



**Mid-Coast Solid Waste Corporation
Board of Directors Regular Meeting
Date: Wednesday, March 28, 2018 Time: 7:00 p.m.
Camden Town Office – Washington St. Conference Room
Agenda**

- A. Agenda Adjustments**
- B. Public Comment**
- C. Discussion of Memorandum written for BoD** - Guerra was tasked with writing a memo to our four town Select Boards on behalf of MCSW BoD recommending deposit of the final distribution from PERC contract (expiring on March 31, 2018) into the Jacobs Quarry Closure Fund. A formal vote should occur prior to relaying the attached memo to Select Boards. **Vote**
- D. Consideration of Warrant Article** – provided by MCSW Attorney, Paul Gibbons proposed to be attached to the memo (above) dedicating the distribution to the Closure Fund for closure expenses only. **Recommend or Vote**
- E. Explanation for the Board** – The Board asked to see the most recent closure cost estimate provided by Sevee & Mahar Engineering (SME) and to discuss the differences between closure and post closure care requirements. (SME report in packet)
- F. Manager's Update** – informational
- G. Re-design developments** – It has come to my attention that a significant amount of fill material will become available to MCSW through the course of the middle school demo/rebuild project in Camden. Material will be both earthen material as well as concrete rubble. These materials, delivered to the site, may represent significant savings in constructing the design of transfer building most preferred that was not evaluated in the W&C study because of expected cost. W&C has proposed to evaluate the new scenario for \$4,900.
- H. Financials**
- I. Executive Session to discuss potential interest in property pursuant to 1 M.R.S.A § 405(6)(C).**
- J. Based on Executive Session discussion- Vote**
- K. Next meetings** – BoD and Design Committee
- L. Adjourn**

Manager's Notes

E. Explanation for the Board – Closure costs verses post closure care. Our DEP regulations are generally written for “sited” or designed landfills. This is an instance where the Jacobs’ Quarry operation departs from a typical landfill. An engineered closure itself is all about minimizing water infiltration into the waste mass and managing the generation of landfill gasses. The fact that the landfill is in a water-filled, bedrock quarry is atypical and required an additional solution for closure in order to stop the rapid flow of water from the north into the waste-filled south end. The fact that there is additional benefit post closure resulting from this effort is beside the point as the closure effort is required to minimize leachate production.

Typically, post-closure care monitors groundwater quality, maintains cover integrity and gas and stormwater collection systems for at least thirty years. Typical landfills cease generating leachate at a recoverable rate over time as long as the cover is maintained. Because water is very likely to seep into the waste mass through bedrock seams, leachate collection and treatment will always be a consideration for this landfill post-closure.

At least for the past ten years the BoD has focused on shrinking the post-closure costs to a point where the necessary funds could be raised each year. At this point, post-closure care is down to about \$80,000 per annum. (Please refer to SME report attached. Closure cost analyses begins about half way through the .pdf)

F. Managers Update –

- 1.) All four towns approved the bag fee hike
- 2.) School demo project keeps sending info out in fits and starts. After being informed that nothing is happening this summer it has been suggested that up to 20,000 cu yds of earthen cut material will need a home as well as perhaps a small portion of the existing school. Camden Town Manager and I are working together on the earthen material as we both may have projects that would benefit from this material.
- 3.) I wrote a “spec sheet” for incoming material for the school project with pricing considerations I wish to discuss with the BoD. Spec Sheet is attached to this packet. I have spoken to the DEP with regard to accepting material from the school project and they appreciate the angle we are taking.
- 4.) The \$55,000 “surety” distribution from the MRC has been delivered to each of our towns. The \$72,000 “put option” distribution has been deposited in a separate account to allow ready tracking of interest. Hope has had their share delivered to them.

5.) I attended interviews of three investment advisors with a specialty in municipalities. Once Camden decides who they will use, we can have a presentation to see if we wish to do the same. Using the same investment group would provide more seamless fund management for us, possibly at a lower cost. Certainly the closure fund but perhaps other reserves as well could be better placed to accrue interest.



P.O. Box 1016 • Rockport, Maine 04856
Tel: 207-236-2467 ~ Fax: 207-236-7968

To: The Select Boards of Camden, Rockport, Lincolnville and Hope
From: The Board of Directors, Mid-Coast Solid Waste
Date: March 28, 2018
Re: Distributions to MCSWC and its members from end of contracts with PERC.

As you may know, just prior to the incorporation of MCSWC in the early 1990's, each of our four member towns individually contracted with the Penobscot Energy Recovery Corporation (PERC) for the disposal of municipal solid waste (MSW). The Municipal Review Committee (MRC) was created as a result of a very difficult start-up period followed by changes in ownership of the PERC facility and the power purchase agreement with the local electric utility. The MRC was charged by member towns with overseeing the municipal contracts and PERC's performance. As a result of the MRC's efforts, each of the original member towns that committed their MSW as fuel to PERC collectively became Equity Charter Members owning just under 25% of the facility. MCSWC has long had representation on the MRC Board either by Town or Facility Managers or Town Administrator, most notably Skip Day of Lincolnville.

As of March 31, 2018, all of our four town's contracts end with PERC. This has also brought about the end of our involvement with the MRC. The ends of these contractual relationships trigger the distribution of significant funds to the Equity Charter Members departing the MRC and PERC on April 1 of this year.

The purpose of this memo is to identify the sources of each distribution and presents a case for depositing the bulk of these funds in the Jacobs Quarry Closure Reserve which will finance the closure of MCSWC's construction and demolition debris (CDD) landfill remediation project; for which all four towns have liability. Disbursements from the PERC contract unwinding have been or will be mailed to MCSWC and directed according to, awaiting each town's decision.

There are three rounds of distributions resulting from unwinding this relationship. The first disbursement to our four towns collectively was for \$55,121.69 and results from a \$1.33 million account set up to secure a loan received by the PERC Partners which is now paid. The Board of Directors MCSWC, on February 28th, 2018, voted to send these funds back to our member towns apportioned based on population and town valuation (the same way the MCSWC budgetary assessment to the tax base is apportioned between the four member towns).

The second disbursement required action on the part of each town's legislative bodies last year because it entailed the sale of shares in the plant owned by the Equity Charter Towns. The collective value of this sale is \$72,443.15. While all four towns approved the sale of the shares, Camden, Rockport and Lincolnville went further and designated that the funds go towards the closure of the Jacobs Quarry

landfill while Hope did not. The funds directed toward closure will be credited to the three towns and placed in a separate closure account to allow proper tracking of interest.

The third & final disbursement is expected to be distributed in August of this year and its source, the Tip Fee Stabilization Fund, was created by the MRC in 1998. The largest part of this fund was generated by the sale of Bangor Hydro stock held by Equity Charter Members when it was purchased by EMERA. The collective distribution to MCSWC should be about \$1.2million. It is the recommendation of the majority of the Board of MCSWC that these funds be deposited in the dedicated Closure Reserve for the Jacobs Quarry Landfill as a means of minimizing or completely eliminating the liability of closure to our individual member towns. This would have a significant positive impact on the ability to bond projects for MCSW as well as its four member towns.

Landfill Liability

The Jacobs Quarry Landfill, as most of you know, is most accurately regarded as a remediation project operating under a Consent Agreement with the Department of Environmental Protection signed by all five parties in April of 1993. Since at least the 1940's various wastes were disposed of in the water filled limestone quarry which operated over the previous century. At the time of DEP intervention in the 1980's, contaminated water was overflowing the quarry system with purported impact to nearby Lily Pond. The DEP also felt that groundwater flowing through the quarry system was also being negatively impacted. While there is no indication of groundwater impact, it is difficult to prove otherwise beyond a shadow of a doubt in such a bedrock situation. As part of the Consent Agreement, MCSWC agreed to fill the remainder of the quarry with CDD only, develop and fund a reserve designated for closure and, finally, to properly close it out and treat remaining leachate generated in perpetuity.

Since 2008 MCSWC management and Board of Directors have maintained focus on augmenting passive means to manage leachate by doing things like applying intermediate cover to areas already at grade. This also enabled the installation of a stormwater collection system diverting significant volumes of clean water away from the waste, to exit north of the facility further reducing leachate treatment. A third and significant benefit of these efforts was that it made the installation of expensive (\$500,000) phosphorus treatments in the south of the facility required by the DEP, unnecessary. The intermediate cover and stormwater diversion cost approximately \$300,000. Recently, MCSWC completed a project to minimize the flow of water from the northern end of the quarry to the waste filled southern end further advancing the facility towards an efficient closure since cutting off water infiltration is the primary intention of closure. Because of its integral role in final closure, closure funds were used for this project and the DEP agreed with this position. Together these steps have already significantly reduced leachate production and bode well for minimized, long term pumping.

Final closure of the landfill is estimated to occur within the next five to seven years. MCSWC, its consultants and the DEP will work together to provide the best closure method. Current estimate for closure is \$2.4 million with 30 years of post closure care estimated at an additional \$2.4million. The closure estimate tends to rise each year with inflation and changes in regulation as new technologies become preferred. However, recent projects have driven post closure care costs downward significantly. While MCSWC has been annually funding the actual closure reserve, it is anticipated that post closure care will be raised each year after closing, at a rate of roughly \$80,000 per year. By the end of FY 18, the closure account will have approximately \$1.5 million.

Given the costs involved in the Jacobs Quarry Landfill closure and the funds currently in reserves for this purpose, the Board of Directors of MCSW by majority recommends the final distribution from PERC be deposited into the Jacobs Quarry Landfill Closure account. With such a deposit, it is expected that a legal instrument be put in place instructing all future Boards of the intended disposition of these

dedicated funds. Such a document would require participation of the legislative bodies of each our four member towns. A warrant to this effect is attached to this memo for your consideration.

With funding of closure behind us, MCSWC and its member towns could then consider facility improvements aimed at lowering our long term operational costs well into the future. This will become a particular imperative once the landfill is closed and the facility becomes 100% transfer.

PROPOSED WARRANT ARTICLE

To see if the Town will vote to expend \$ xxxx.xx ,being all the funds received from the Withdrawal Agreement with the Municipal Review Committee Inc., for the Mid-Coast Solid Waste Closure Fund of the transfer facility in Rockport, Maine, and to authorize the Selectmen to enter into a written agreement with the member communities of the Mid-Coast Solid Waste Corporation that provides that funds deposited into the Closure fund cannot be spent for any other purpose without the express written approval of the Selectmen of the Towns of Camden, Rockport, Lincolnville and Hope.



P.O. Box 1016 • Rockport, Maine 04856
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DRAFT

Spec Sheet for School Demolition Project

Mid Coast Solid Waste (MCSW) Facility can accommodate the demolition debris material from the S.A.D. 28 Middle School project proposed to occur in 2019 under certain parameters. This document is intended to provide specific scenarios for the use of this facility. It requires mention that under all scenarios, a high level of dependable communication is required for this effort to be successful. Since at least one scenario will require MCSW to hire a contractor and prepare a disposal area, hauling period and volume info is paramount. With good planning and communication MCSW feels confident it can accept the projects related demolition while minimizing impact to the community at large. Prior to any material arriving at the facility from this project, a letter certifying that the structure has undergone proper asbestos abatement prior to demolition shall be provided to MCSW management.

Scenario 1.

The CDD landfill includes at least one area that has subsided significantly since intermediate cover was placed which is capable of accepting up to 3,500 yards of material. To accommodate this, MCSW proposes to operate an area specifically for the school demo project, would hire a contractor to remove the cover material, level, grade and compact incoming CDD material from the school, replace the cover, loam and seed the area. The CDD material acceptable for this operation would be concrete rubble with no protruding rebar fitting the size range of 1 foot minus. A price less than \$100 per ton can be worked out to reflect the effort in achieving the spec while also paying for the extra operation at the facility. *(BoD – a yard of concrete is roughly 4,000 lbs. At 5,000 yards calculated concrete, that's approximately 10,000 tons. Even if we charge \$50/ton, it quickly adds up and we are not losing calculated space in this scenario)*

Scenario 2.

MCSW is considering a facility redesign which could readily provide a disposal area for 6 inch minus material without exposed rebar. If material could be generated to fit this spec and delivered to the facility for stockpile, an even lower fee could be calculated. *(BoD – we could even charge zero. For that matter, if the smaller material was screened*

out for use in our construction , the material could be split between the landfill and the new facility)

Scenario 3.

Material with exposed rebar will not be accepted.

Material over two feet minus without exposed rebar will be accepted at a rate of \$100 per ton.

General.

MCSW does not accept metal in the landfill.

MCSW does accept wood wastes shown not to contain lead (either unpainted or tested) or extraneous metal (fasteners are ok) at \$60 per ton.

MCSW will require certification that all asbestos abatement has been carried out to completion and that no remaining asbestos containing materials are to be disposed at its site.

December 13, 2017

Mid-Coast Solid Waste Corp.
Attn: Mr. Jim Guerra, Facility Manager
P.O. Box 1016
Rockport, Maine 04856

Subject: 2017 Annual Reporting Request
Mid-Coast Solid Waste Corporation

Dear Jim:

In accordance with your request, Sevee & Maher Engineers, Inc. (SME) is pleased to provide the following information regarding 2017 Jacob's Quarry South (JQS) CDD Landfill annual reporting to the Maine Department of Environmental Protection (MEDEP).

- Statement of Compliance for operation of the Landfill¹ (see Attachment 1);
- Updated Closure and Post-Closure Care Cost estimates for the Landfill (see Attachment 2);
- Updated Cell Development Plan for JQS, including the next two years of operation (see Attachment 3); and,
- Estimates of cover material placed and waste capacity used and anticipated life of the Landfill are as follows:
 - Cover material placed 2017 395 cy
 - Waste placed 2017 4,745 cy
 - Total airspace consumed 2017 5,140 cy (see Figure 2)
 - Constructed JQS capacity remaining² 13,000 cy (see Figure 3)
 - Total JQS capacity remaining² 31,065 cy (see Figure 5)

¹ SME's Statement of Compliance is for landfill operations only. Water quality monitoring and reporting of compliance with groundwater and surface water standards is performed by others.

² Remaining airspace capacity as of November 20, 2017 does not include airspace gained through settlement or consolidation of existing or future waste.

If you have any questions or require additional information, please do not hesitate to contact me directly.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.



Steven E. Patch, P.E.
Senior Project Engineer

Attachments

ATTACHMENT 1

**MIDCOAST SOLID WASTE CORPORATION
JACOBS QUARRY LANDFILL
2017 EVALUATION**

Sevee & Maher Engineers, Inc. (SME) has served as one of the Midcoast Solid Waste Corporation's (MCSWC) environmental consultants at the Jacobs Quarry Landfill (Landfill) in Rockport, Maine since 2011. Primarily, SME has been directly involved with the cell development and closure of the southern portion of the landfill, referred to as Jacob's Quarry South (JQS). SME has also assisted MCSWC with updating the Facility's Operations Manual and with various submittals required as part of the Facility's Annual Report. SME has over 36 years of experience in landfill related activities in the State of Maine, including permitting, design, operation, and construction oversight.

It is SME's professional opinion that the Jacob's Quarry Landfill is performing in general accordance and substantial compliance with the facility's Operations Manual and current MEDEP Solid Waste Management Regulations. SME's conclusions are based upon knowledge of the site, the facility design, previous site inspections of the landfill, communications with MCSWC facility personnel, and upon our understanding of the documents listed below.

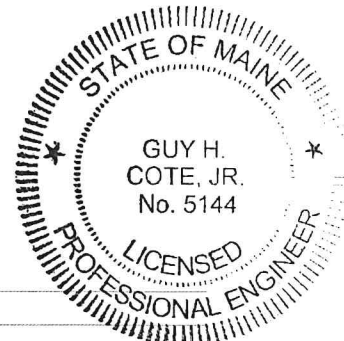
DOCUMENT REFERENCES

1. Midcoast Solid Waste Corporation "Operations and Maintenance Manual" September 2012, SME.
2. Midcoast Solid Waste Corporation "Annual Report of Groundwater Monitoring January Through December 2016" June 2017, Emery & Garrett Groundwater Investigations, LLC.
3. State of Maine Solid Waste Management Regulations Chapter 400-403, 405, 409, and 418, effective date November 2, 1998.

Date: 12/15/17

President: 

Guy H. Cote Jr., P.E.
Reg. No. 5144



ATTACHMENT 2

December 15, 2017

Mid-Coast Solid Waste Corp.
Attn: Mr. Jim Guerra, Facility Manager
P.O. Box 1016
Rockport, Maine 04856

Subject: 2018 Closure and Post-Closure Care Cost Estimate and
Remaining Life Expectancy Estimate
Jacob's Quarry Landfill, Rockport, Maine

Dear Jim:

In accordance with your request, Sevee & Maher Engineers, Inc. (SME) has prepared the 2018 closure cost estimate and post-closure monitoring and maintenance cost estimate for Mid-Coast Solid Waste Corp. (MCSWC) Jacob's Quarry Landfill (JQL) located in Rockport, Maine. In addition, we have estimated the remaining life expectancy for the southern portion of the JQL, an approximate 6-acre parcel known as Jacob's Quarry South (JQS).

The closure cost for the JQS portion of the JQL is estimated at \$2.43 million. This estimate is based upon cover systems requirements consistent with the Maine Department of Environmental Protection (MEDEP) Solid Waste Management Rules, material unit price cost provided by qualified third-party general contractors familiar with landfill closure work, and closure costs used by SME for similar landfill closure work. (Note: All costs are based on 2016/2017 unit prices.)

The post-closure monitoring and maintenance cost for the JQS portion of the site is currently estimated at \$2.4 million. This estimate is based upon 30 years of post-closure care performed by a qualified third-party using 2016/2017 unit prices. Summary tables of the closure and post-closure cost estimates are provided in Attachment 1.

SME calculated the remaining airspace capacity for JQS using the November 20, 2017 Low Altitude Aerial Photogrammetric Mapping of the site performed by SME (Attachment 2), and the site's proposed Final Grading Plan prepared by SME (Attachment 3). SME's Final Grading Plan assumes that all future development of JQS will occur within the limits of quarry, as established by MCSWC, using 3 horizontal to 1 vertical sideslope grades to approximate Elevation 162 NGVD. SME estimates the available airspace capacity at JQS to be approximately 31,065 cubic yards as of November 20, 2017. (Note: This does not include

airspace gained through settlement or consolidation of existing or future waste materials placed at JQS.)

To determine the remaining life expectancy for JQS, we divided the available airspace capacity described above by the current annual airspace consumption rate for the site. The landfill airspace consumption rate was determined by comparing the change in landfill topographic surface over a given period of time. For this calculation, we compared ground surface contours measured by SME on November 18, 2016 to the ground surface contours measured by SME on November 20, 2017. This calculation indicates that approximately 5,140 cubic yards of landfill space was consumed during that 52-week period, which corresponds to an annual consumption rate of 5,140 cubic yards per year. This annual consumption rate is in line with the consumption rates previously estimated for operating years 2012 (4,560 cy), 2013 (5,860 cy), 2014 (4,685), 2015 (4,950), and 2016 (8,315). The average annual airspace consumption rate at JQS over the last six years is approximately 5,585 cubic yards. Therefore, the remaining life expectancy of JQS using the average annual consumption rate is approximately 5.6 years.

If you have any questions or require additional information regarding this matter, please do not hesitate to contact me directly.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.



Steven E. Patch, P.E.
Senior Project Engineer

Attachments

- Attachment 1 Closure and Post-Closure Monitoring and Maintenance Cost Estimates
- Attachment 2 SME's November 2017 Topographic Survey
- Attachment 3 SME's Proposed JQS Final Grading Plan

ATTACHMENT 1

**CLOSURE AND POST-CLOSURE MONITORING
AND MAINTENANCE COST ESTIMATES**

**MID-COAST SOLID WASTE CORP.
JQS - FINAL COVER
ENGINEER'S COST ESTIMATE - 2018**

	TASK	UNITS	QUANTITY	UNIT COST (\$)	PRICE (\$)
01	MOBILIZATION/DEMOBILIZATION EQUIPMENT - \$15000 GENERAL CONDITIONS/OVERHEAD - \$35,000	LUMP SUM	1	\$ 50,000.00	\$ 50,000.00
02	STORM WATER MGT. / EROSION CONTROL SUPPLEMENT TO SILT FENCE	LUMP SUM	1	\$ 10,000.00	\$ 10,000.00
03	ODOR CONTROL	LS	1	\$ 5,000.00	\$ 5,000.00
04	SILT FENCE DOWN SLOPE OF COVER (6 acre perimeter)	LIN FT	2,200	\$ 5.00	\$ 11,000.00
05	FINE GRADING OF WASTE DOZER 100 HRS @ \$100/HR TRUCK 100 HRS @ \$100/HR	LUMP SUM	1	\$ 20,000.00	\$ 20,000.00
06	SAND 6" GAS COLLECTION SAND (6 acres)	CY	5,000	\$ 15.00	\$ 75,000.00
07	GEOGRID	SF	261,500	\$ 1.00	\$ 261,500.00
08	GCL LINER	SF	261,500	\$ 0.85	\$ 222,275.00
09	40 MIL- GEOMEMBRANE LINER	SF	261,500	\$ 0.75	\$ 196,125.00
10	SAND 12" COVER DRAINAGE SAND	CY	10,000	\$ 15.00	\$ 150,000.00
11	VEGETATIVE SOIL 12" PROTECTIVE LAYER	CY	10,000	\$ 25.00	\$ 250,000.00
12	SEED, FERTILIZE & MULCH 261,000 SF	UNIT	261	\$ 50.00	\$ 13,050.00
13	PASSIVE GAS VENT HORIZONTAL PIPING / PERIMETER GAS PROBES	LUMP SUM	1	\$ 140,000.00	\$ 140,000.00
14	H2S ODOR CONTROL - SAND/LIME LAYER	ACRE	6	\$ 74,000.00	\$ 444,000.00
TOTAL CONSTRUCTION COST					\$ 1,847,950.00
QA/QC TESTING AND OVERSIGHT					
15	BORROW SOURCE TESTING (Contractor only) SOIL = \$1,000	LUMP SUM	1	\$ 1,000.00	\$ 1,000.00
16	QA/QC TESTING (OWNER) SOIL = \$10,000 GEOMEMBRANE/GEOGRID = \$27,000	LUMP SUM	1	\$ 37,000.00	\$ 37,000.00
17	CONSTRUCTION SERVICES AND DOCUMENTATION FIELD ENGINEER - \$105/HR X 50HR/WK (assume 14 wks) HOTEL - \$500/WK, MILAGE - @300/WK, MEALS - \$250/WK PROJECT MANAGEMENT (assume 14 wks) / REPORT	LUMP SUM	1	\$ 125,000.00	\$ 125,000.00
TOTAL QA/QC TESTING & OVERSIGHT					\$ 163,000.00
10% CONTINGENCY					\$ 201,095.00
TOTAL ENGINEERS ESTIMATE					\$ 2,212,045.00

FINAL COVER ~ 6 ACRES

PERMIT & DESIGN (~ 10%)

\$ 220,000.00

12" TOPSOIL
12" SAND
40-MIL GEOMEMBRANE
GCL
6" GAS VENT SAND
GEOGRID
12" ODOR CONTROL SAND/LIME
WASTE

TOTAL PROJECT COST

\$ 2,432,045.00

**MID-COAST SOLID WASTE CORP.
ROCKPORT, MAINE
JQS POST - CLOSURE MONITORING AND MAINTENANCE COSTS - 2018**

1. Landfill Maintenance Cost

	ESTIMATED COSTS		
	years	cost/year	total cost
a. <u>General site repairs and maintenance.</u> Required repairs will include erosion repairs of the cover system, siltation removal from the storm water conveyance system, surface repairs to the roads, and culvert maintenance.	1-5	\$ 1,000.00	\$ 5,000.00
	6-10	\$ 500.00	\$ 2,500.00
	11-30	\$ 500.00	\$ 10,000.00
b. <u>Mowing.</u> Approximately 6 acres of the landfill facility will require mowing. Mowing will occur twice per year.	1-30	\$ 1,000.00	\$ 30,000.00
c. <u>Gas control system.</u> This item provides for the replacement of one gas vent riser every 5 years The cost will include repairs to the geomembrane and documentation of the repairs.	6 EA	\$ 1,500.00	\$ 9,000.00
d. <u>Groundwater monitoring system.</u> This item provides the cost to replace two monitoring wells over the 30-year post-closure period. The cost include drilling , installation , development , and documentation.	2 EA	\$ 6,000.00	\$ 12,000.00
SUBTOTAL LANDFILL MAINTENANCE			\$ 68,500.00

2. Landfill Inspections

a. <u>Independent engineering firm.</u> Cost associated with this item include 3 site inspections per year for the first ten years of post closure and 2 site inspection per year for the last twenty years.	1-10	\$ 3,600.00	\$ 36,000.00
	11-30	\$ 2,400.00	\$ 48,000.00
b. <u>Geotechnical Inspections.</u> This item includes the cost associated with one site inspection per year for the 30-year post closure period. Cost include the review of data (piezometers, settlement , gauges, etc.), and a letter report documenting the condition of the landfill.	1-30	\$ 3,000.00	\$ 90,000.00
SUBTOTAL INSPECTION COST			\$ 174,000.00

3. Leachate Management

a. Treatment Cost.

The total leachate flow from JQS was estimated to be approximately 20.1 million gallons (2015) of which 6.4 MG was estimated to be from JQN & JQS groundwater infiltration. Infiltration through the proposed cover system will be negligible. Treatment cost in 2015 were \$0.0075 / gal (Town of Camden)
Post closure treatment = 6.4 MG @ \$0.0075 per gal.

1-30	\$	48,000.00	\$	1,440,000.00
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- b. Leachate pipe flushing. This item includes cost to flush the leachate collection pipes once a year for the first five years, and once every two years for the next 25 years.

1-5	\$	2,300.00	\$	11,500.00
6-30	\$	1,150.00	\$	28,750.00

c. Electric cost (pump station)

This item includes the electrical cost for the pump station.

1-30	\$	1,800.00	\$	54,000.00
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d. General cost

This item includes costs associated with general repairs and maintenance to the pump station buildings, pumps, fitting, valves, meters and lights.

1-30	\$	2,000.00	\$	60,000.00
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SUBTOTAL LEACHATE MANAGEMENT			\$	1,594,250.00
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4. Water Quality Monitoring, Testing, and Reporting

Cost associated with water quality monitoring, testing, and reporting include field sampling, laboratory analysis, quarterly and annual reporting, equipment cost, mileage, hotel, and meal cost and miscellaneous materials cost. The water sampling will be at a rate of three times a year for the first 5 years and twice a year for years 6 through 30.

year	cost/year	cost
1-5	\$ 26,000.00	\$ 130,000.00
6-30	\$ 17,350.00	\$ 433,750.00

SUBTOTAL WATER QUALITY			\$	563,750.00
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GRAND TOTAL FOR 30 YEARS			\$	2,400,500.00
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ATTACHMENT 2

SME'S NOVEMBER 2017 TOPOGRAPHIC SURVEY

- NOTE:**
1. EXISTING SITE FEATURES (PUMP STATION, UTILITIES, ETC) BASED ON SURVEY BY LANDMARK CORPORATION SURVEYORS & ENGINEERS, DATED JUNE 4, 2015.
 2. EXISTING CONTOURS FROM LOW ALTITUDE AERIAL PHOTOGRAMMETRIC MAPPING PERFORMED BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, DATED NOVEMBER 20, 2017. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, USING PROPELLER AEROPLOTS, DATED NOVEMBER 20, 2017.
HORIZONTAL DATUM - NAD83 MAINE, WEST, US FT.
VERTICAL DATUM - NAVD 88, US FT.
THEN CORRECTED TO HORIZONTALLY AND VERTICALLY TO MILL DATUM USING PREVIOUS GROUND CONTROL POINTS TO ALIGN.
 3. LOCATIONS OF FEATURES AND CONTOURS ARE APPROXIMATE. SITE CONDITIONS MAY HAVE CHANGED SINCE THE COMPILATION OF THIS PLAN. PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED AS THE DESIGN MAY REQUIRE FIELD ADJUSTMENT FOR CONSTRUCTION.

SEDIMENT BARRIER AROUND AREAS
OF EARTHWORK DISTURBANCE OR
SOIL COVER STOCKPILES

SOIL COVER STOCKPILE

APPROXIMATE QUARRY
LIMITS (TYP)

APPROXIMATE AREA
OF 2017 SOIL COVER

UNLOADING AREA

ACTIVE DEBRIS PILE

JOS PW
(LEACHATE
PUMP STATION)

CURRENT TEMPORARY
ACCESS ROAD

COVERED DEBRIS PILE

EXISTING PERIMETER WASTE
CONTAINMENT BERM

EXISTING PERIMETER
CONTAINMENT BERM (TYP)



FIGURE 1
NOVEMBER 2017
EXISTING CONDITIONS
JOS CELL DEVELOPMENT
MCSWC JACOB'S QUARRY LANDFILL
ROCKPORT, MAINE



NOTE:

1. EXISTING SITE FEATURES (PUMP STATION, UTILITIES, ETC) BASED ON SURVEY BY LANDMARK CORPORATION SURVEYORS & ENGINEERS, DATED JUNE 4, 2015.
2. EXISTING CONTOURS FROM LOW ALTITUDE AERIAL PHOTOGRAMMETRIC MAPPING PERFORMED BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, DATED NOVEMBER 20, 2017. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, USING PROPELLER AEROPPOINTS, DATED NOVEMBER 20, 2017:
HORIZONTAL DATUM: NAD83 MAINE, WEST, US FT.
VERTICAL DATUM: NAVD 86, US FT.
THEN CORRECTED TO HORIZONTALLY AND VERTICALLY TO MILL DATUM USING PREVIOUS GROUND CONTROL POINTS TO ALIGN.
3. LOCATIONS OF FEATURES AND CONTOURS ARE APPROXIMATE. SITE CONDITIONS MAY HAVE CHANGED SINCE THE COMPILATION OF THIS PLAN. PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED AS THE DESIGN MAY REQUIRE FIELD ADJUSTMENT FOR CONSTRUCTION.



FIGURE 2
YEAR 2016/2017
JOS CELL DEVELOPMENT
MCSWC JACOB'S QUARRY LANDFILL
ROCKPORT, MAINE



ATTACHMENT 3

SME'S PROPOSED JQS FINAL GRADING PLAN

NOTE:

1. EXISTING SITE FEATURES (PUMP STATION, UTILITIES, ETC) BASED ON SURVEY BY LANDMARK CORPORATION SURVEYORS & ENGINEERS, DATED JUNE 4, 2015.
2. EXISTING CONTOURS FROM LOW ALTITUDE AERIAL PHOTOGRAMMETRIC MAPPING PERFORMED BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, DATED NOVEMBER 20, 2017. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, USING PROPELLER AEROPONTS, DATED NOVEMBER 20, 2017.
HORIZONTAL DATUM - NAD83 MAINE, WEST, US FT.
VERTICAL DATUM - NAVD 88, US FT.
THEN CORRECTED TO HORIZONTALLY AND VERTICALLY TO MILL DATUM USING PREVIOUS GROUND CONTROL POINTS TO ALIGN.
3. LOCATIONS OF FEATURES AND CONTOURS ARE APPROXIMATE. SITE CONDITIONS MAY HAVE CHANGED SINCE THE COMPLETION OF THIS PLAN. PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED AS THE DESIGN MAY REQUIRE FIELD ADJUSTMENT FOR CONSTRUCTION.

APPROXIMATE LOCATION OF
LEACHATE CONTAINMENT
BERM (TYP)

PROPERTY LINE (TYP)

10' SETBACK



FIGURE 4
FINAL WASTE GRADE
JQS CELL DEVELOPMENT
MCSWC JACOB'S QUARRY LANDFILL
ROCKPORT, MAINE



DWG: BASE LUN: FWG CIB: SME-STD REV: 12/9/2017

NOTE:

1. EXISTING SITE FEATURES (PUMP STATION, UTILITIES, ETC) BASED ON SURVEY BY LANDMARK CORPORATION SURVEYORS & ENGINEERS, DATED JUNE 4, 2015.
2. EXISTING CONTOURS FROM LOW ALTITUDE AERIAL PHOTOGRAMMETRIC MAPPING PERFORMED BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, DATED NOVEMBER 20, 2017. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, USING PROPELLER AEROPPOINTS, DATED NOVEMBER 20, 2017:
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3. LOCATIONS OF FEATURES AND CONTOURS ARE APPROXIMATE. SITE CONDITIONS MAY HAVE CHANGED SINCE THE COMPIATION OF THIS PLAN. PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED AS THE DESIGN MAY REQUIRE FIELD ADJUSTMENT FOR CONSTRUCTION.

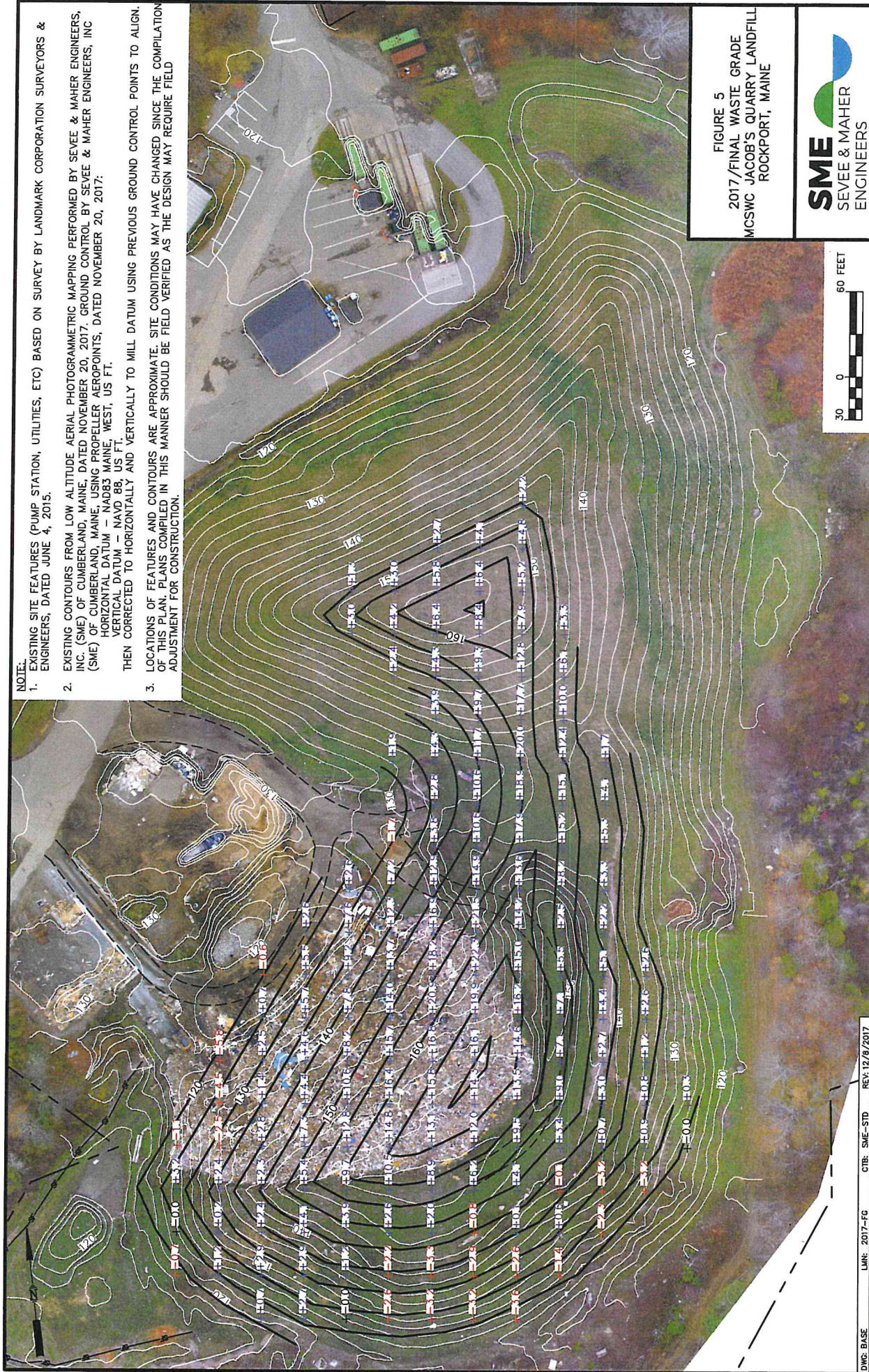


FIGURE 5
2017/FINAL WASTE GRADE
MCSWC JACOB'S QUARRY LANDFILL
ROCKPORT, MAINE



DWG: BASE LWN: 2017-FC CTR: SME-STD REV: 12/9/2017

ATTACHMENT 3

NOTE:

1. EXISTING SITE FEATURES (PUMP STATION, UTILITIES, ETC) BASED ON SURVEY BY LANDMARK CORPORATION SURVEYORS & ENGINEERS, DATED JUNE 4, 2015.
2. EXISTING CONTOURS FROM LOW ALTITUDE AERIAL PHOTOGRAMMETRIC MAPPING PERFORMED BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, DATED NOVEMBER 20, 2017. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC. (SME) OF CUMBERLAND, MAINE, USING PROPELLER AEROPPOINTS, DATED NOVEMBER 20, 2017:
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3. LOCATIONS OF FEATURES AND CONTOURS ARE APPROXIMATE. SITE CONDITIONS MAY HAVE CHANGED SINCE THE COMPLETION OF THIS PLAN. PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED AS THE DESIGN MAY REQUIRE FIELD ADJUSTMENT FOR CONSTRUCTION.



FIGURE 3
YEAR 2018/2020
JQS CELL DEVELOPMENT
MCSWC JACOB'S QUARRY LANDFILL
ROCKPORT, MAINE



ACTIVE CELL SURFACE AREA (1.2 ACRES) - VOLUME ≈ 13,000 CY

DWG: BASE LWN: 2018-2020 CTB: SME-STD REV: 12/9/2017