio of
Landfill waste to
total waste

$$107,974.53 / 127,763.10 = 84.51\% (.8451)$$

Calculate Landfilled Tons from Total Tons using Ratio

$$\text{April} = 10,538.93 \left(\frac{10 \text{ days}}{20 \text{ days}} \right) = 3512.98 (.8451) = 2968.82 \text{ Tons}$$

$$\text{May} = 10,787.31 (.8451) = 9116.36 \text{ Tons}$$

$$\text{June} = 10,770.96 (.8451) = 9102.54 \text{ Tons}$$

$$\text{July} = 10,168.76 (.8451) = 8593.62 \text{ Tons}$$

$$\text{August} = 10,574.88 (.8451) = 8936.83 \text{ Tons}$$

$$\text{Sept.} = 9,461.66 (.8451) = 7,996.05 \text{ Tons}$$

$$\text{Oct.} = 9,260.78 \left(\frac{6 \text{ days}}{3 \text{ days}} \right) = 1,792.41 (.8451) = 1,514.77 \text{ Tons}$$

$$\text{Total Tonnage} = 48,228.99 \approx 48,229 \text{ Tons}$$

April 10, 2006 - October 6, 2006

CITRUS COUNTY CENTRAL LANDFILL
MATERIAL SUMMARY

FY 2006		# Transactions	% Transactions	Tons	% Tons	Material Revenues	% Revenues	Transaction Fee	Total Rev.
05	October	12,827	7.66%	9,260.78	7.25%	\$295,027.17	7.49%	\$16,664.00	\$311,691.17
05	November	13,101	7.82%	9,567.49	7.49%	\$299,793.22	7.62%	\$16,792.00	\$316,585.22
05	December	17,655	10.54%	13,798.51	10.80%	\$420,986.15	10.69%	\$16,762.00	\$437,748.15
	January	14,293	8.53%	10,604.61	8.30%	\$326,293.53	8.29%	\$19,012.00	\$345,305.53
	February	12,642	7.55%	10,143.85	7.94%	\$311,458.60	7.91%	\$17,114.00	\$328,572.60
	March	16,648	9.94%	12,085.40	9.46%	\$369,084.16	9.38%	\$23,002.00	\$392,086.16
✓	April	14,597	8.71%	10,538.93	8.25%	\$324,172.82	8.24%	\$20,292.00	\$344,464.82
-	May	14,514	8.67%	10,787.31	8.44%	\$332,676.38	8.45%	\$20,260.00	\$352,936.38
-	June	13,579	8.11%	10,770.96	8.43%	\$335,867.08	8.53%	\$19,344.00	\$355,211.08
-	July	13,151	7.85%	10,168.76	7.96%	\$316,031.48	8.03%	\$17,672.00	\$333,703.48
✓	August	12,237	7.31%	10,574.88	8.28%	\$329,741.83	8.38%	\$16,590.00	\$346,331.83
✓	September	12,257	7.32%	9,461.66	7.41%	\$275,391.97	7.00%	\$16,672.00	\$292,063.97
	Total	167,501		(127,763.13)		\$3,936,524.39		\$220,176.00	\$4,156,700.39
	Average	13,958		10,646.93		\$328,043.70		\$18,348.00	\$346,391.70

FY 2006		# Transactions	% Transactions	Tons	% Tons	Net Revenues	% Revenues
	Scale Weight Garbage	45,336	27.07%	99,469.61	77.85%	\$3,473,948.99	88.25%
	Flat Fee Garbage	56,183	33.54%	5,155.00	4.03%	\$19,611.50	0.50%
	Yardwaste	30,889	18.44%	16,864.94	13.20%	\$344,105.10	8.74%
	Special Handle Waste	583	0.35%	82.94	0.06%	\$7,999.80	0.20%
	Electronics	400	0.24%	26.08	0.02%	\$9,872.00	0.25%
	Electronics Free	3,969	2.37%	96.59	0.08%	\$0.00	0.00%
	Tires No Charge	1,261	0.75%	62.45	0.05%	\$0.00	0.00%
	Tires Charge	456	0.27%	269.12	0.21%	\$23,837.28	0.61%
	A/C, Freon Units	261	0.16%	21.35	0.02%	\$3,202.50	0.08%
	A/C, Freon Units Free	2,128	1.27%	120.90	0.09%	\$0.00	0.00%
	Dried Sludge	222	0.13%	1,182.93	0.93%	\$49,092.18	1.25%
	Free Garbage	9,270	5.53%	2,083.75	1.63%	\$0.00	0.00%
	Scrap Metal	7,928	4.73%	2,273.70	1.78%	\$0.00	0.00%
	Other	8,197	4.89%	46.29	0.04%	\$4,402.54	0.11%
	Tanks	57	0.03%	1.73	0.00%	\$452.50	0.01%
	Tanks Free	361	0.22%	5.79	0.00%	\$0.00	0.00%
	Monthly grand total	167,501		(127,763.16)		\$3,936,524.39	