## Johnson, Sabrina O

**From:** Black, Alexis
**Sent:** Tuesday, April 21, 2020 6:32 AM
**To:** SWD_Waste
**Subject:** FW: WACS 87895 Annual Airspace Lifespan Estimate 2020
**Attachments:** 87895_Enterprise_Supplemental Information_RAI 2_04.17.2020 2020 CLIII Airspace and Lifespan Annual Estimate.pdf


*Alexis Black*
Environmental Specialist II
Compliance Assurance Program
Florida Department of Environmental Protection
Southwest District




**From:** John Arnold <john.phillip.arnold@gmail.com>
**Sent:** Monday, April 20, 2020 10:55 AM
**To:** Black, Alexis <Alexis.Black@FloridaDEP.gov>
**Cc:** Dominic Iafrate <DIafrate@angelosrm.com>; John Locklear <john@locklearconsulting.com>; ljbaker23@outlook.com <lisa@locklearconsulting.com>
**Subject:** WACS 87895 Annual Airspace Lifespan Estimate 2020

Alexis,

The annual life span estimate for the Enterprise Class III landfill was updated and included as Attachment 7 of the response to the Department's request for additional information related to the intermediate permit application for the landfill. I've attached a copy of the report submitted by our consultant to the Department on April 17, 2020.

Based on the Pickett aerial topographic survey (October 1, 2018), the remaining airspace of the facility is approximately 6,324,221 cy. This airspace is estimated to last until February 2025 based on the following assumptions:

- Cells 1-7 and 15-17 are operated to a maximum elevation of 217' NGVD (top of waste)
- Incoming waste stream for landfilled materials (apprx. 633,490 tons/year for 2019) continues to increase at an annual rate of 2%

Please let me know if you have any questions or if you need additional information.

Sincerely,
John Arnold
--
John Arnold, P.E.
Ph. (813) 477-1719

# Enterprise Class III Landfill Facility Expected Life Calculations

**Given Parameters:**

| | | |
|---|---|---|
| Rate increase per year = | 2% | |
| Days of Operation per year = | 286 | *DAYS* |
| Current Calculated Remaining Volume | 6,324,221 | *CY* |
| | | |
| Density of waste placement= | 0.675 | *TONS/CY* |
| Density of waste placement= | 1350 | *LBS/CY* |

***Expected Life Calculation Table:***

| Year | Rate (tons/day) | Volume Phase I Remaining (CY) | Volume Phase II and III Remaining (CY) |
|---|---|---|---|
| **2018*** | 2088 | 6,324,221.00 | - |
| **2019**** | 2215 | 6,089,595.07 | - |
| **2020** | 2259 | 5,132,321.30 | - |
| **2021** | 2304 | 4,155,902.04 | 4,155,902.04 |
| **2022** | 2351 | 3,159,954.40 | 3,159,954.40 |
| **2023** | 2398 | 2,144,087.81 | 2,144,087.81 |
| **2024** | 2446 | 1,107,903.89 | 1,107,903.89 |
| **2025** | 2494 | 50,996.29 | 50,996.29 |
| **2026** | 2544 | (1,027,049.46) | (1,027,049.46) |
| **2027** | 2595 | (2,126,656.13) | (2,126,656.13) |
| **2028** | 2647 | (3,248,254.93) | (3,248,254.93) |
| **2029** | 2700 | (4,392,285.71) | (4,392,285.71) |
| **2030** | 2754 | (5,559,197.11) | (5,559,197.11) |
| **2031** | 2809 | (6,749,446.73) | (6,749,446.73) |
| **2032** | 2865 | (7,963,501.34) | (7,963,501.34) |
| **2033** | 2923 | (9,201,837.05) | (9,201,837.05) |
| **2034** | 2981 | (10,464,939.47) | (10,464,939.47) |
| **2035** | 3041 | (11,753,303.94) | (11,753,303.94) |
| **2036** | 3102 | (13,067,435.69) | (13,067,435.69) |
| **2037** | 3164 | (14,407,850.09) | (14,407,850.09) |
| **2038** | 3227 | (15,775,072.77) | (15,775,072.77) |
| **2039** | 3291 | (17,169,639.90) | (17,169,639.90) |
| **2040** | 3357 | (18,592,098.38) | (18,592,098.38) |
| **2041** | 3424 | (20,043,006.03) | (20,043,006.03) |
| **2042** | 3493 | (21,522,931.83) | (21,522,931.83) |
| **2043** | 3563 | (23,032,456.14) | (23,032,456.14) |
| **2044** | 3634 | (24,572,170.95) | (24,572,170.95) |
| **2045** | 3707 | (26,142,680.04) | (26,142,680.04) |
| **2046** | 3781 | (27,744,599.32) | (27,744,599.32) |
| **2047** | 3856 | (29,378,556.99) | (29,378,556.99) |
| **2048** | 3933 | (31,045,193.81) | (31,045,193.81) |
| **2049** | 4012 | (32,745,163.36) | (32,745,163.36) |
| **2050** | 4092 | (34,479,132.31) | (34,479,132.31) |
| **2051** | 4174 | (36,247,780.64) | (36,247,780.64) |

*As of October 1, 2018

**Based on FDEP Reported Annual Rates

| | | | |
|---|---|---|---|
| **CAD VOLUME** | 6,324,221 | *CY* | Remaining Volume as of October 1, 2018 (Pickett Survey Date) |

**Example Calculations:**

$$Volume\ Used\ Per\ Year\ [CY] = Rate\ \left[\frac{tons}{day}\right] * \frac{Days\ of\ Operation\ [Days]}{Density\ [\frac{tons}{CY}]}$$

$$Volume\ Remaining\ [CY] = Volume\ Remaining\ [Prev.Year] - Volume\ Used\ per\ Year\ [CY]$$