Agenda

City Council Meeting

Oelwein Community Plaza, 25 West Charles, Oelwein, IA

5:15 PM

May 03, 2021
Oelwein, Iowa

Mayor: Brett DeVore
Mayor Pro Tem: Warren Fisk
Council Members: Matt Weber, Renee Cantrell, Tom Stewart, Lynda Payne, Karen Seeders

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Pledge of Allegiance

Call to Order

Roll Call

Additions or Deletions

Motions

1. Consideration of a motion authorizing signatures on a Letter of Condition and Obligation Request to move forward with USDA Rural Development for Oelwein Police Department Heating and Cooling System and Oelwein Fire Department Aerial Fire Truck Apparatus
2. Consideration of a motion to Award Oelwein Police Department Heating and Cooling System Project

Adjournment

In compliance with the Americans with Disabilities Act, those requiring accommodation for Council meetings should notify the City Clerk's Office at least 24 hours prior to the meeting at 319-283-5440

OELWEIN POLICE DEPARTMENT
CITY OF OELWEIN, IOWA

MEMORANDUM

FROM: Jeremy P. Logan, Chief of Police **DATE:** April 30, 2021

TO: City Administrator Dylan Mulfinger – Mayor Brett DeVore – Oelwein City Council

SUBJECT: **Police Facility Heating and Cooling**

The City of Oelwein – Police Department has been approved for a USDA Community Facilities Grant to replace the failed heating and cooling system in the current facility. The grant was approved for $123,700.

As a part of the grant and per our customary practices, we attempt to obtain competitive bids for projects. Due to the urgency of this project, we reached out to three vendors in attempt to obtain proposals. The results of those attempts are:

1) A response from one vendor indicating that they are over scheduled and will not provide a proposal. Rabe Hardware responded that they were too busy to provide a proposal and recommended Ken's Electric in Oelwein.

2) Young Plumbing and Heating in partnership with DPT Mechanical met with us on more than one occasion to discuss the project. They were provided with blueprints of the building and assured us that they would provide a proposal. They failed to meet their own deadlines and then subsequently failed to meet a deadline that we provided. We would not seek to have them as a contractor due to these initial interactions. To date, we have not received a proposal. With this vendor, they have stopped expressing interest and stopped responding.

3) Ken's Electric came on site to view the proposed project, reviewed blueprints of the facility, surveyed the property for the location of the geo loop, and provided a proposal.

I am enclosing the proposal from Ken’s Electric for $224,900. The grant would pay for 55% of this project cost, leaving us a balance of $101,200.

I respectfully recommend awarding the project to Ken’s Electric of Oelwein. This company has invested significant time in reviewing our system and our needs. Ken’s Electric is local, so if issues arise in the future, we are able to quickly call on them to remedy the problems. We have a lengthy work history with Ken’s Electric and we find them to be very capable of providing us a quality product and service.

KEN'S ELECTRIC, INC.
841 1st Ave SE
Oelwein, IA 50662
319-283-4221

Ken's Electric, Inc.
841 1st Ave SE
Oelwein IA 50662
319-283-4221

Date	March 11, 2021
Proposal #	205969-01
Customer ID	103272

HVAC REPLACEMENT

Billing Information

Oelwein Police Department
501 Rock Island Rd
Oelwein IA 50662
319-283-4311

Service at

Oelwein Police Department
501 Rock Island Rd
Oelwein IA 50662
319-283-4311

305195

GEOTHERMAL HEAT PUMP INSTALL	
INSTALL GEO LOOP VERTICLE PER TON	ü
INSTALL GEO WATER TO WATER 3 TON	ü
GEOCOMFORT INDOOR UNITS	ü
GEO FLO PUMPING STATION	ü
GEO INTERIOR LOOP PIPING	ü
HOURLY COMMERCIAL	ü
INCLUDED IN THIS OPTION WILL BE A COMPLETE REPLACEMENT OF THE HEATING AND COOLING SYSTEM FOR THE OELWEIN POLICE DEPARTMENT. WE WILL INSTALL A 22 TON GEOTHERMAL SPLIT SYSTEM. WE WILL INSTALL A 22 TON VERTICAL LOOP FIELD ON THE SOUTH SIDE OF THE POLICE STATION. FROM THE MAIN LOOP WE WILL HORIZONTAL BORE UNDER THE BUILDING TO THE MECH ROOM. THE MAIN PUMPING SYSTEM WILL BE INSTALLED IN THIS ROOM. WE WILL PIPE FROM THE MAIN ROOM TO EACH OF THE 10 UNITS THROUGH OUT THE BUILDING. EACH OF THE UNITS WILL BE REPLACED WITH A PROPER SIZED GEOTHERMAL UNIT. WE WILL REPLACE THE BOILER SYSTEM WITH A WATER TO WATER GEOTHERMAL UNIT TO RUN THE INFLOOR HEAT IN THE GARAGES. THE WATER HEATER WILL ALSO BE REPLACED WITH AN ELECTRIC MODEL THAT WILL BE COUPLED TO THE GEOTHERMAL SYSTEM FOR ADDED EFFICIENCY. EACH OF THE 10 ZONES WILL HAVE WIFI THERMOSTATS WITH THE CAPABILITY TO CONTROL VIA THE INTERNET. ALL MATERIAL AND LABOR HAVE BEEN INCLUDED FOR A COMPLETE INSTALL. WARRANTY: 5 YEAR PARTS 5 YEAR LABOR	ü
Total	**$ 224,900.00**

TERMS

50% UPON ACCEPTANCE OF THIS PROPOSAL, 50% UPON COMPLETION OF THE PROJECT. THIS PROPOSAL IS VALID FOR 30 DAYS.

Accepted Option: _____

_____ _____
Acceptance (Customer) Date

_____ _____
Approval (Company) Date

3/18/2021

Oelwein Police Department

501 Rock Island Rd.
Oelwein, IA 50662

Prepared by:
Brian Irvine
Kens Electric Inc

Calculations provided by ...

ENERTECH ENERGY + TECHNOLOGY

GeoAnalyst® Geothermal Design & Application Software

Operating Cost Comparison

3/18/2021

Oelwein Police Department
501 Rock Island Rd. Oelwein, IA 50662
Weather Data Location: Waterloo Municipal Ap IA

Annual Cost / Unit	System 1
	Geo System GZS (PSC) Horz Pkg, 1 spd 21 tons
Heating	$3,834
Cooling	$1,801
Water Heating	$232
Constant Fan	$0
Total Annual Operating	$5,866
Energy Credit	$0
Installed Cost after Credit	$224,900
Annual Htg Energy (Million Btu)	70.7
	Reference Unit
Operating Cost Savings	
Additional Installed Cost	
Payback	
Return on Investment *	
Htg Energy Savings (Million Btu)	
CO_2 Savings (metric tons / year)	
Automobiles removed from road	

** ROI for 20 years and ignoring financing*

Calculations provided by ...

GeoComfort Geothermal Systems

GeoAnalyst® Geothermal Design & Application Software

Geothermal System Report

3/18/2021

System 1 - Geo System

Oelwein Police Department
501 Rock Island Rd. Oelwein, IA 50662
Weather Data Location: Waterloo Municipal Ap IA

Heating

Annual Heating Load:	268.1	MMBtu
Electricity (GeoComfort):	20722	kWh
Electricity (Auxiliary):	0	kWh
% by GeoComfort:	100.0	%
Average Efficiency:	3.79	COP
Annual Cost:	$3834	

Hot Water

Annual DHW Load:	18.7	MMBtu
Electricity:	1253	kWh
% by GeoComfort:	81.3	%
Average Efficiency:	4.38	COP
Annual Cost:	$232	

Cooling

Annual Cooling Load	180.1	MMBtu
Electricity (GeoComfort):	9734	kWh
Average Efficiency:	18.5	EER
Annual Cost:	$1801	

Estimated Annual Operating Costs

Heating:	$3834
Cooling:	$1801
Hot Water:	$232
Total[1,2,3]	$5866

Design Heating Load:	175000	Btu/hr
Indoor Design Temperature:	70	°F
Outdoor Design Temperature:	-9	°F
Heating Electric Rate:	0.19	$/kwh
Hot Water Electric Rate (Htg):	0.19	$/kwh
Winter Peak Electrical Demand:	19.20	kW

Design Cooling Load:	175000	Btu/hr
Indoor Design Temperature:	75	°F
Outdoor Design Temperature:	90	°F
Cooling Electric Rate:	0.19	$/kwh
Hot Water Electric Rate (Clg):	0.19	$/kwh
Summer Peak Electric Demand:	15.97	kW

GeoComfort Model:	21 Tons of Element with hot water generator	
Water Heater:	Electric	
Water Heater EF	0.9	
Auxiliary Heat:	0.00	kW

Emergency Heat:	50.64	kW
Balance Point	N/A	
Circulating Pump:	Magna 32-140	
Pump Watts High speed: 745.5	Low speed: 499.8	
Annual Pump Operating Cost:	$240	

Loop Type / Soil:	One Vertical U-Tube, Polyethylene SDR-11 3/4" / Average Rock	
Bore Depth:	150	ft
Total Bore / Pipe:	6820 / 13640	ft
Minimum Loop Temp:	41	°F
Maximum Loop Temp:	65	°F
Average Heating Loop Temp:	48.0	°F
Average Cooling Loop Temp:	58.4	°F

Deep Earth Temp:	50	°F
Annual Temperature Swing:	27	°F
Phase Shift:	36	Days
Soil Conductivity:	1.4	Btu/hr-ft-F
Soil Diffusivity:	0.04	ft²/hr
Pipe Conductivity:	0.226	btu/hr-ft-F

[1] Total estimated annual operating costs includes heating, cooling and hot water. Base electric use (electric use other than heating, cooling and hot water) is not included, and will vary depending upon lifestyle. Total annual utilities equals heating, cooling and hot water costs plus base electric use.

[2] The operating costs shown above are considered to be an estimate due to the variability of living habits, weather, and system installation.

[3] This software uses the latest algorithms from IGSHPA (International Ground Source Heat Pump Association) for ground loop sizing. Operating costs are based upon IGSHPA and ASHRAE (American Society of Heating, Refrigerating, and Air Conditioning Engineers) algorithms. All calculations are based upon Enertech equipment, and may not be comparable for other manufacturer's equipment.

Calculations provided by ...