

STATE OF MICHIGAN
IN THE 44th CIRCUIT COURT FOR THE COUNTY OF LIVINGSTON

HARTLAND TOWNSHIP,
a Michigan municipal corporation,

Plaintiff,

Case No. 23-31864-CK

HON. SUZANNE GEDDIS

v.

LIVINGSTON COUNTY and LIVINGSTON
COUNTY DEPARTMENT OF PUBLIC
WORKS AND SOLID WASTE
MANAGEMENT,

Defendants.

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Laura J. Genovich (P72278)
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CONSENT JUDGMENT

At a session of said Court, held in the
Courthouse of said County and State, on this
8 day of 10, 2024

PRESENT: HONORABLE SUZANNE GEDDIS

Upon stipulation and consent of the parties, by and through their respective counsel, this
Court adopts as findings the following Recitals and enters the Consent Judgment set forth below:

FILED
LIVINGSTON COUNTY CLERK
2024 OCT -8 PM 3:35

RECITALS

1. The Township of Hartland ("Hartland Township") and Livingston County and the Livingston County Department Of Public Works And Solid Waste Management ("County") have convened and concluded a dispute resolution panel pursuant to the underlying contract in this case.
2. The dispute resolution panel has made its recommendation ("Recommendation") for the complete settlement of all issues between the parties as it relates to the operation of Livingston County's Sanitary Receiving Station ("SRS").
3. Neither party admits fault in connection with any of the allegations made in this action, this consent judgment being entered as a settlement between the parties to avoid the cost and burden of further litigation.
4. Pursuant to the framework of the Recommendation, the parties seek to end this litigation and resolve the underlying dispute in this case in accordance with this Consent Judgment.
5. For those reasons, the parties consent to entry of the following Consent Judgment.

CONSENT JUDGMENT

This matter having come before the Court and pursuant to the stipulation of the parties, and this Court having determined that this Consent Judgment is reasonable and just and in the best interest of the public health, safety, and welfare, the Court orders as follows:

- A. The County shall execute a construction contract within 48 months of the date this Consent Judgment for construction of an equalization basin at the SRS, and construction shall be completed and the equalization basin shall be placed in service not later than 24 months after execution of such contract. The equalization basin shall be of comparable size and dimensions as that described in the attached Exhibit A, provided that the actual flows experienced by the SRS pursuant to this Consent Judgment are comparable with the flows assumed in Exhibit A.

B. Within ninety (90) days of entry of this Consent Judgment, the County shall purchase 433 residential equivalent units ("REUs") from Tyrone Township, Genessee County, or a combination thereof, and upon receipt of same shall pay Hartland Township \$3,616,006.00; however, if there are conditions beyond the County's control that require an extension, including but not limited to those related to the sale of bonds sufficient to meet this obligation, then a reasonable extension of time shall be granted to accommodate those conditions.

C. Upon the purchase of the 433 REUs for use within the Hartland portion of the Livingston Regional Sewer System ("Hartland Sewer System") and the payment of \$3,616,006.00 referred to in paragraph B above, by the County to Hartland Township, the hosting fee payable by the County contained in the MOA will be immediately discontinued. The County forever waives and relinquishes any claim to any hosting fees paid to Hartland Township prior to the discontinuation stated in this section.

D. Upon the purchase of the 433 REUs, the County will immediately begin to be charged and shall pay the Readiness-to-Serve ("RTS") fee on the total number of REUs owned by the County in the Hartland Sewer System (650 REUs in total after purchase) to Hartland Township in accordance with Hartland Township's standard sanitary sewer billing policy.

E. If the Hartland Sewer System reaches 80% capacity at the Clyde Road lift station, defined as 1,311,932 average daily metered gallons per calendar month, ("ADF"), then the SRS must restrict flows in excess of the County's purchased REUs until such time as the ADF is less than 80% capacity. At no time will the SRS be required to discharge less than its purchased REU capacity.

F. The County shall pay to Hartland Township a surcharge for any flow in excess of the REUs owned by the County, which surcharge shall be calculated using the method currently stated in the MOA for a period of 72 months from the date of this Consent Judgment at which time Hartland

Township's standard method of calculating surcharge fees for commercial sewer customers in effect at that time shall be used. No additional REUs will accrue to the County's use or ownership by virtue of paying the surcharge.

G. Hartland will support the purchase of REUs as described herein and the construction of an equalization basin or other necessary improvements at the SRS and will not withhold approvals unnecessarily.

H. If the County determines that more than a total of 650 REUs are required for its operations at the SRS, the MOA shall govern the terms of purchasing additional REUs, provided that, as confirmed by the Livingston Regional Sewer System, the Hartland Sewer System can accommodate the capacity desired to be purchased. The County shall also pay the RTS fee on the total number of REUs owned by Livingston County following the purchase of any additional REUs.

I. The hours of operation for the SRS will be as follows, effective immediately upon the date of this Consent Judgment:

- (1) Haulers may discharge at the SRS Monday through Saturday, from sunrise to sunset.
- (2) The SRS internal operations may function 24 hours a day, 7 days a week.
- (3) The emergency policy as stated in the MOA shall remain in full force and effect.

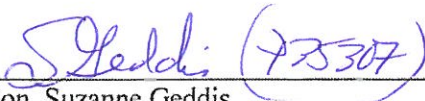
J. The County, through its DPW, shall develop a sewer fund balance policy with 120 days of the date of this Consent Judgment and shall distribute the policy to Hartland and Tyrone Townships after its adoption.

K. The County shall duly consider nominations for membership to the Livingston County Board of Public Works identified by Hartland Township.

L. Should any conflicts arise between the MOA and this Consent Judgment, the terms and conditions of this Consent Judgment shall control.

M. The Court retains jurisdiction to enforce the terms of this Consent Judgment.

THIS IS A FINAL ORDER WHICH RESOLVES ALL CLAIMS AND CLOSES THIS CASE.


Hon. Suzanne Geddis
Circuit Court Judge


Stipulated and agreed as to form and substance:

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Exhibit A to Consent Order



Moore + Bruggink
Consulting Engineers

MEMORANDUM

TO: Livingston County Drain Commission (LCDC)

FROM: Adam DeYoung, P.E.

DATE: May 10, 2023

SUBJECT: SRS REU Equalization Analysis

LCDC is evaluating how many REUs are needed for their Septage Receiving Station for their negotiations with Hartland Township. LCDC asked M+B to conduct an evaluation on the topic, along with an analysis on the impact of equalization on the REU calculations.

The following tables outline the historic flow to the station.

Table 1 – Monthly Data

	2019	2020	2021	2022	Max
Yearly Total	31,264,516	35,346,677	33,822,070	31,971,848	35,346,677
Average Month	2,605,376	2,945,556	2,818,506	2,664,321	2,945,556
Peak Month	3,669,174	4,002,428	3,804,493	3,594,024	4,002,428
Peak Month Ratio	1.41	1.36	1.35	1.35	1.55

Table 2 – Week Data

	2019	2020	2021	2022	Max
Average Week	589,897	666,918	655,963	603,242	666,918
Peak Week	875,965	957,664	942,505	928,859	957,664
Peak Week Ratio	1.48	1.44	1.44	1.54	1.54

The method with which to calculate the number of REUs needed for a user can vary by municipality. However, it is typical that within a billing period (monthly or quarterly), the entire flow would be used and divided by the actual days and the gallons per REU. This can be seen in the equation below:

$$\frac{\text{Total Flow in Billing Period}}{\text{Days in Billing Period}} \div 210 \frac{\text{Gallons}}{\text{REU}} = \text{REUs Required}$$

Table 3 illustrates potential REU calculations for both yearly and peak monthly flow. For the peak monthly flow, 210 gallons per REU and 30.4 days per month were used in the calculation.



Table 3 – Typical REU Calculation

Yearly	2019	2020	2021	2022	Max
Yearly Total	31,264,516	35,346,677	33,822,070	31,971,848	35,346,677
Yearly Day Eq.	85,656	96,840	92,663	87,594	96,840
REUs	408	462	442	418	462
Monthly					
Peak Month	3,669,174	4,002,428	3,804,493	3,594,024	4,002,428
Peak Month Day Eq.	120,630	131,587	125,079	118,160	131,587
REUs	575	627	596	563	627
Daily					
Peak Day	189,804	207,881	207,882	214,926	189,804
REUs	904	990	990	1,023	1,023

As seen in Table 3, there is a large difference in REUs depending on how it is calculated. If the peak day is required, effluent equalization should be considered. When considering equalizing the effluent flow, assumptions need to be made concerning the operation of the facility including:

- 5 days of processing; and
- Throughput of the press at 176 gpm (design flow rate at 1.5 percent solids; actual results will likely be significantly higher).

With these assumptions, a storage analysis can be conducted. This was conducted for two separate flow rates: the peak week—as this is the smallest time period in which equalization would yield results due to the fact the SRS currently does not press on weekends; and 66 percent of the peak week—as requested by LCDC as that may be the flow remaining after diverting some haulers to a different location. The results of the storage analysis are outlined in Table 4.

Table 4 – Peak Week Storage Analysis Summary

		Option 1 – Peak Week	Option 2 – 66% Peak Week
Peak Week	Gallons	928,859	613,800
Days		7	7
Peak Week Day	Gallons	132,694	87,686
Influent Storage needed	Gallons	86,000	47,500
Number of Dumpsters		11	7
Hours of processing		87.2	58
Maximum Storage Needed	Gallons	283,000	218,000



If LCDC wanted to equalize the flow for a longer period of time, this would be a harder value to quantify due to how operations affect the effluent. A simplistic way is to analyze what the greatest 2-, 3-, 4-, and 6-week periods were for the past years in comparison to the peak week. For instance, the greatest flow rate for a sixth week period in 2022 was 5,000,477 gallons. This is then divided by 6 weeks and 7 days to equate the day equivalent of 119,460 gallons. This is shown in Table 5.

Table 5 – Option 3 – Long-Term Storage Evaluation

	2019	2020	2021	2022
Day Equivalent for the Peak Week	125,138	136,809	134,644	132,694
Day Equivalent for the Peak 2 Week Period	123,389	134,836	130,990	128,624
Day Equivalent for the Peak 3 Week Period	120,809	133,529	132,088	123,879
Day Equivalent for the Peak 4 Week Period	119,473	131,154	129,180	119,460
Day Equivalent for the Peak 6 Week Period	117,278	129,442	125,602	119,059
Greatest Difference	7,860	7,367	9,042	13,635
Worse Case Additional Storage Needed over Peak Week*	220,070	206,284	253,171	381,788

*Based on the difference needing to be stored over 4 of the 6 weeks.

The purpose of effluent storage is its impact to the number of REUs needed for the flow rate. More effluent storage would provide a “wide spot” in the line that ultimately reduces the need to purchase additional REUs. Table 6 outlines scenarios of REU savings.

Table 6 – REU Cost Evaluation

Option 1	GPD	GPD/REU	REU	Currently Held REUs	Needed REUs	\$/REU	Total \$
Peak Day	220,000	210	1,048	217	831	\$9,500	\$7,894,500
Peak Week/7	132,694	210	632	217	415	\$9,500	\$3,942,500
Difference	87,306		416				\$3,952,000
Option 2a							
Peak Day	220,000	210	1,048	217	831	\$9,500	\$7,894,500
66% Peak Day	146,000	210	695	217	478	\$9,500	\$4,541,000
Difference	74,000		353				\$3,353,500
Option 2b							
66% Peak Day	146,000	210	695	217	478	\$9,500	\$4,541,000
66% Peak Week/7	87,686	210	418	217	201	\$9,500	\$1,909,500
Difference	58,314		277				\$2,631,500
Option 3							
Peak Day	220,000	210	1,048	217	831	\$9,500	\$7,894,500
Peak 6 week/42	119,059	210	567	217	350	\$9,500	\$3,325,000
Difference	100,941		481				\$4,569,500

The overall economic evaluation shown in Table 7 outlines that with the current analysis, it is more cost effective to provide storage for the peak week.



Table 7 – Economic Evaluation

	Option 1 – Peak Week	Option 2a – 66% Peak Day	Option 2b – 66% Peak Week	Option 3 – Peak 6- Week Storage
<i>Savings from Peak Day Storage REU Costs</i>	\$3,952,000	\$3,353,500	\$2,631,500*	\$4,541,000
<i>Cost for Storage Tank**</i>	\$849,000		\$654,000	\$1,994,364
<i>Site and Other Costs</i>	\$600,000		\$600,000	\$900,000
<i>Net Savings</i>	\$2,503,000	\$3,353,500	\$1,377,500	\$1,675,136

*Savings from 66% Peak Day flow

** \$3/gallon used to calculate the Cost of Storage

In summary, constructing effluent equalization would significantly reduce the peak day flow rate. Building a 280,000-gallon effluent equalization tank would allow LCDC to equalize the peak weekly flow over the entire week. This would be the most effective way of reducing the peak day flow rate besides diverting the flow away from the facility. Trying to equalize flow over a period greater than a week becomes less cost-effective and can add other complications to the operations. It should be noted that pricing for tanks and infrastructure is rapidly changing and a preliminary cost estimate and layout is needed to know the true costs.