

SUBJECT: Approval of a contract amendment for Clark Engineering Corporation, Contract No. 17-086P, to add \$675,414 and up to \$25,000 in additional change order authority to complete the Engineering Services for the Septage and Leachate Treatment and Disposal Facility project, Project No. 25054, Fund 420.

AGENDA OF: September 4, 2018

ASSEMBLY ACTION:

Approved under the Consent Agenda 9-4-18 (BS)

MANAGER RECOMMENDATION: Present to the Assembly for consideration.

APPROVED BY JOHN MOOSEY, BOROUGH MANAGER:

Route to:	Department/Individual	Initials	Remarks
	Originator: Mike Campfield	<i>MC</i>	8/22/18
	Capital Projects Director: Jude Bilafer	<i>JB for BS</i>	8/22/2018
	Purchasing Division		
	^{ACTING} Finance Director	<i>BS</i>	8/22/18
	Borough Attorney	<i>NS</i>	
	Borough Clerk	<i>BSM</i>	8/27/18 (BS)

ATTACHMENTS: Fiscal Note: Yes x No
 Assembly IM No. 18-095 (2 pp)
 Assembly Resolution No. 18-042 (5 pp)
 WSAB Resolution Serial Nos. 18-01, 18-02 (6 pp)

SUMMARY STATEMENT: Assembly approval of contract amendments (change orders) are required by MSB 3.08.170(c)(1) for contracts with an original award value of \$100,000 or less; a contract amendment or change order, or cumulative contract amendments or change orders, that will cause the total contract amount, as amended, to exceed \$100,000; the department shall recommend, with concurrence of the purchasing officer, the maximum contract amendment or change order value that can be executed without

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assembly approval. This value shall be established and approved concurrently with the contract award under MSB 3.08.161.

On June 21, 2017, the Matanuska-Susitna Borough (Borough) Purchasing Officer entered into Contract 17-086P with Clark Engineering Corporation (Clark), the sole proposer on this project, and awarded to them Task One: Preliminary Design of the Septage and Leachate Treatment and Disposal Facility to be located at the Central Landfill in the amount of \$62,000.

Task One included establishing the analysis and design of the project to approximately the 35% level, illustrating the scale and relationship of project components. Project components included treatment and disposal systems and their major components, such as storage tanks, pumps, pipes, valves, reactors, filters, chemical injection devices, effluent outfall, monitoring equipment, power supplies and control and user interface panels, as well as transportation system components, such as dump station, access roads, pump station and piping for leachate, at a minimum. Task One was satisfactorily completed in early 2018 with the production of their Preliminary Engineering Report (PER).

There have been two contract amendments to this contract to date. One was to extend the time of the contract to June 30, 2018; the other was to add \$25,000 for work that was done in addition to the original contract.

In June 2018, the Assembly passed Resolution Serial No. 18-042 in support of furthering the leachate treatment project.

The Borough is now ready to proceed with the rest of the tasks in this contract: Final Design, Analysis, Survey, Permitting and a pilot test for the new leachate treatment and disposal facility. Additional funds are now needed for Clark to complete these remaining tasks.

In accordance with MSB 3.08.170(c)(4), staff requests the approval of this Contract Amendment for Contract No. 17-086P in the amount of \$675,414 to Clark Engineering Corporation for the Septage and Leachate Treatment and Disposal Facility project, Project No. 25054, Fund 420.

In addition, due to future possible unknown conditions, and in order to avoid any further delays, staff requests up to \$25,000 in additional change order authority.

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RECOMMENDATION OF ADMINISTRATION: Approval of a contract amendment for Clark Engineering Corporation, Contract No. 17-086P, to add \$675,414 and up to \$25,000 in additional change order authority to complete the Engineering Services for the Septage and Leachate Treatment and Disposal Facility project, Project No. 25054, Fund 420.

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Agenda Date: Sept. 4, 2018

MATANUSKA-SUSITNA BOROUGH - FISCAL NOTE

ORIGINATOR: Mike Campfield, P.E.SUBJECT: Approval of a contract amendment for Clark Engineering Corporation, Contract No. 17-086P, to add \$675,414 and up to \$25,000 in additional charge order authority to complete the Engineering Services for the Septage and Leachate Treatment and Disposal Facility project, Project No. 25054, Fund 420.

FISCAL ACTION (TO BE COMPLETED BY FINANCE)	FISCAL IMPACT? <u>YES</u> NO
AMOUNT REQUESTED \$ <u>675,414</u>	FUNDING SOURCE: <u>DEC Loan</u>
FROM ACCOUNT # <u>420.000.600.4xx.xxx</u>	PROJECT # <u>25054</u>
TO ACCOUNT #	PROJECT #
VERIFIED BY: <u>Barbara Saenger</u>	CERTIFIED BY:
DATE: <u>8/22/18</u>	DATE:

EXPENDITURES/REVENUES:

(Thousands of Dollars)

OPERATING	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Personnel Services						
Travel						
Contractual						
Supplies						
Equipment						
Land/Structures						
Grants, Claims						
Miscellaneous						
TOTAL OPERATING						
CAPITAL		<u>675</u>				
REVENUE						

FUNDING:

(Thousands of Dollars)

General Fund						
Federal Funds						
Other		<u>675</u>				
TOTAL		<u>675</u>				

POSITIONS:

Full-Time						
Part-Time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

PREPARED BY: _____
DEPARTMENT: _____
APPROVED BY: Barbara Saenger
ACTING FINANCE DIRECTOR

Phone: _____

Date: _____

Date: 8/22/18

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SUBJECT: A RESOLUTION OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY ENDORSING COMPLETION OF THE LEACHATE TREATMENT FACILITY USING THE FILTRATION METHOD AND EXPLORATION OF A PUBLIC/PRIVATE PARTNERSHIP FOR SEPTAGE TREATMENT USING A WASTE-TO-ENERGY METHOD IN CONJUNCTION WITH SOLID WASTE DISPOSAL.

AGENDA OF: JUNE 5, 2018

Assembly Action:

MANAGER RECOMMENDATION: Present to the Assembly for consideration.

APPROVED BY JOHN MOOSEY, BOROUGH MANAGER:

Route To:	Department/Individual	Initials	Remarks
	Originator	<i>JS</i> 5/22/18	
	Capital Projects Director	<i>APD</i>	
	Public Works Director	<i>TD</i>	20 MAY 18
	Finance Director	<i>CX</i>	
	Borough Attorney	<i>NS</i>	
	Borough Clerk	<i>BSA for JRM</i>	

ATTACHMENT(S): Fiscal Note: YES _____ NO x
 Assembly Resolution Serial No. 18-042 (4 pp)
 WSAB Resolution Serial No. 18-01 and 18-02 (6 pp)

SUMMARY STATEMENT: This resolution is brought forward by Assembly Member Jim Sykes to endorse advancing the leachate treatment project through final construction and to examine a public/private partnership for a waste-to-energy facility for septage treatment and diversion of a portion of the Borough's municipal solid waste.

Septage and leachate disposal rates are expected to rise due to increased landfill size and changes in the Anchorage wastewater utility, specifically the closure of the Turpin Street station.

In 2017, Clark Engineering was selected to evaluate septage and leachate treatment, including potential for energy recovery from

waste streams. Simultaneously, Burns & McDonnell, another engineering firm, conducted an analysis of business operations for the Solid Waste Division, including waste to energy methods typical among the solid waste industry. The findings of both reports indicate that anaerobic digestion of septage and organic solid waste is a strong possibility and could garner interest from the private sector. Other types of technology, such as combustion, may also be feasible. This type of arrangement would benefit the Borough in many ways. Local treatment of septage would reduce hauling distances and associated costs for the public. Landfill tipping fees could also be held steady by minimizing future borrowing for cell expansion and closures. Additionally, some revenue may be generated through the production and sale of energy.

Recommendation of Administration: The Capital Projects Department recommends the Assembly endorse completion of the leachate treatment facility using the filtration method and exploration of a public/private partnership for septage treatment using a waste-to-energy method in conjunction with solid waste disposal.

Adopted: 06/05/18

**MATANUSKA-SUSITNA BOROUGH
RESOLUTION SERIAL NO. 18-42**

A RESOLUTION OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY ENDORSING COMPLETION OF THE LEACHATE TREATMENT FACILITY USING THE FILTRATION METHOD AND EXPLORATION OF A PUBLIC/PRIVATE PARTNERSHIP FOR SEPTAGE TREATMENT USING A WASTE-TO-ENERGY METHOD IN CONJUNCTION WITH SOLID WASTE DISPOSAL.

WHEREAS, in 2011 the Matanuska-Susitna Borough (Borough) Assembly adopted Resolution Serial No. 11-087 establishing the Wastewater and Septage Advisory Board (WSAB) for the purpose of advising the Assembly on issues relating to wastewater and septage issues within the Borough; and

WHEREAS, in February 2012 the WSAB passed Resolution No. 12-01 in support of acquiring land for the construction of a regional wastewater and septage treatment facility, which the Assembly provided funding for in August 2014 through Resolution Serial No. 14-084; and

WHEREAS, in May 2012 the WSAB passed Resolution No. 12-02 in support of conducting a site feasibility study for a regional wastewater and septage treatment facility, which the Assembly approved in July 2012 through Resolution Serial No. 12-083; and

WHEREAS, in October 2014 the WSAB passed Resolution 14-04 recommending co-treatment of leachate and septage in a combined facility which the Assembly approved in December 2014 through Resolution Serial No. 14-117; and

WHEREAS, in October 2014 the WSAB recommended the Borough Assembly authorize a loan application to the Alaska State Department of Environmental Conservation, Alaska Clean Water Fund, which the Assembly authorized through Resolution Serial No. 14-110 in the amount of \$22,000,000 for design and construction of a septage and leachate treatment and disposal facility; and

WHEREAS, in April 2015 the WSAB recommended the Borough Assembly designate the landfill as the preferred site for the septage and leachate facility through Resolution No 15-02, which the Assembly approved through Resolution Serial No. 15-060; and

WHEREAS, in August 2017 the Borough received the first loan of the Alaska Clean Water Fund in the amount of \$5,000,000 for preconstruction expenditures (e.g., planning, design and related tasks); and

WHEREAS, in March 2017 the Capital Projects Department solicited for engineering consultants to design a septage and leachate facility, and Clark Engineering submitted the only proposal; and

WHEREAS, in January 2018 Clark Engineering completed a Preliminary Engineering Report (PER) evaluating septage and leachate treatment alternatives, as well as the potential for waste-to-energy technology in conjunction with solid waste disposal; and

WHEREAS, current leachate disposal costs associated with hauling to Anchorage average approximately \$400,000 per year and will rise with landfill expansion; and

WHEREAS, the estimated total cost for the leachate treatment facility is \$4,000,000, which is anticipated to be paid for within 10 years through the savings on hauling costs; and

WHEREAS, the PER recommends proceeding with a filtration method for leachate treatment based on a competitive cost and a high effluent quality; and

WHEREAS, in May 2018 the WSAB passed Resolution 18-01 recommending advancement of the design and construction of the preferred leachate treatment facility utilizing the filtration system identified in the PER; and

WHEREAS, all septage generated in the Borough is currently hauled to Anchorage for disposal at the Turpin Street station; and

WHEREAS, the Municipality of Anchorage plans to close the Turpin Street station, which will escalate septage disposal costs; and

WHEREAS, the PER identified anaerobic digestion as a potential means of energy recovery from septage, along with organic solid waste, to generate gas for heat and electricity; and

WHEREAS, a separate analysis of the landfill operations commissioned by the Solid Waste Division and authored by Burns & McDonnell in 2018, identified anaerobic digestion as a viable

energy recovery method for organic solid waste in conjunction with septage treatment; and

WHEREAS, the anaerobic digestion of organic waste, such as food, paper product, and yard trimmings would divert an estimated 50 percent of the solid waste from the landfill; and

WHEREAS, an anaerobic digestion system would reduce the need to discharge septage treatment effluent underground and also eliminate a significant portion of solid waste that would otherwise take up valuable air space in the landfill; and

WHEREAS, a public/private partnership minimizes the costs and risks to the Borough for construction of a septage treatment facility; and


WHEREAS reduction of the amount of waste will extend the life of the landfill, significantly reduce opening and closing cell costs and is expected provide opportunities for a public/private partnership that will reduce overall landfill and septage treatment costs.

NOW, THEREFORE, BE IT RESOLVED, that the Assembly supports continuing efforts to find the best long-term, cost-effective means to process septage and municipal waste, as well as extending the life of the landfill and its associated costs.

BE IT FURTHER RESOLVED, that the Assembly endorses advancing the project through final design and construction of the preferred leachate treatment facility using a filtration system and

exploration of a public/private partnership for septage treatment using a waste-to-energy method in conjunction with solid waste disposal.

ADOPTED by the Matanuska-Susitna Borough Assembly this 5 day of June, 2018.


VERN HALTER, Borough Mayor

ATTEST:


LONNIE R. McKECHNIE, CMC, Borough Clerk

(SEAL)



PASSED UNANIMOUSLY: Sykes, McKee, Leonard, Mayfield, Doty, and Kowalke

**MATANUSKA-SUSITNA BOROUGH
WASTEWATER AND SEPTAGE ADVISORY BOARD
RESOLUTION SERIAL NO. 18-01**

A RESOLUTION OF THE MATANUSKA-SUSITNA BOROUGH WASTEWATER AND SEPTAGE ADVISORY BOARD (WSAB) RECOMMENDING ADVANCMENT OF THE DESIGN AND CONSTRUCTION OF THE PREFERRED LEACHATE TREATMENT FACILITY UTILIZING THE LEACHBUSTER SYSTEM AS IDENTIFIED IN CLARK ENGINEERING'S PRELIMINARY ENGINEERING REPORT.

WHEREAS, in 2011 the Borough Assembly adopted resolution 11-087 establishing the wastewater and septage advisory board, for the purpose of advising the assembly on issues relating to wastewater and septage issues within the borough; and

WHEREAS, in 2012 the Matanuska-Susitna Borough's Wastewater and Septage Advisory Board passed Resolution 12-01 in support of acquiring land for the construction of a regional wastewater and septage treatment facility which the Assembly provided funding for in August 2014 through Resolution 14-084; and

WHEREAS, in May 2012 the Matanuska-Susitna Borough Wastewater and Septage Advisory Board passed Resolution 12-02 in support of conducting a site feasibility study for a regional wastewater and septage treatment facility which the Assembly approved in July 2012 through Resolution 12-083; and

WHEREAS, in October 2014 the Matanuska-Susitna Borough Wastewater and Septage Advisory Board passed Resolution 14-04 recommending co-treatment of leachate and septage in a combined facility which the Assembly approved in December 2014 through Resolution 14-117; and

WHEREAS, in October 2014, the Wastewater and Septage Advisory Board recommended the Borough Assembly authorize a loan application to the State of Alaska, Department of Environmental Conservation, Alaska Clean Water Fund which the Assembly authorized through Resolution 14-110 in the amount of \$22,000,000

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for design and construction of a septage and leachate treatment and disposal facility; and

WHEREAS, the Matanuska-Susitna Borough will be allowed to apply for \$5,000,000 of the Alaska Clean Water Fund per year; and

WHEREAS, in October 2015, a \$5,000,000 loan application and Alaska Clean Water Fund agreement was initiated; and

WHEREAS, in August 2017, the Matanuska-Susitna Borough received the first loan of the Alaska Clean Water Fund in the amount of \$5,000,000 for preconstruction expenditures (e.g., planning, design and related tasks); and

WHEREAS, in 2017, Clark Engineering initiated and completed a Preliminary Engineering Report (PER); and

WHEREAS, the Wastewater and Septage Advisory Board reviewed the PER; and


WHEREAS, the PER recommends proceeding with the Leachbuster System based on a competitive cost and a high effluent quality; and

WHEREAS, the operating costs of the Leachbuster System are lower than other previously-evaluated options.

NOW, THEREFORE, BE IT RESOLVED that the Matanuska-Susitna Borough Wastewater and Septage Advisory Board respectfully requests that the Matanuska-Susitna Borough Assembly approve advancing the project through final design and construction of the preferred leachate treatment facility utilizing the Leachbuster system as identified in Clark Engineering's Preliminary Engineering Report.

ADOPTED by the Matanuska-Susitna Borough Wastewater and Septage Advisory Board this 2nd day of May, 2018.

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Mr. Mike Campfield, P.E., Chair

ATTEST:


Debbie Passmore, Board Administration

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**MATANUSKA-SUSITNA BOROUGH
WASTEWATER AND SEPTAGE ADVISORY BOARD
RESOLUTION SERIAL NO. 18-02**

A RESOLUTION OF THE MATANUSKA-SUSITNA BOROUGH WASTEWATER AND SEPTAGE ADVISORY BOARD (WSAB) RECOMMENDING THE EXPLORATION OF WASTE-TO-ENERGY ANAEROBIC DIGESTION AS A PUBLIC-PRIVATE PARTNERSHIP.

WHEREAS, in 2011 the Borough Assembly adopted resolution 11-087 establishing the wastewater and septage advisory board, for the purpose of advising the assembly on issues relating to wastewater and septage issues within the borough; and

WHEREAS, in 2012 the Matanuska-Susitna Borough's Wastewater and Septage Advisory Board passed Resolution 12-01 in support of acquiring land for the construction of a regional wastewater and septage treatment facility which the Assembly provided funding for in August 2014 through Resolution 14-084; and

WHEREAS, in May 2012 the Matanuska-Susitna Borough Wastewater and Septage Advisory Board passed Resolution 12-02 in support of conducting a site feasibility study for a regional wastewater and septage treatment facility which the Assembly approved in July 2012 through Resolution 12-083; and

WHEREAS, in October 2014 the Matanuska-Susitna Borough Wastewater and Septage Advisory Board passed Resolution 14-04 recommending co-treatment of leachate and septage in a combined facility which the Assembly approved in December 2014 through Resolution 14-117; and

WHEREAS, in October 2014, the Wastewater and Septage Advisory Board recommended the Borough Assembly authorize a loan application to the State of Alaska, Department of Environmental Conservation, Alaska Clean Water Fund which the Assembly authorized through Resolution 14-110 in the amount of \$22,000,000 for design and construction of a septage and leachate treatment

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and disposal facility; and

WHEREAS, the Matanuska-Susitna Borough will be allowed to apply for \$5,000,000 of the Alaska Clean Water Fund per year; and

WHEREAS, in October 2015, a \$5,000,000 loan application and Alaska Clean Water Fund agreement was initiated; and

WHEREAS, in August 2017, the Matanuska-Susitna Borough received the first loan of the Alaska Clean Water Fund in the amount of \$5,000,000 for preconstruction expenditures (e.g., planning, design and related tasks); and

WHEREAS, in 2017, Clark Engineering initiated and completed a Preliminary Engineering Report (PER); and

WHEREAS, the Wastewater and Septage Advisory Board reviewed the PER; and

WHEREAS, the cost to build a Leachbuster Septage Facility does not provide clear financial advantage compared to other alternatives evaluated; and

WHEREAS, the PER includes a discussion of potential waste-to-energy facilities to convert septage and organic solid waste to a biogas fuel; and

WHEREAS, the fuel could be used to create heat, electricity and other valuable commodities that generate revenue; and

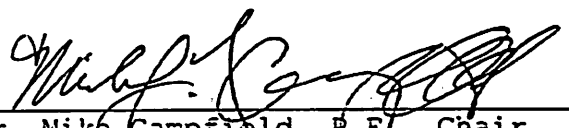
WHEREAS, diversion of solid waste could extend the life of the landfill and therefore reduce tipping fees; and

WHEREAS, a public-private minimizes the costs and risks to the Matanuska-Susitna Borough.

NOW, THEREFORE, BE IT RESOLVED that the Matanuska-Susitna Borough Wastewater and Septage Advisory Board respectfully requests that the Matanuska-Susitna Borough Assembly approve the exploration of waste-to-energy anaerobic digestion as a public-private partnership.

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ADOPTED by the Matanuska-Susitna Borough Wastewater and
Septage Advisory Board this 2nd day of May, 2018.


Mr. Mike Campfield, P.E., Chair

ATTEST:


Debbie Passmore, Board Administration

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