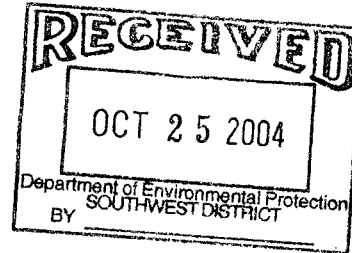


SCS ENGINEERS

October 25, 2004
File No. 09199033.09

Ms. Susan Pelz, P.E.
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619



Subject: Estimate of Remaining Capacity and Life of Site
Hardee County Landfill – Permit No. 38414-007-SO
Hardee County, Florida

Dear Ms. Pelz:

SCS Engineers (SCS) is pleased to submit the estimates of remaining capacity and life of site for the Hardee County Landfill. The estimates of remaining capacity and site life are being submitted in fulfillment of Specific Condition No. 9E of Operation Permit No. 38414-007-SO for the landfill. As stated in Specific Condition No. 9E, the topographic survey must be attained for years 2006 and 2009 of the permit life; therefore, the 2003 topographic survey was used to determine the available landfill volume.

WASTE DISPOSAL PROJECTIONS

Hardee County (County) supplied SCS with historic waste disposal information through calendar year 2004. This information is provided in Attachment A and summarized in this section. As shown in the waste quantity report, contained in Attachment A, the amount of waste disposed in the Class I landfill area is the total amount of residential, commercial, and C&D waste material minus the quantity of waste recycled in the MRF.

SCS used the projected population estimation for 2002 through 2004, prepared by the Florida Legislative Office of Economic and Demographic Research Office (FLOEDR) for Hardee County to estimate the waste quantity disposal rates per capita. This period was selected since mandatory collection was started in 2002 and is representative of current County collection policies. Using the FLOEDR population projections and the actual tonnages disposed in the Class I landfill, SCS estimated an annual waste disposal tonnage per capita of approximately 0.7262 tons per person. This disposal rate was assumed to remain constant for future projections beyond 2004. Adjustments for total waste disposed at the landfill were accounted for by variations in population.

The anticipated rate of population growth for Hardee County (estimated by the FLOEDR office) waste was used to project the disposal quantities for years 2005 and beyond. Table 1 was prepared to show the estimated projected waste disposal rates in the landfill.

**TABLE 1. ANNUAL WASTE DISPOSAL IN CLASS I LANDFILL
BASED ON POPULATION**

| Year | Population ¹ | Waste Disposed of in Class I Landfill (tons/yr) |
|-------------------|-------------------------|--|
| 2002 ² | 27,152 | 20,051 |
| 2003 ² | 27,607 | 18,813 |
| 2004 ³ | 28,178 | 21,378 |
| 2005 ⁴ | 28,756 | 20,883 |
| 2006 ⁴ | 29,270 | 21,256 |
| 2007 ⁴ | 29,712 | 21,577 |
| 2008 ⁴ | 30,111 | 21,867 |
| 2009 ⁴ | 30,484 | 22,138 |
| 2010 ⁴ | 30,866 | 22,415 |

¹ Source: Florida Legislative Office of Economic and Demographic Research

² Actual Waste Quantity disposed in landfill (loose and baled) provided by Hardee County

³ Disposed waste quantities based upon actual and projected rates

⁴ Waste disposed based upon project population estimated and average per capita waste rates

Note that during 2004, multiple hurricanes hit the Hardee County area. Thus the amount of waste projected to be disposed in 2005 is less than the actual amount disposed in 2004.

ESTIMATED REMAINING DISPOSAL CAPACITY AND SITE LIFE

For estimating the remaining disposal capacity and life of site, the final operating buildout plan for the landfill, contained in Attachment B, specifically Drawing No. 8 of 12 of the operations permit, was compared to the March 2003 topographic map to determine the available airspace. Note the elevations shown are top of intermediate cover. The gross available airspace computed was to be 190,000 cubic yards (CY). SCS estimated that 10 percent of that airspace would be used for cover material, leaving approximately 171,000 CY of airspace available for waste disposal.

SCS used an estimated in-place density for the waste material of approximately 43 pounds per cubic foot (pcf) or approximately 1100 pounds per cubic yard. This density is consistent with either baled waste or loose waste fill using dozers for compaction. Table 2 represents the available and consumed airspace on a yearly basis. The consumed airspace was estimated by converting the annual waste disposal quantity into pounds per year and dividing by the estimated in-place waste density.

TABLE 2. AVAILABLE AND CONSUMED AIRSPACE

| Year | Waste Disposed of in Class I Landfill (tons/yr) | Airspace Consumed (CY) | Available Airspace (CY) |
|------|--|------------------------------|-------------------------------|
| | | | 171,000 |
| 2003 | 18,813 | 24,306 | 146,694 |
| 2004 | 21,378 | 36,827 | 109,867 |
| 2005 | 20,883 | 35,974 | 73,893 |
| 2006 | 21,256 | 36,617 | 37,276 |
| 2007 | 21,577 | 37,170 | 106 |
| 2008 | 21,867 | 37,669 | -37,563 |
| 2009 | 22,138 | 38,136 | -75,699 |
| 2010 | 22,415 | 38,614 | -114,313 |

As shown in Table 2, the landfill will use the available airspace by the end of 2006. The estimated remaining life is approximately 2.0 years. Attachment C contains a further breakdown of the site life calculations. This site life estimate remains consistent with previous estimates (the 2003-2004 site life estimated that available airspace would be consumed by late 2006), even though the multiple hurricanes hit the Hardee County area. This is due to the fact that a large amount of debris and waste have been diverted from the landfill and disposed or recycled in facilities outside of Hardee County.

Please do not hesitate to contact us if you should have any questions regarding this letter.

Very truly yours,



Joseph H. O'Neill, P.E.
Project Manager
SCS ENGINEERS



for Raymond J. Dever, P.E., DEE
Vice President
SCS ENGINEERS

JHO/RJD:lek

Cc Janice Williamson, Hardee County

Attachments



ATTACHMENT B
FINAL OPERATING SITE PLAN

ATTACHMENT C
SITE LIFE CALCULATIONS

SCS ENGINEERS

SHEET 1 of 2

| | | | |
|---|-------------------------------|------------------------|--------------------|
| CLIENT Hardee County | PROJECT Landfill Expansion | JOB NO. 09199033.13 | |
| SUBJECT Site Life Estimates 2004 Waste Quantity Estimates | | BY LEK | DATE 10/22/2004 |
| | | CHECKED <i>JS</i> | DATE 10/22/2004 |

Objective: Determine the estimated waste quantity for October, November, and December of 2004, based on actual data.

| | Baled Waste Disposed of in Class I | Loose Waste Disposed of in Class I | Total Waste Disposed of in Class I | Estimated Waste Disposed of in Class I |
|---------|--|--|--|--|
| Jan-04 | 1,363 | 262 | 1,625 | 1,625 |
| Feb-04 | 1,176 | 763 | 1,939 | 1,939 |
| Mar-04 | 1,108 | 779 | 1,887 | 1,887 |
| Apr-04 | 1,025 | 662 | 1,687 | 1,687 |
| May-04 | 1,235 | 320 | 1,555 | 1,555 |
| Jun-04 | 1,194 | 511 | 1,704 | 1,704 |
| July-04 | 1,188 | 427 | 1,615 | 1,615 |
| Aug-04 | 922 | 1,749 | | 2,671 |
| Sep-04 | 1,469 | 78 | | 1,547 |
| Oct-04 | | | | 1,716 |
| Nov-04 | | | | 1,716 |
| Dec-04 | | | | 1,716 |

Average (January - July) = 1,716
Annual Total = 21,378

| |
|--|
| Estimated Waste Quantity for 2004 = 21,378 |
|--|

Note: The average reflects the typical waste stream. Since Hurricane Charley hit the area on August 13, 2004 the quantities recorded for August and September do not reflect the typical waste stream disposal rates and were not used in estimating the average disposal rate.

SCS ENGINEERS

SHEET 2 of 2

| | | |
|--------------------------------|-------------------------------|------------------------|
| CLIENT Hardee County | PROJECT Landfill Expansion | JOB NO. 09199033.13 |
| SUBJECT Site Life Estimates | BY LEK | DATE 10/22/2004 |
| | CHECKED <i>JH</i> | DATE 10/22/2004 |

| YEAR | POPULATION ¹ | WASTE DISPOSED OF IN CLASS I LANDFILL (tons/yr) | ANNUAL WASTE TONNAGE PER CAPITA |
|-------------------|-------------------------|---|--|
| 1996 | 24,958 | 14,281 | 0.572 |
| 1997 | 25,408 | 13,896 | 0.547 |
| 1998 | 26,134 | 14,699 | 0.562 |
| 1999 | 26,407 | 16,061 | 0.608 |
| 2000 | 26,938 | 16,165 | 0.600 |
| 2001 | 26,921 | 18,844 | 0.700 |
| 2002 | 27,152 | 20,051 | 0.738 |
| 2003 | 27,607 | 18,813 | 0.681 |
| 2004 ⁶ | 28,178 | 21,378 | 0.759 |

Mandatory collection started

TONS PER CAPITA PER YEAR²: 0.7262 tons/capita-yr (Average rate per capita using 2002-2004 data only)

Gross Airspace Available³ = 190,000 CY
 Estimated Percent Cover = 10%
 Airspace for Cover = 19,000 CY
 Net Airspace available = 171,000 CY
 Waste Density⁴ = 43 lb/CF

| YEAR | POPULATION ¹ | WASTE DISPOSED OF IN CLASS I LANDFILL (tons/yr) | AIRSPACE CONSUMED (CY/yr) | AVAILABLE AIRSPACE (CY) |
|-------------------|-------------------------|---|---------------------------------|-------------------------------|
| | | | | 171,000 |
| 2003 ⁵ | 27,607 | 18,813 | 24,306 | 146,694 |
| 2004 ⁶ | 28,178 | 21,378 | 36,827 | 109,866 |
| 2005 | 28,756 | 20,883 | 35,974 | 73,892 |
| 2006 | 29,270 | 21,256 | 36,617 | 37,275 |
| 2007 | 29,712 | 21,577 | 37,170 | 106 |
| 2008 | 30,111 | 21,867 | 37,669 | -37,563 |
| 2009 | 30,484 | 22,138 | 38,136 | -75,699 |
| 2010 | 30,866 | 22,415 | 38,614 | -114,313 |

Since the topo was flown March 2003, only 9 months of disposal remaining in 2003. The 18,813 tons represents a full year of waste disposal, therefore the airspace to be consumed for 2003 was multiplied by 0.75, to represent the remaining 9 months.

January of 2007 - Phase I Complete

CONCLUSION

The landfill will use the available airspace by January of 2007

¹ Source : Florida Legislative Office of Economic and Demographic Research² The annual tonnage per capita reflects years 2002 thru 2004, since mandatory collection has been instated. The 2004 data does include quantities from Hurricane Charley³ Airspace computed using May 2003 topography versus the permitted final buildout.⁴ Waste density based upon average bale weight (2150 lb)/(bale size 2.6' x 3.8' x 5.1')⁵ Waste quantity disposed in landfill (loose and baled) provided by Hardee County.⁶ From Hardee County waste disposal records, through September of 2004, the total waste disposed within the Class I landfill was 16,230 tons. The average waste disposal rate per month (excluding Hurricane quantities for August and September) computes to an approximately 1,716 tons/month. Using the average disposal of 1,716 ton/month for the months of October, November, and December of 2004 plus the actual quantity disposed (16,230 tons), an estimated 21,378 tons will be disposed in 2004.

Actual quantities disposed of in the Class I landfill.

ATTACHMENT A

**WASTE QUANTITY REPORT
HARDEE COUNTY LANDFILL**

**WASTE QUANTITY REPORT
REPORTED IN TONS
CALENDAR YEAR 2003**

| MONTH | RESIDENTIAL | COMMERCIAL | CONSTRUCTION AND DEMOLITION DEBRIS | WOOD AND YARD WASTE | SCRAP METAL | TIRES | TOTAL |
|--------------|----------------|----------------|---------------------------------------|------------------------|---------------|---------------|-----------------|
| Jan-03 | 813.68 | 683.45 | 97.07 | 79.68 | 41.87 | 9.26 | 1724.81 |
| Feb-03 | 721.92 | 734.40 | 94.97 | 158.13 | 71.82 | 9.63 | 1788.87 |
| Mar-03 | 789.77 | 658.52 | 185.83 | 272.16 | 54.78 | 5.58 | 1966.64 |
| Apr-03 | 822.86 | 853.87 | 138.73 | 146.02 | 84.49 | 13.04 | 1836.81 |
| May-03 | 872.68 | 691.53 | 127.13 | 118.92 | 63.28 | 10.07 | 1883.61 |
| Jun-03 | 834.90 | 639.87 | 111.05 | 132.28 | 54.78 | 8.63 | 1781.51 |
| Jul-03 | 740.79 | 627.75 | 133.37 | 111.89 | 87.57 | 5.14 | 1708.51 |
| Aug-03 | 715.25 | 627.66 | 103.31 | 107.67 | 39.19 | 7.43 | 1600.51 |
| Sep-03 | 728.01 | 608.89 | 155.63 | 121.94 | 44.18 | 4.04 | 1662.69 |
| Oct-03 | 714.69 | 642.24 | 187.17 | 116.65 | 35.06 | 10.26 | 1706.07 |
| Nov-03 | 806.38 | 639.42 | 248.85 | 93.66 | 44.34 | 11.19 | 1841.84 |
| Dec-03 | 869.64 | 632.16 | 133.02 | 100.16 | 49.69 | 12.08 | 1798.78 |
| TOTAL | 9430.57 | 7839.58 | 1712.13 | 1557.18 | 650.85 | 106.36 | 21296.63 |

**DISPOSITION REPORT
REPORTED IN TONS
CALENDAR YEAR 2003**

| MONTH | PROCESSED THROUGH MRF | BALED WASTE DISPOSED OF IN CLASS I | LOOSE WASTE DISPOSED OF IN CLASS I | TOTAL WASTE DISPOSED OF IN CLASS I | RECYCLED THROUGH MRF | SCRAP METAL RECYCLED | WOOD AND YARD TRASH PROCESSED | WASTE TIRES REMOVED FOR RECYCLING |
|--------------|--------------------------|--|--|--|-------------------------|-------------------------|-------------------------------------|---|
| Jan-03 | 1273.31 | 1261.04 | 320.89 | 1581.93 | 12.27 | 0.00 | 0.00 | 6.51 |
| Feb-03 | 1214.31 | 1214.31 | 336.98 | 1551.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mar-03 | 1356.70 | 1338.42 | 277.42 | 1615.84 | 18.28 | 2.74 | 0.00 | 6.63 |
| Apr-03 | 1354.81 | 1294.05 | 258.65 | 1552.70 | 60.56 | 331.85 | 0.00 | 5.17 |
| May-03 | 1357.82 | 1357.82 | 333.52 | 1691.34 | 0.00 | 3.46 | 1105.80 | 6.43 |
| Jun-03 | 1285.37 | 1271.80 | 300.45 | 1572.25 | 13.57 | 0.39 | 0.00 | 12.40 |
| Jul-03 | 1190.81 | 1173.22 | 311.10 | 1484.32 | 17.58 | 2.31 | 0.00 | 4.37 |
| Aug-03 | 1163.79 | 1148.04 | 282.43 | 1430.47 | 15.75 | 236.72 | 0.00 | 6.56 |
| Sep-03 | 1157.38 | 1157.38 | 335.15 | 1492.53 | 0.00 | 0.00 | 0.00 | 7.33 |
| Oct-03 | 1156.40 | 1154.98 | 387.70 | 1542.86 | 1.44 | 2.97 | 0.00 | 0.82 |
| Nov-03 | 1253.19 | 1231.26 | 439.46 | 1670.72 | 21.93 | 0.72 | 0.00 | 5.22 |
| Dec-03 | 1371.87 | 1364.07 | 263.15 | 1627.22 | 7.60 | 1.02 | 0.00 | 10.35 |
| TOTAL | 15135.38 | 14966.37 | 3848.90 | 18813.27 | 188.99 | 582.18 | 1105.80 | 71.79 |

↑
Total 2003

09199033.09
Waste Quantities

**WASTE QUANTITY REPORT
REPORTED IN TONS
CALENDAR YEAR 2004**

| MONTH | RESIDENTIAL | COMMERCIAL | CONSTRUCTION AND DEMOLITION DEBRIS | WOOD AND YARD WASTE | SCRAP METAL | TIRES | TOTAL |
|--------------|----------------|----------------|---------------------------------------|------------------------|---------------|--------------|-----------------|
| Jan-04 | 867.45 | 671.34 | 98.24 | 13.30 | 36.46 | 13.41 | 1700.20 |
| Feb-04 | 829.46 | 673.99 | 458.22 | 176.61 | 63.91 | 19.24 | 2221.43 |
| Mar-04 | 924.74 | 783.64 | 187.24 | 256.11 | 64.28 | 8.48 | 2224.49 |
| Apr-04 | 852.78 | 731.72 | 130.05 | 174.15 | 65.69 | 12.78 | 1967.17 |
| May-04 | 788.34 | 667.73 | 113.53 | 176.04 | 42.41 | 10.05 | 1798.10 |
| Jun-04 | 894.48 | 699.34 | 113.94 | 116.89 | 126.85 | 10.15 | 1961.65 |
| Jul-04 | 796.50 | 716.85 | 101.44 | 160.41 | 39.05 | 14.24 | 1828.49 |
| Aug-04 | 1198.82 | 1229.18 | 245.23 | 67.25 | 81.85 | 0.84 | 2823.17 |
| Sep-04 | 813.23 | 681.63 | 55.43 | 11.20 | 216.28 | 5.78 | 1783.55 |
| Oct-04 | | | | | | | 0.00 |
| Nov-04 | | | | | | | 0.00 |
| Dec-04 | | | | | | | 0.00 |
| TOTAL | 7965.80 | 6855.42 | 1503.32 | 1151.96 | 736.78 | 94.97 | 18308.25 |

**DISPOSITION REPORT
REPORTED IN TONS
CALENDAR YEAR 2004**

| MONTH | PROCESSED THROUGH MRF | BALED WASTE DISPOSED OF IN CLASS I | LOOSE WASTE DISPOSED OF IN CLASS II | TOTAL WASTE DISPOSED OF IN CLASS I | RECYCLED THROUGH MRF | SCRAP METAL RECYCLED | WOOD AND YARD TRASH PROCESSED | WASTE TIRES REMOVED FOR RECYCLING |
|--------------|--------------------------|--|---|--|-------------------------|-------------------------|-------------------------------------|---|
| Jan-04 | 1374.97 | 1363.32 | 262.06 | 1625.38 | 11.65 | 0.37 | 0.00 | 18.03 |
| Feb-04 | 1198.88 | 1176.15 | 762.79 | 1938.94 | 22.73 | 1.69 | 0.00 | 12.77 |
| Mar-04 | 1116.68 | 1107.98 | 778.94 | 1886.92 | 8.70 | 339.89 | 0.00 | 7.49 |
| Apr-04 | 1052.41 | 1024.72 | 662.14 | 1686.86 | 27.69 | 0.00 | 0.00 | 2.50 |
| May-04 | 1249.87 | 1235.20 | 319.73 | 1554.93 | 14.67 | 0.00 | 0.00 | 20.80 |
| Jun-04 | 1197.21 | 1193.51 | 510.55 | 1704.06 | 3.70 | 0.00 | 0.00 | 5.51 |
| Jul-04 | 1187.99 | 1187.99 | 426.80 | 1614.79 | 0.00 | 0.00 | 0.00 | 10.84 |
| Aug-04 | 923.81 | 921.80 | 1749.42 | 2671.22 | 2.01 | 112.77 | 1860.76 | 0.00 |
| Sep-04 | 1471.80 | 1468.81 | 78.49 | 1547.30 | 2.99 | 303.35 | 0.00 | 0.00 |
| Oct-04 | | 0.00 | 0.00 | 0.00 | | | | |
| Nov-04 | | 0.00 | 0.00 | 0.00 | | | | |
| Dec-04 | | 0.00 | 0.00 | 0.00 | | | | |
| TOTAL | 10773.62 | 10679.48 | 5550.92 | 16230.40 | 94.14 | 758.07 | 1860.76 | 77.94 |

Lower No. due to
 → lack of storage
 in mate labor
 inmates at other LF duties