



City of Keene
New Hampshire

**FINANCE, ORGANIZATION
AND PERSONNEL COMMITTEE
AGENDA
Council Chambers B
October 27, 2016
6:30 PM**

Mitchell H. Greenwald
Carl B. Jacobs
Terry M. Clark
Thomas F. Powers
Jay V. Kahn

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1. Periodic Report - Trustees of Trust Funds
 2. Solid Waste Facility Energy Options Report - Public Works Department
 3. Change Order #1 for Woodland Cemetery Wetland Restoration Project Construction Oversight Contract with GZA GeoEnvironmental Inc. - Planning Department
 4. Relating to the Early Replacement of Ladder Truck 2 - Fire Department
Resolution R-2016-32
 5. Ladder Truck 2 Purchase Contract - Fire Department

MORE TIME ITEMS:

- A. Charter Employee Evaluation Process - FOP COM
- B. Relinquishment of Easement to Parking Spaces on Railroad Property on Behalf of Monadnock Food Co-op

Non Public Session
Adjournment



City of Keene, N.H.
Transmittal Form

10/19/2016

TO: Finance, Organization and Personnel Committee

FROM: Duncan Watson, Assistant Public Works Director, Solid Waste Manager

THROUGH: Med Kopczynski, City Manager

ITEM: 2.

SUBJECT: Solid Waste Facility Energy Options Report - Public Works Department

RECOMMENDATION:

The Finance, Organization and Personnel Committee recommend that the City Manager be authorized to do all things necessary to pursue the preferred energy option as outlined in the Solid Waste Division Energy Options Report and, as applicable, utilize grant funds available from the EPA Climate Showcase Communities Grant to fund a portion of the cost associated with a selected energy option.

ATTACHMENTS:

Description

Solid Waste Facility Energy Option Report

BACKGROUND:

The attached Solid Waste Division Energy Options Report summarizes the most practical energy options available to replace the waning landfill gas-to-energy system that has powered the Keene Solid Waste Facility since 1994. A project in the 2021/2022 Capital Improvement Program budgeted \$616,000 to extend three phase power from its current termination at Forge Street up Route 12 to the Recycling Center/Transfer Station at 55 Old Summit Road.

Extending three phase power is a certain option in terms of known costs and reliability. Using this known information, the Solid Waste Division looked at additional options for cost and reliability comparison purposes. In August 2016 the City contracted with Sanborn Head Associates to perform an overview of energy options. Based on that overview, as well as additional research into a biofuel option, the Solid Waste Division Energy Options Report focuses on three options. Two of these options are likely to qualify for grant funding through the existing EPA Climate Showcase Communities grant because of the greenhouse gas emissions reductions associated with the options. If an option is chosen that can utilize the EPA grant funds, the project must be completed by the end of 2017 as no further extensions of the grant will be available, and the \$616,000 budgeted in the Capital Improvement Program for the extension of three phase power can be removed (although any other option will need varying levels of City investment). There is a need to invest in the energy future for the Solid Waste Facility. If possible, leveraging some of the EPA funds to assist in securing an energy option as well as managing greenhouse gas emissions could prove to be a prudent investment.

City of Keene
New Hampshire

Public Works

Solid Waste Division Energy Options Report

The City of Keene operates a landfill gas-to-energy system at the Keene Solid Waste Facility. The energy from the system is used to power the adjacent recycling center and transfer station. The Solid Waste Facility also has a diesel generator to provide backup power in the event the landfill gas-to-energy system is not operational. The Solid Waste Facility uses three phase power to run the equipment at the recycling center. The nearest three phase power lines from the utility grid are located approximately one mile south at Black Brook North.

In the past two years the Solid Waste Division has experienced numerous unanticipated landfill gas system shut-downs because the gas supplying the system is either impeded or otherwise compromised. The system currently operates at 90% capacity during the warmer months (May-October) and 50% capacity in the colder months (November-April). Approximately 6 years ago the system operated at approximately 95% capacity- meaning 95% of the time the system was able to provide all power needed for the facility with the system being offline only for routine maintenance and repair.

In 2009 the testing data from the initial evaluation of the landfill gas system indicated that air infiltration was likely affecting the purity of the landfill gas and causing the generator to shut down and/or a blockage in the pipe feeding the generator due to settling within the landfill and possibly water collecting in a slumped pipe freezing was preventing the gas from flowing. The recommended repairs were completed in the Fall of 2009 and the findings included the measurement of positive gas pressure at each wellhead meaning gas is still being produced, and the concentration of the gas indicated good purity.

The landfill gas-to-energy system was originally installed in 1994. It has operated well beyond the fifteen year projected life span providing energy to the adjacent recycling center and transfer station as well as significantly reducing greenhouse gas emissions associated with methane. Because the landfill gas generator continues to experience periods of insufficient gas to power the engine (particularly in colder months), it is apparent that the gas production is decreasing to the point that efforts to revitalize the gas production are neither cost effective or likely to result in success.

The Solid Waste Facility has reached a nexus of the balance between environmental stewardship in reconfiguring its landfill gas-to-energy system and the practical need for economical power for its recycling and solid waste operations. The landfill gas-to-energy system is no longer viable as a long term primary energy source and another energy system will need to be employed. Without a reliable, long term primary energy source the recycling center and transfer station will cease to function.

The City of Keene contracted with Sanborn Head and Associates in August 2016 to conduct an energy options study. Options reviewed included utility connection, compressed natural gas station, landfill gas turbine, anaerobic digestion, solar, wind, and hydro. The preliminary study confirmed the landfill gas system's decline, and the need for other power options. The following three options merit further consideration as being the most technically feasible, two of which are believed to be consistent with the EPA's Climate Showcase Communities grant:

Option 1- Extend three phase power lines to Solid Waste Facility. Contract with Eversource Energy to run three phase power lines from Forge Street to 55 Old Summit Road.

- Pros: Reliable, conventional, timeline 6-8 months
- Cons: Won't qualify for EPA grant, subjects facility to electric costs
- Estimated cost- \$532,000 line extension, \$70,000 estimated annual utility charges
- Estimated 10 year cost- \$1,232,000

Option 2- Solar with storage. Install 250kw solar array, 250kw inverter, 1 megawatt lithium ion battery, buildings, enclosures, engineering and includes 15 year performance guarantee on battery. Removing stumps and leveling site not included in cost estimate. This option keeps the Solid Waste Facility as a power island and eliminates any greenhouse gas emissions associated with powering the facility.

- Pros: Innovative, likely qualifies for EPA grant, low maintenance costs vs high utility charges, highest greenhouse gas emissions reduction (zero emissions),
- Cons: Expensive, timeline 12-15 months
- Estimated cost- \$1,500,000 (net \$1,000,000 after EPA grant applied), \$10,000 annual maintenance

- Estimated 10 year cost- \$1,100,000 (\$500,000 EPA grant applied)

Option 3- Biofuel generator. Install a biofuel generator, upgrade switchgear, wiring, piping to new generator, install two 20,000 gallon fuel tanks (above ground in heated building or in-ground below the frost line), install fuel distribution point to allow for transport to other city facilities (if other facilities can successfully convert to biofuel). The existing landfill gas to energy generator would remain the primary energy generator as long as sufficient methane gas is available. When the landfill gas generator is not available the biofuel generator would serve as the primary energy source and eventually, when the landfill gas generator has no available methane the biofuel generator would become the primary energy source and the existing diesel generator would serve as a backup. There are also potential additional opportunities to increase the use of biofuel in the City to replace the current burning of #2 fuel oil in city facilities (estimate 48,000 gallons per year), as well as blending with the City's diesel tank at Fleet Services to run B20 (or higher) in the warmer months and B5 in the coldest months.

- Pros: Innovative, likely qualifies for EPA grant, significant greenhouse gas emissions reduction (76% reduction vs petroleum diesel, estimated 94 tons CO₂ per year), potentially expandable to distribute biofuel to other city facilities (estimated greenhouse gas emissions reduction 451 tons per year), reasonably straightforward installation, potential supplier and distributor to city facilities identified, least expensive option, uses post-consumer product, timeline 6-8 months
- Cons: Requires ongoing fuel purchases, possible retrofit to burn biofuel in city facilities (minor retrofit's generally required), question whether the ASTM rated biofuel fuel somehow voids warranty of certain burners.
- Estimated cost- \$525,000 (\$175,000 net to be funded by City after EPA grant applied), \$15,000 fuel purchase for Solid Waste Division per year, \$72,000 fuel purchase for other city buildings (48,000 gallons based on \$1.50 fuel cost per gallon, 10 year contract), \$14,000 fuel purchase for fleet (based on 9,600 gallons of current biofuel blend and \$1.50 fuel cost per gallon).
- Estimated 10 year cost: \$325,000 (\$350,000 EPA grant applied, \$150,000 fuel cost), \$720,000 fuel purchase for other city buildings if biofuel use expanded- would be equal or lower compared to

purchasing #2 fuel oil. \$140,000 fuel purchase for fleet- would be equal or lower compared to current biofuel cost (based on \$1.50 fuel cost per gallon, approximately 9,600 gallons fuel).

The City has had several discussions with the Project Managers from the EPA Climate Showcase Community grant program, and the EPA has indicated a willingness to reconfigure the project with a different scope and to consider an extension on the time necessary to complete the work covered by the grant, however the grant would need to be expended by the end of 2017 without the possibility of any additional extensions (the grant was originally awarded in 2009, and the City has worked with EPA to extend the grant several times). The impetus of the grant is to reduce greenhouse gas emissions through innovative projects that could be replicated by other communities. The EPA requires a 50% match (up to \$250,000) in either direct or in-kind contribution. There is a need to invest in the energy future for the Solid Waste Facility. If possible, leveraging some of the EPA funds to assist in securing an energy option as well as managing greenhouse gas emissions could be a prudent investment. If the biofuel option is the selected energy source City of Keene could have an additional benefit of converting several city facilities from #2 fuel oil to biofuel further enhancing the City's greenhouse gas reductions to meet the objectives of the City's Climate Change Action Plan (2004), and the City's Climate Resilient Action Plan (2007), and are consistent with the City's Commitment made as one of the first signatories on the U.S. Conference of Mayors Climate Protection Agreement.

Summary Table

Energy Source	Eligible for EPA Grant	Initial Cost Estimated	Ongoing Costs Estimated per year	Carbon Reduction
Three Phase Power	No	\$532,000	\$70,000 (electrical cost per year)	None
Solar with Storage	Likely	\$1,000,000 (net with EPA grant)	\$10,000 (maintenance per year)	100%
Biofuel	Likely	\$175,000 (net with EPA grant)	\$15,000 (fuel purchases per year)	76%



City of Keene, N.H.
Transmittal Form

October 20, 2016

TO: Finance, Organization and Personnel Committee

FROM: Tara Kessler, Planner

THROUGH: Medard Kopczynski, City Manager

ITEM: 3.

SUBJECT: Change Order #1 for Woodland Cemetery Wetland Restoration Project Construction Oversight Contract with GZA GeoEnvironmental Inc. - Planning Department

RECOMMENDATION:

Move that the Finance, Organization and Personnel Committee recommend that the City Manager be authorized to do all things necessary to negotiate and execute Change Order #1 with GZA GeoEnvironmental Inc. for an amount not to exceed \$4,650 for construction oversight services for the Woodland Cemetery Wetland Restoration Project, bringing the total contract cost to \$37,650 from \$33,000.

BACKGROUND:

GZA GeoEnvironmental Inc. (GZA) is currently under contract with the City of Keene to provide construction oversight services for the Woodland Cemetery Wetland Restoration Project. This project involved excavating fill and debris from an area slightly less than one acre in Woodland Cemetery and restoring it as a wetland habitat. It is funded by a \$277,707 grant from the NH Department of Environmental Services (NHDES) Aquatic Resource Mitigation Fund. In the summer of 2016, the City contracted with GZA, an environmental consulting firm, to oversee the work of the contractor selected for the construction of this project (D&M Civil Inc.), coordinate with NH Department of Environmental Services (DES) and City staff, and perform confirmatory soil testing. Construction on this project began in the second week of August 2016 and concluded in the first week of October.

The requested change order will compensate GZA for additional services provided to address unforeseen challenges related to the excavation and screening of fill material at the project site. These challenges include the discovery of a discarded fuel storage tank and minor exceedances of Polycyclic Aromatic Hydrocarbons (PAH) in the fill material to be transported offsite. A description of these circumstances and the work performed by GZA to address each is provided below. This change order request of \$4,650 is 14% of the original contract value, which is \$33,000. There is sufficient funding within the project budget for this change order. The project cost center/account is 80200-A-69901 (PO# 20170016).

On September 1, 2016, the subcontractor working onsite, Bear Excavation, discovered a discarded fuel storage tank in the excavated fill material. GZA determined that this tank had been emptied and dismantled prior to being discarded at the site, and noted that there was no visual or olfactory indication of a release to soil, groundwater, or surface water. They consulted with DES on the appropriate protocol for removing the tank, and worked with D&M, Inc., Bear Excavation, and City staff to ensure this protocol was followed. In addition, the consultant performed a soil test of the area surrounding the tank, photo-documented the tank, and took photoionization detector readings of the area near the tank. The tank was placed on plastic and covered by D&M Civil, Inc.

until it was cleaned and transported offsite. The consultant completed follow up communication with DES and City staff regarding disposal and laboratory results.

GZA was contracted to perform confirmatory soil tests of the fill material that would be transported off site to ensure that it is free of chemicals or hazardous materials. Following receipt of laboratory data from the soil tests, GZA compared this data to the applicable soil standards and identified some PAHs that exceeded standards. GZA communicated this information to the contractors, D&M Civil and Bear Excavation, and City staff to halt soil removal from the site. GZA then initiated communication and coordinated with the DES Hazardous Waste, Solid Waste and Wetland Mitigation Bureaus in order to discuss the lab results. At the request of City staff, in order to keep the project moving, GZA provided a summary of regulations, lab results, and field observations in the context of applicable regulations. Following numerous conversations with DES staff, GZA was successful at developing a plan approved by DES, which confirms that the site soils were not to be regulated and could be used per the original plan. GZA then coordinated with contractors and the City to resume work and develop a schedule for remaining work.



City of Keene, N.H.
Transmittal Form

October 14, 2016

TO: Mayor and Keene City Council

FROM: Mark F. Howard, Fire Chief

THROUGH: Medard Kopczynski, City Manager & Steve Thornton, Finance Director

ITEM: 4.

SUBJECT: Relating to the Early Replacement of Ladder Truck 2 - Fire Department

COUNCIL ACTION:

In City Council October 20, 2016.

Referred to the Finance, Organization and Personnel Committee.

RECOMMENDATION:

That the City Council refer Resolution R-2016-32, appropriating \$900,000 for the purchase of a Fire Department ladder truck, to the Finance, Organization, and Personnel Committee (FOP) for consideration, discussion, and a recommendation back to City Council. The purchase is to be funded with an appropriation from the Fire Equipment Capital Reserve in the amount of \$498,196, and through an appropriation from the General Fund unallocated fund balance in the amount of \$401,804.

ATTACHMENTS:

Description

Resolution R-2016-32

BACKGROUND:

Ladder 2 was manufactured by Emergency One in September 2000 and was placed in service by the City of Keene in February 2001. The unit is a 75-foot Aerial, with a 2000 GPM pump and carries 500 gallons of water. The unit is the first due fire unit assigned to Station 2 in West Keene. Over the last five years (July 1, 2011- June 30, 2016) the unit has responded to 3,244 responses. Annually on average the unit responded to 649 incident responses. This response unit provides West Keene with a dual purpose aerial ladder and fire engine ability for all of our high hazard occupancies including four Keene Schools, Black Brook Industrial Park, Cedar Crest Facility, Langdon Place and seven large residential complexes (more than 12 units). The unit is also assigned to provide coverage to the rest of city and other high hazard occupancies in collaboration with Ladder 1. The unit is scheduled currently for replacement in the FY18 CIP budget. The current mileage is 87,986 and 7,173 engine hours. Ladder 2 has been out of service since September 6, 2016 and will remain out of service due to the cost of repairs, current overall condition and assessments provided by equipment repair facilities over the last three weeks. See the following information that provides evaluations of the problem with Ladder 2. On September 6, 2016, Ladder 2 (L2) went to Fleet Services for a State Inspection. It failed the State Inspection due to cracks in the right frame rail and was immediately taken out of service under the recommendation of Jim Mountford.

On September 9, 2016, L2 went to Twin State Truck Service in West Chesterfield to verify the failed inspection and to render a professional opinion on what caused the cracks. Twin State confirmed there were three cracks

in the right frame rail up to 24-inches long due to “rust-jacking” between the frame rails and sent documentation from the State Inspection form that indicated the vehicle failed inspection due to cracks in the frame.

On September 12, 2016, Greenwood Emergency Vehicles (Local E-One Dealership) was sent pictures of the cracked frame and indicated in a phone conversation that the “Lifetime Warranty” on the frame is only for manufacturer’s defects and not for rust. Greenwood sent a quote of \$61,010.00 to replace the cracked frame with a Galvanized frame. The company also reported that the lead time was 8-10 weeks to get the frame rails and then the work would be scheduled when frame rails were received which was estimated at 6 weeks once it could be scheduled.

On September 20, 2016 Lakes Region Fire Apparatus, Inc. from Tamworth, NH came to look at L2 at our central station. Lakes Region stated that the truck will not pass a state inspection without replacing the frame rails which could run \$50,000 - \$60,000. They also indicated that it was their opinion that even with the replaced frame rails, with the present condition of the truck, the truck would only be worth \$40,000 - \$50,000. Lakes Region indicated that they were not interested in performing the work required to fix L2.

On September 20, 2016 Valley Fire Equipment from Bradford, NH came to look at L2. They indicated that the truck will not pass NH State inspection and they felt it would not be cost effective to replace the frame.

On September 27, 2016 Minuteman Fire & Rescue Apparatus, Inc. from Walpole, MA met with us about fixing and possibly replacing L2. Minuteman indicated that the cracks appeared to be caused by rust being built up between the two frame rails causing the frame to split “rust jacking.” They also indicated that it would cost \$60,000 - \$80,000 to replace the frame rails and recommended a complete aerial test before and after the work is completed.

Under the CIP Apparatus Capital Reserve Account, Ladder 2 is due to be replaced in July 2017. There is an estimated \$498,000 in the fire department CIP Apparatus Capital Reserve Account. Currently with the cracked frame, the trade-in value is the price of scrap which is estimated at \$4,000- \$6,000 (verbal from Jeff Fournier- President Minuteman Fire App.). If the frame was fixed, due to the age, engine hours and mileage on the apparatus the trade-in value is the same as it was a year ago at \$40,000 (See attached email from Minuteman). Note: we are told that when apparatus reaches 15 years old and has mileage exceeding 93,000 miles the trade in value drops remarkably.

We have explored other financing options for this purchase. They included only a partial pre-payment and also lease options. After reviewing those options the recommendation is to make the purchase as requested, as it is the most cost effective method. The purchase of the apparatus will be through Houston- Galveston Area Council (H-GAC). We have used the H-GAC purchasing program successfully for the purchases of Ambulance 1 and Engine 1, this program provides the most competitive pricing we have been able to obtain.



CITY OF KEENE

R-2016-32

In the Year of Our Lord Two Thousand and ... Sixteen

A RESOLUTION Related to an appropriation for purchase of a ladder truck

Resolved by the City Council of the City of Keene, as follows:

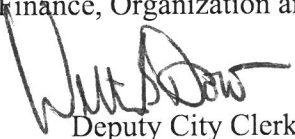
That the sum of nine hundred thousand dollars (\$900,000) is hereby appropriated in the 2016-2017 fiscal year for the purpose of providing funding for the purchase of a ladder truck.

Said appropriation to be funded by the Fire Equipment Capital Reserve (\$498,196) and General Fund unassigned fund balance (\$401,804).

In City Council October 20, 2016.

Referred to the Finance, Organization and Personnel
Committee.

Kendall W. Lane, Mayor


Deputy City Clerk



City of Keene, N.H.
Transmittal Form

October 17, 2016

TO: Finance, Organization and Personnel Committee

FROM: Mark F. Howard, Fire Chief

THROUGH: Medard Kopczynski, City Manager

ITEM: 5.

SUBJECT: Ladder Truck 2 Purchase Contract - Fire Department

RECOMMENDATION:

Move that the Finance Organization and Personnel Committee recommend that the City Manager be authorized to do all things necessary to execute a contract for the purchase of Ladder 2 from Pierce Fire Apparatus for \$900,000.

BACKGROUND:

Resolution R-2016-32 has been introduced with a recommendation to the Finance Organization and Personnel Committee that they recommend to the full Council to approve the funds to purchase a New Ladder 2 to replace the current Ladder 2 that remains out of service due to frame rail cracks.

The approval of R-2016-32 will authorize the City Manager to do all things necessary to execute a contract for the purchase of Pierce Aerial Ladder (Ladder 2) from Pierce Fire Apparatus, using the Houston-Galveston Area Council (H-GAC Interlocal Contract No. ILC 14-4148).

In an effort to maintain fire protection needs we have arranged to keep Engine 1 (1998) in service for the next 8-12 months until the new Ladder 2 arrives. With the purchase of the New Engine 1, the 1998 Engine 1 was traded in with a value of \$17,000 as part of the purchase. This will provide us a truck with a pump, but not the aerial while we await the truck. Once the new Ladder 2 arrives the 1998 Engine 1 will be turned in to the vendor as per the agreement. Net cost of retaining the Engine during this period is \$7,000. The cost to cover the expense will come from the FY17 Fire Department Operating Budget Vehicle Supplies Account # 00800-62763.