

ATTACHMENT 10 – NEEDS ANALYSIS TABLES



TETRA TECH

Table 11-1

**MSW Landfills Serving the Emerald Park Landfill Service Area
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin**

Site Name	County	Estimated Site Capacity ⁽¹⁾		Recently added Expansion Capacity (Cubic Yards)	Estimated Amount of Service Area Overlap with EPL Service Area ⁽²⁾ (percent overlap)	Site Capacity Available for the EPL Service Area (Cubic Yards)
		(Cubic Yards)	(Cubic Yards)			
GFL Emerald Park Landfill	Waukesha	6,279,780	0	0	100%	6,279,780
GFL Glacier Ridge Landfill	Dodge	4,501,268	0	0	61%	2,745,773
GFL Mallard Ridge Landfill	Walworth	1,649,995	5,292,000	5,292,000	47%	3,262,738
City of Janesville	Rock	4,261,335	0	0	11%	468,747
WMWI Deer Track Park RDF	Jefferson	2,696,517	0	0	19%	501,552
WMWI Metro RDF	Milwaukee	6,558,366	0	0	100%	6,558,366
WMWI Orchard Ridge RDF	Waukesha	13,512,096	0	0	66%	8,917,983
WMWI Pheasant Run RDF	Kenosha	8,259,497	0	0	20%	1,651,899
TOTAL		47,718,854	5,292,000	5,292,000		30,386,839

Prepared by: AY Checked by: LS

Footnotes:

(1) Estimated site capacity data was collected from WDNR2022 Wisconsin Municipal and Industrial Waste Landfill Tonnage Report - Capacity as of Jan2023 (<http://dnr.wi.gov/topic/Landfills/Fees.html>).

(2) Percent Waste from anticipated service area is estimated based on current service areas (by county) weighted for current population of shared counties. This was based on information provided by GFL staff on where market conditions show competition with the other service area landfills. Industrial waste monofills permitted to only receive industrial waste from an approved source do not compete for industrial waste potentially received by EPL.

Notes:

(1) Republic Kestrel Hawk Landfill not included due to its impending closure in 2023.



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Table 11-2
Service Area Population
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin

County	2020 Census ⁽¹⁾	1/1/2022 Estimate ⁽¹⁾	Numeric Change	Percent Change	Annual Growth Rate
Dodge	89,396	88,822	-574	-0.6%	-0.32%
Jefferson	86,148	86,576	428	0.5%	0.25%
Kenosha	169,151	170,272	1,121	0.7%	0.33%
Milwaukee	939,489	937,925	-1,564	-0.2%	-0.08%
Ozaukee	91,503	92,623	1,120	1.2%	0.61%
Racine	197,727	198,138	411	0.2%	0.10%
Rock	163,687	164,959	1,272	0.8%	0.39%
Walworth	105,230	106,129	899	0.9%	0.43%
Washington	136,761	138,229	1,468	1.1%	0.54%
Waukesha	406,978	410,769	3,791	0.9%	0.46%
TOTAL	2,386,070	2,394,442	n/a	n/a	0.18%

Prepared by: AY Checked by: LS

Statewide Average Disposal Rate (2018-2022)⁽²⁾ 1.44 ton/capita/yr

Estimated Waste Disposal (2022) ⁽³⁾	3,447,996	tons/year
Average Waste Density ⁽⁴⁾	1,500	lbs/cubic yard
Estimated Waste Disposal (2022)	4,597,329	cubic yards/year

Footnote:

- (1) Population data from Wisconsin Department of Administration, from 2020 Census and 1/1/2022 estimates; County Preliminary Population Estimates (https://doa.wi.gov/Pages/LocalGovtsGrants/Population_Estimates.aspx)
- (2) Statewide Average Disposal Rate is calculated on Table 11-3.
- (3) Estimated Waste Disposal (2022) is calculated by multiplying the Total 2022 Population Estimate by the Statewide Average Disposal Rate (2018-2022).
- (4) Average In-Place Waste Density from Draft WDNR Landfill Needs and Site Life (WDNR, 2004).



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**Table 11-3
Statewide Waste Disposal Rates
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin**

Year	Wisconsin Population ⁽¹⁾	Total Volume of Waste Disposed of in Wisconsin MSW Landfills		Wisconsin Disposal Rate ⁽⁴⁾					
		MSW ⁽²⁾ (tons)	Non-MSW ⁽³⁾ (tons)	MSW (tons/capita/year)	Non-MSW (tons/capita/year)	Total	MSW (lbs/capita/day)	Non-MSW (lbs/capita/day)	Total
		2010	5,686,986	4,153,036	4,116,909	0.73	0.72	1.45	4.00
2011	5,694,236	4,040,494	4,003,406	0.71	0.70	1.41	3.89	3.85	7.74
2012	5,703,525	3,930,734	4,779,108	0.69	0.84	1.53	3.78	4.59	8.37
2013	5,717,110	3,908,613	3,941,357	0.68	0.69	1.37	3.75	3.78	7.52
2014	5,732,981	3,977,291	4,187,778	0.69	0.73	1.42	3.80	4.00	7.80
2015	5,753,324	3,991,389	4,228,574	0.69	0.73	1.43	3.80	4.03	7.83
2016	5,775,120	4,070,860	4,470,469	0.70	0.77	1.48	3.86	4.24	8.10
2017	5,783,278	4,222,091	4,234,245	0.73	0.73	1.46	4.00	4.01	8.01
2018	5,816,231	4,286,143	4,473,260	0.74	0.77	1.51	4.04	4.21	8.25
2019	5,843,443	4,421,479	4,289,910	0.76	0.73	1.49	4.15	4.02	8.17
2020	5,854,594	4,350,249	3,603,943	0.74	0.62	1.36	4.07	3.37	7.44
2021	5,901,473	4,478,130	3,703,388	0.76	0.63	1.39	4.16	3.44	7.60
2022	5,949,155	4,398,873	4,051,449	0.74	0.68	1.42	4.05	3.73	7.78
		AVERAGE (2018-2022 - last 5 years)		0.75	0.69	1.44	4.11	3.78	7.89

Prepared by: AY Checked by: LS

Statewide Annual Population Growth Rate (2012-2022) = 0.42%

Footnotes:

- (1) Population data from Wisconsin Department of Administration - Time Series Population Estimates (1970-2022)
- (2) MSW (municipal solid waste) tons includes Category 1 Wastes from WDNR Landfill Tonnage Reports.
- (3) Non-MSW tons includes Categories 2-6 and 19-27 from WDNR Landfill Tonnage Reports for the year 2010. Years 2011-2014 Non-MSW tons includes Categories 2-6 and 19-28. Years 2015-2020 Non-MSW tons includes Categories 2-6 and 19-31. The year 2021 Non-MSW tons includes Categories 2-6 and 19-32. The year 2022 Non-MSW tons includes Categories 2-6 and 19-33.
- (4) Per capita annual disposal rates are rounded numbers where specific MSW or Non-MSW rates may not equal the Total Rates.



Table 11-4
Service Area Disposal Rate and Remaining Capacity without EPL Expansion
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin

Statewide Disposal Rate	1.44	tons/cap/yr
Service Area Population Growth Rate	0.18%	annually

Year	Available MSW Disposal Capacity (Cubic Yards)	Estimated MSW Disposal (Cubic Yards)	Remaining Years of MSW Disposal Capacity
2023	30,386,839	4,597,329	6
2024	25,789,510	4,605,604	5
2025	21,183,906	4,613,894	4
2026	16,570,013	4,622,199	3
2027	11,947,814	4,630,519	2
2028	7,317,295	4,638,854	1
2029	2,678,441	4,647,204	0

Prepared by: AY Checked by: LS

Notes:

- (1) Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2018-2022 (Table 11-3).
- (2) Population growth is estimated for service area only, as noted in Table 11-2
- (3) Available MSW service area disposal capacity for 2023 is calculated on Table 11-1.
- (4) Estimated MSW Disposal (cubic yards) in 2022 is calculated on Table 11-2.



Table 11-5
Service Area Disposal Rate and Remaining Capacity with EPL Expansion
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin

Statewide Disposal Rate	1.44	tons/cap/yr
Service Area Population Growth Rate	0.18%	annually

Year	Available MSW Disposal Capacity (Cubic Yards)	Estimated MSW Disposal (Cubic Yards)	Remaining Years of MSW Disposal Capacity
2023	30,386,839	4,597,329	6
2024	25,789,510	4,605,604	5
2025	21,183,906	4,613,894	4
2026	16,570,013	4,622,199	3
2027	11,947,814	4,630,519	2
2028	7,317,295	4,638,854	1
2029	2,678,441	4,647,204	0
2030	7,178,000	4,655,569	1
2031	2,522,431	4,663,949	0
2032	0	4,672,344	0
2033	0	4,680,754	0
2034	0	4,689,179	0

Prepared by: AY Checked by: LS

Notes:

- (1) Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2018-2022 (Table 11-3).
- (2) Population growth is estimated for service area only, as noted in Table 11-2.
- (3) Available MSW service area disposal capacity for 2022 is calculated on Table 11-1.
- (4) Estimated MSW Disposal (CY) in 2022 is calculated on Table 11-2.
- (5) Assumes that EPL Western Expansion capacity of 7,178,000 CY extends the life of the landfill starting in 2032.



TETRA TECH Statewide Disposal Rate and Remaining Capacity without New Landfills or Expansions
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin

Table 11-6

Statewide MSW Disposal Rate	1.44	tons/cap/yr
Statewide Population Growth Rate	0.42%	annually

Year	Available MSW Disposal Capacity (Cubic Yards)	Estimated MSW Disposal (Cubic Yards)	Remaining Years of MSW Disposal Capacity
2023	127,211,893	11,288,032	11
2024	115,923,861	11,335,442	10
2025	104,588,419	11,383,051	9
2026	93,205,369	11,430,859	8
2027	81,774,510	11,478,869	7
2028	70,295,641	11,527,080	6
2029	58,768,560	11,575,494	5
2030	47,193,067	11,624,111	4
2031	35,568,956	11,672,932	3
2032	23,896,023	11,721,959	2
2033	12,174,065	11,771,191	1
2034	402,874	11,820,630	0
2035	0	11,870,276	0
2036	0	11,920,132	0
2037	0	11,970,196	0

Prepared by: AY Checked by: LS

Notes:

- (1) Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2018-2022 (Table 11-3).
- (2) Statewide population growth rate for years 2012 through 2022, calculated on Table 11-3.
- (3) Available MSW Disposal Capacity as of January 1, 2023 per WDNR 2022 Landfill Tonnage Report, exclusive of approved or pending expansions since the Tonnage Report issuance.
- (4) Estimated MSW disposal in 2022 is calculated with estimated state population in 2022 (Table 11-3) multiplied by statewide population growth rate, then multiplied by the MSW statewide disposal rate, using the waste density of 1,500 lbs/cy.
- (5) Remaining years of disposal capacity as of January 1st of year shown.



Table 11-7
Historical Waste Acceptance Rates at EPL
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin

Year	Waste Accepted (Ton)	Estimated Volume Consumed (Cubic Yards)
2008	644,144	858,859
2009	419,602	559,469
2010	480,432	640,576
2011	454,588	606,117
2012	685,699	914,265
2013	392,893	523,857
2014	512,534	683,379
2015	584,968	779,957
2016	471,838	629,117
2017	497,515	663,353
2018	543,636	724,848
2019	480,523	640,697
2020	489,574	652,765
2021	373,639	498,185
2022	452,048	602,731
Mean:	535,299	713,732
Median:	489,574	652,765
Avg From 2013-2022	479,917	639,889

Prepared by: AY Checked by: LS

Notes:

- (1) Tonnage intake rates from WDNR Tonnage Reports. Includes out of state waste.
- (2) Volume consumed at 1,500 lbs/cy per Draft WDNR Landfill Needs and Site Life Guidance Doc. (WDNR, 2004).



**Existing EPL Disposal Rate and Remaining Capacity without Expansion
 Emerald Park Landfill - Western Expansion
 Feasibility Report Addendum No. 1
 Muskego, Wisconsin**

Statewide Disposal Rate	1.44	tons/cap/yr
Service Area Population Growth Rate	0.18%	annually

Year	Available Disposal Capacity (Cubic Yards)	Estimated Disposal Rate (Cubic Yards)	Remaining Years of Disposal Capacity
2023	6,279,780	641,041	9
2024	5,638,739	642,195	8
2025	4,996,544	643,351	7
2026	4,353,194	644,509	6
2027	3,708,685	645,669	5
2028	3,063,016	646,831	4
2029	2,416,185	647,995	3
2030	1,768,190	649,162	2
2031	1,119,028	650,330	1
2032	468,698	651,501	0
2033	0	652,674	0
2034	0	653,848	0

Prepared by: AC Checked by: LS

Notes:

- (1) Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2018-2022 (Table 11-3).
- (2) Population growth is estimated for service area only, as noted in Table 11-2.
- (3) Available disposal capacity as of January 1, 2023 per 2022 tonnage report, as noted on Table 11-1.
- (4) Estimated disposal rate is 5-year average for all waste at EPL, as calculated on Table 11-7 with the calculated service area annual growth rate (0.18%) applied.
- (5) Remaining years of disposal capacity as of January 1st of year shown.



Table 11-9
EPL Disposal Rate and Remaining Capacity with EPL Expansion
Emerald Park Landfill - Western Expansion
Feasibility Report Addendum No. 1
Muskego, Wisconsin

Statewide Disposal Rate	1.44	tons/cap/yr
Service Area Population Growth Rate	0.18%	annually

Year	Available Disposal Capacity (Cubic Yards)	Projected Disposal Rate (Cubic Yards)	Remaining Years of Disposal Capacity
2023	6,279,780	671,043	9
2024	5,608,737	672,250	8
2025	4,936,487	673,460	7
2026	4,263,027	674,673	6
2027	3,588,354	675,887	5
2028	2,912,467	677,104	4
2029	2,235,363	678,322	3
2030	8,735,041	679,543	12
2031	8,055,497	680,767	11
2032	7,374,731	681,992	10
2033	6,692,738	683,220	9
2034	6,009,519	684,449	8
2035	5,325,069	685,681	7
2036	4,639,388	686,916	6
2037	3,952,472	688,152	5
2038	3,264,320	689,391	4
2039	2,574,930	690,632	3
2040	1,884,298	691,875	2
2041	1,192,423	693,120	1
2042	499,303	694,368	0
2043	0	695,618	0
2044	0	696,870	0
2045	0	698,124	0
2046	0	699,381	0
2047	0	700,640	0

Prepared by: AY Checked by: LS

Notes:

- (1) Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2018-2022 (Table 11-3).
- (2) Population growth is estimated for service area only, as noted in Table 11-2.
- (3) Available disposal capacity as of January 1, 2023 per 2022 tonnage report, as noted on Table 11-1.
- (4) Estimated disposal rate is 5-year average for all waste at EPL, as calculated on Table 11-7 with the calculated service area annual growth rate (0.18%) applied.
- (5) Remaining years of disposal capacity as of January 1st of year shown.
- (6) Table assumes EPL expansion volume of 7,178,000 CY starting in 2030.