

SUSTAINABLE ENERGY IMPROVEMENTS LOAN PROGRAM: 7 Year Agreement
COMO HOOFSTOCK BARN GEOTHERMAL HEATING PROJECT: Preliminary Loan Agreement Worksheet

EXHIBIT A

Location: **Como Old Hoofstock Barn Geothermal Heating**

Date: 05/25/21

Department: **Parks Department**

Contact: **Tom Hagle/Jim Giebel/Mike Michaud**

Estimated Date of Completion 11/15/21

Funding Code: See Exhibit D

Billing Code: See Exhibit E

Scope of Work:					Spending	Cost Reduction		Loan Amount	
Item	Description	Projected Annual Savings	Annual Additional Dept Contribution	Total Available for Annual Debt Service	Estimated Construction Costs w/ Contingency	Utility Rebate Amount	Added Funding: Gants or Dept. Contribution	Net Estimated Project Cost with Constr. Contingency	Cost/Savings Est. Payback Years
1	Como Old Hoofstock Barn Geothermal Heating	\$32,000	\$0	\$32,000	\$468,233	\$42,000	\$286,475	\$139,758	
2	OFS/RE/Design Staff - Project Management Fees				\$14,230			\$14,230	
3	Consrtuction Contingency (15%)				\$46,012			\$46,012	
TOTAL PROJECT COST/SAVINGS		\$32,000	\$0	\$32,000	\$528,475	\$42,000	\$286,475	\$200,000	6.25

Net Project Cost Total (less Rebates & other funding) Funded by Energy Project Loan Funds \$200,000

Loan Interest Rate (Treasury Rate)	Term 7 Yrs	Base Rate 1.60%	+ 1% 1.00%	Loan Rate 2.60%
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Repayment Schedule / Fund

Payment Due	Fund	Cash Flow	Beginning Balance	Loan Payment	Principal	Interest	Ending Balance
Nov-2022	Initial Loan Balance - 1st year	\$380.85	\$200,000.38	\$31,619.15	\$26,419.14	\$5,200.01	\$173,581.25
Nov-2023	Energy Conservation Investment	\$380.85	\$173,581.25	\$31,619.15	\$27,106.03	\$4,513.11	\$146,475.22
Nov-2024	Energy Conservation Investment	\$380.85	\$146,475.22	\$31,619.15	\$27,810.79	\$3,808.36	\$118,664.42
Nov-2025	Energy Conservation Investment	\$380.85	\$118,664.42	\$31,619.15	\$28,533.87	\$3,085.28	\$90,130.55
Nov-2026	Energy Conservation Investment	\$380.85	\$90,130.55	\$31,619.15	\$29,275.75	\$2,343.39	\$60,854.80
Nov-2027	Energy Conservation Investment	\$380.85	\$60,854.80	\$31,619.15	\$30,036.92	\$1,582.22	\$30,817.88
Nov-2028	Energy Conservation Investment	\$380.85	\$30,817.88	\$31,619.15	\$30,817.88	\$801.26	\$0.00
Totals		\$2,665.98		\$221,334.02	\$200,000.38	\$21,333.64	

Agreed to by:

Parks and Recreation Department

Date:

Title:

Signature:

City Energy Coordinator:

OFS Signature:

Attachments: Project Description/Scope/Estimate

Energy Conservation Loan Program - Como Zoo Old Hoofstock Barn, Geothermal Heating System

EXHIBIT B

Proposed Project/ Item Scope	Facility/Address	Estimated Project Costs				Total Funding Request
		Project Costs	PM Fee	Est. Project Cost Subtotal	Construction Contingency	
			3.0%		10.0%	
Geothermal Study	Como Park Geothermal Feasibility Study	\$8,114		\$8,114		\$8,114
Geothermal System Design Services PSA for the Hoofsock Barn	Como Old Hoofstock Barn	\$10,000	\$309	\$10,309	\$1,000	\$11,309
Geothermal Well and Labor and Materials (Single Source, Darcy)	Como Old Hoofstock Barn	\$110,000	\$3,402	\$113,402	\$11,000	\$124,402
Heat pump & Electric Boiler, and Unit Heaters (Direct Purchase)	Como Old Hoofstock Barn	\$88,025	\$2,722	\$90,747	\$8,803	\$99,550
Pumps (VFD's) & Piping and Install Labor for Heat pump, Boiler and Unit heaters and BAS (Advertised Bid)	Como Old Hoofstock Barn	\$247,094	\$7,642	\$254,736	\$24,709	\$279,445
System Commissioning		\$5,000	\$155	\$5,155	\$500	\$5,655
Funding from CIB Balances (PARKS)						
	TOTALS	\$468,233	\$14,230	\$482,463	\$46,012	\$528,475

Preliminary Loan Calculations					
Xcel Energy Est. Rebates	Additional Funding (optional)	Projected Worst Case Loan Amount (Cost-Rebate +Contingency)	Term	Interest Rate (Exh. A)	Annual P&I (Simple Pmt. Calc.)
\$0	\$0	\$8,114	7.0		
\$0	\$0	\$11,309			
\$42,000	\$0	\$82,402			
\$0	\$0	\$99,550			
\$0	\$0	\$279,445			
\$0	\$0	\$5,655			
	\$286,475	-\$286,475			
\$42,000	\$286,475	\$200,000	7	2.60%	\$31,619

Energy Savings, Cashflow, Payback				
Annual Energy Savings / Cost Avoidance	Maint. Savings	Total Annual Savings	Annual Cashflow	Payback (Yrs)
	0.0%			
	\$0			
	\$0			
	\$0			
\$32,000	\$0	\$32,000		
	\$0			
	\$0			
	\$0			
\$32,000	\$0	\$32,000	\$381	6

Payment per Amortization Schedule Exhibit C

Worst Case/all contingency spent
Best Case/ w/o Contingency

Simple Payment Calculation, manual term cell			
\$	200,000	7.0	\$31,619
\$	153,988	6.0	\$28,050

\$ 381
\$ 3,950

Energy Loan Amortization Schedule

EXHIBIT C

Energy Conservation Loan Program - Como Zoo Old Hoofstock Barn, Geothermal Heating System

Values (from Exhibit B, Project Details)	
Loan Amount	\$ 200,000.38
Annual interest rate	2.60 %
Loan period in years	7
Number of payments per year	1
Start date of loan	11/15/2021
Optional extra payments	\$ -

Loan summary	
Scheduled P&I Payment	\$ 31,619.15
Scheduled number of payments	7
Actual number of payments	7
Total early payments	\$ -
Total interest	\$ 21,333.64

Department	Parks Department
Project Name	Como Old Hoofstock Barn Geotherm

Pmt. No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	11/15/2022	\$ 200,000.38	\$ 31,619.15	\$ -	\$ 31,619.15	\$ 26,419.14	\$ 5,200.01	\$ 173,581.25	\$ 5,200.01
2	11/15/2023	173,581.25	31,619.15	-	31,619.15	27,106.03	4,513.11	146,475.22	9,713.12
3	11/15/2024	146,475.22	31,619.15	-	31,619.15	27,810.79	3,808.36	118,664.42	13,521.48
4	11/15/2025	118,664.42	31,619.15	-	31,619.15	28,533.87	3,085.28	90,130.55	16,606.75
5	11/15/2026	90,130.55	31,619.15	-	31,619.15	29,275.75	2,343.39	60,854.80	18,950.15
6	11/15/2027	60,854.80	31,619.15	-	31,619.15	30,036.92	1,582.22	30,817.88	20,532.37
7	11/15/2028	30,817.88	31,619.15	-	30,817.88	30,016.62	801.26	0.00	21,333.64

EXHIBIT I

Energy Conservation Loan Program - Como Zoo Old Hoofstock Barn, Geothermal Heating System						
Item	Locations	AU	Account	Project	Account Category	Amounts
1	Project Loan Amount	10041105	78350	4110031289	78301	200,000
2	Rebates					42,000
3	State Grant					
4	City CIB balances/funding					286,475
Total Project Cost						528,475

D

REPAYMENT AMORTIZATION SCHEDULES

EXHIBIT E

Energy Conservation Loan Program - Como Zoo Old Hoofstock Barn, Geothermal Heating System

Total Loan Amount: \$ 200,000

Principal

Interest amount

Como Zoo Hoofstock Barn Geothermal Heating					
Project Cost / Principle Amount: \$ 200,000					
Interest rate: 2.60%					
AU to be Repaid from: 10041105					
Date	Beginning Balance	Repayment	Interest	Principle	Outstanding Balance
11/15/2022	200,000.38	\$31,619.15	5,200.01	26,419.14	173,581.25
11/15/2023	173,581.25	\$31,619.15	4,513.11	27,106.03	146,475.22
11/15/2024	146,475.22	\$31,619.15	3,808.36	27,810.79	118,664.42
11/15/2025	118,664.42	\$31,619.15	3,085.28	28,533.87	90,130.55
11/15/2026	90,130.55	\$31,619.15	2,343.39	29,275.75	60,854.80
11/15/2027	60,854.80	\$31,619.15	1,582.22	30,036.92	30,817.88
Totals:		\$189,714.88	20,532.37	169,182.50	

For use if Spitting Repayment to a 2nd source					
Project Cost / Principle Amount: 					
Interest rate: 2.60%					
AU to be Repaid from: 					
Fill in Amount to be Paid from 2nd Source					
Date	Beginning Balance	Repayment	Interest	Principle	Outstanding Balance
11/1/2020	-	\$0.00	-	-	-
11/1/2021	-	\$0.00	-	-	-
11/1/2022	-	\$0.00	-	-	-
11/1/2023	-	\$0.00	-	-	-
11/1/2024	-	\$0.00	-	-	-
11/1/2024	-	\$0.00	-	-	-
Totals:		-	-	-	