STATE OF ALASKA
ALASKA CLEAN/DRINKING WATER FUND
GREEN PROJECT ASSESSMENT FORM

Under the EPA annual capitalization grants provided to the Alaska Clean/Drinking Water Fund loan programs, it is stated that "To the extent there are sufficiently eligible project applications, not less than 20 percent of the funds appropriated herein for the Revolving (loan) funds shall be for projects to address green infrastructure, water or energy efficiency improvements or other environmentally innovative activities." To meet this condition under the federal grant for administering these funds, this assessment form is provided to document this eligibility or what is termed a "Categorical" or "Business Case" justification, which will be reviewed by DEC for provisional compliance. For more information on green infrastructure development, please review the following EPA web site: http://cfpub.epa.gov/npdes/home.cfm?program_id=298

For those projects requiring a "Business Case," Part 2 will require completion to qualify a "traditional project" as green; justification is broken down into two parts, technical and financial. The technical part should use information from a variety of sources such as maintenance or operation records, engineering studies, project plans or other applicable documentation to identify problems (including any data on water and/or energy inefficiencies) in the existing facility, and that clarifies the technical benefits from the project in water and/or energy efficiency terms. Financial justification needs to show estimated savings to a project based on the technical benefits, and demonstrate that the green component of the project provides a substantial savings and environmental benefit.

For more information and assistance in completing this assessment form, please contact the Municipal Matching Grants & Loans program in Anchorage at 907-269-7673, or in Juneau at 907-465-5300.

GENERAL INFORMATION

Name of Community Field of View Subdivision Wasilla

Address NE Corner of S18, T18, NR1E and SW 17 acre portion of S7, T18, NR1E

Contact Name Ben Winkler Title Member Telephone (907) 715-7460

PROJECT INFORMATION

Project Name Field of View Subdivision New Well Location Wasilla

Project Type: X New Construction _____ Upgrades

_____ Stormwater Infrastructure X Energy Efficiency Project

_____ Water Efficiency Project _____ Innovative Environmental Project

Green Project Description: ***NOTE*** **This is a revision to a previously submitted "Green project assessment" for the same project.** The current well only produces 3-6 GPM. Because of the low production of the well, the well pump starts and stops many times (at least 16 times) a day in an attempt to fill (3) 2500 gallon storage tanks and keep up with daily demand. The well does not meet daily demand and approximately 6000 gallons of water is hauled from the city of Palmer each week and pumped into atmospheric storage tanks. The new well system will utilize one pump to deliver water to the subdivision. The increase in gallons per minute, per watt of energy, as well as the elimination of the water hauling will reduce overall energy consumption by over 70%.

PART 1 – GREEN PROJECT CATEGORY & COSTS

Identify the most appropriate "Green" Clean Water or Drinking Water category project type. Note, any selection with (BC) at the end will require a Business Case demonstration.

ENERGY EFFICIENCY – the use of improved technologies and practices to reduce the energy consumption of water quality projects.

_____ Wastewater/water utility energy audits _____ Clean power for public owned facilities

_____ Leak detection equipment ____**X**__Retrofits/upgrades to pumps & treatment processes (BC)

_____ Replace/rehabilitation of distribution (BC) ____**X**__ Other:_____New Well_____(BC)

WATER EFFICIENCY – the use of improved technologies and practices to deliver equal or better services with less water.

_____ Water meters _____ Fixture Retrofit _____ Landscape/Irrigation

_____ Graywater or other water recycling _____ Replace/rehabilitation of distribution (BC)

_____ Leak detection equipment _____ OTHER: _____ (BC)

GREEN INFRASTRUCTURE – Practices that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater.

_____ Green Streets _____ Water harvesting and reuse

_____ Porous pavement, bioretention, trees, green roofs, water gardens, constructed wetlands

_____ Hydromodification for riparian buffers, floodplains, and wetlands

_____ Downspout disconnection to remove stormwater from combined sewers and storm sewers

_____ OTHER: _____ (BC)

ENVIRONMENTALLY INNOVATIVE PROJECTS – Demonstrate new/innovative approaches to managing water resources in a more sustainable way. This may include projects that achieve pollution prevention or pollutant removal with reduced costs and projects that foster adaptation of water protection programs and practices to climate change.

_____ Wetland restoration _____ Decentralized wastewater treatment solutions

_____ Water reuse _____ Green stormwater infrastructure _____ Water balance approaches

_____ Adaptation to climate change _____ Integrated water resource management

PROJECT & GREEN COMPONENT COSTS

	TOTAL PROJECT COSTS	TOTAL "GREEN" COMPONENT COSTS
Administration	$ by the Utility	$ by the Utility
Legal	$ 0	$ 0
Preliminary Studies/Reports	$ 29,000	$ 29,000
Engineering Design	$ 65,000	$ 65,000
Inspection/Surveying/Construction Management	$ 10,000	$ 10,000
Construction	$ 28,000	$ 28,000
Equipment	$ 0	$ 0
Contingencies	$ 223,500	$ 70,000
New 17 acre parcel with new wells	$ 68,000	$ 68,000
Total Costs	$ 442,000	$ 442,000

PART 2 – PROJECT "BUSINESS CASE" TECHNICAL/FINANCIAL ASSESSMENT

TECHNICAL ANALYSIS OF BENEFITS*

In addition to this form, a supporting technical and financial analysis is required to verify energy and water saving efficiencies for any green component of the project. For green infrastructure and innovative environmental type projects, the analysis should include any applicable efficiency and environmental benefits. For assisting MGL in evaluating "Business Case" assessments of water main, meter, and pump facility replacement type projects, the attached form titled "ADWF - Water/Energy Efficiency Determination - Water Main Replacement/Meter/Pump Facility" is required to be completed. Once the form is complete along with any supporting documentation, please submit documentation to the MGL program for review and concurrence. Note, only water/energy efficiencies that achieve a 20% or greater increase in efficiency will categorically qualify as a Green project.

CERTIFICATION STATEMENT:

I certify the above information is current and accurate.

_____Ben Winkler_____	_____Member_____
Name	Title
_____	_____
Signature	Date

Submit Completed Form to:

Existing systems	Around 4100 gallons per day	Average daily Elctrical usage is 65kwh from MEA bill for 2011	Estimate average to be 81.5 kwh/day in cold months			New systems		ASSUMES 10,000 GPD USAGE		
System component	Notes	Age, make, model, efficiency rating Fuel/Power consumption	Cost/month	Cost/year based on total and seasonal use		System component	Notes,age, make, model, efficiency rating	Fuel/Power consumption	Cost/month	Cost/year based on total and seasonal use
Well pump (s)	the well runs out of water regularly and a "pump protector" turns the pump on and off	pump is 2 years old. average daily production is 3578 gallons. Pump runs at 6 gpm average=9.94 hours of run time/day 9.94 hours x (11amps x 220 volts = 2420 watts)/1000= 24kwh/day x .155 = $3.72/day	$112.00	$1,344.00		Well pump (s)	the new well pump will be Goulds model 120L07 7HP pump and will be 22 amps at full load and 220 volts	Estimate average 10,000 GPD at about 90 GPM resulting in 112 minutes per day of operation x (22 amps at 220 VAC) 4840 watts= 9 kwh/day =$1.40/day	$42.00	$504.00
Well House & Heat	4 electric heaters supply heat to the well house. Having 3-2500 gallon tanks means the water moving through is constantly "taking" heat from the space. Energy consumption was calculated as follows; 4112 gpd x 8.33 btu/gallon degree F x 4 degree temp rise x .0002928 kwh/btu=40 kwh/day =$6.22/day	Well house heaters are 7 years old. Heat consists of 4 electric heaters. (3) at 1500 watts and (1) at 750 watts for a total of 5250 watts. Size of well house is 20 x 29 x 12 feet high with 2x6 construction. Heat loss was calculated by www.builditsolar.com and was based on 2x6 construction with a 12 foot ceiling. The calculator determined that the energy load of the existing well house is 9 kwh/day	$231.00	$2,772.00		Well House & Heat	4 electric heaters supply heat to the well house. Having 3-2500 gallon tanks means the water moving through is constantly "taking" heat from the space. Energy consumption was calculated as follows; 10,000 gpd x 8.33 btu/gallon degree F x 4 degree temp rise x .0002928 kwh/btu=97.56 kwh/day =$15.12/day	Well house heaters are 7 years old. Heat consists of 4 electric heaters. (3) at 1500 watts and (1) at 750 watts for a total of 5250 watts. Size of well house is 20 x 29 x 12 feet high with 2x6 construction. Heat loss was calculated by www.builditsolar.com and was based on 2x6 construction with a 12 foot ceiling. The calculator determined that the energy load of the existing well house is 9 kwh/day	$454.00	$5,448.00
Booster Pumps	4 pumps total that supply pressure from the storage tanks to the subdivision	Booster pumps are 7 years old. average consumption in the subdivision is 4112 GPD. Pumps are Goulds model 45HB13012 and operate at 8.4 amps at 230 VAC. Booster pumps are variable frequency drive. We estimate that the pumps run at 40% of rated capacity. Energy consumption was figured as follows; 4112 gpd average usage with pumps runnig at 40% capacity or 72 gpm resulting in 57 minutes per day of pump run time at 40% total amps or 13.43 amps at 220 volts resulting in 2955 watts or 2.81 kwh/day x $.155/kwh = $0.44/day	$14.00	$168.00		Booster Pumps	4 pumps total that supply pressure from the storage tanks to the subdivision	Booster pumps are 7 years old. Future average consumption in the subdivision is estimated to 10,000 GPD. Pumps are Goulds model 45HB13012 and operate at 8.4 amps at 230 VAC. Booster pumps are variable frequency drive. We estimate that the pumps run at 40% of rated capacity. Energy consumption was figured as follows; 10,000 gpd average usage with pumps runnig at 40% capacity or 72 gpm resulting in 139 minutes per day of pump run time at 40% total amps or 13.43 amps at 220 volts resulting in 2955 watts or 6.85 kwh/day x $.155/kwh = $1.06/day	$32.00	$384.00
Haul Truck	hauling about 4000 gallons per week	According to Carlile the round trip to palmer for water is 65 miles. The truck gets 5 miles per gallon which results in the use of 13 gallons of diesel per trip	$900.00	$10,800.00		Not required with new system in place				
Haul Truck Heat	Using a small electric space heater and heat trace to keep tanker from freezing	starting in October 2011. 2000 watts 75% run time. Heat not on only when truck being refilled. 2000 watts x 18 hours/day=36kwh/day x30 x $.155 =$168/month	$168.00	$1,176.00		Not required with new system in place				
Hauled Water	water hauled from the city of Palmer	Starting in April 2011. 16000 gallons per month average/ 4000 gallons per week	$295.00	$3,540.00		Not required with new system in place				
Haul Truck Pump	Pump used to transfer water from tanker to well house	Pump is approximately 4 years old. Goulds Irrigator Model#C48C53A06 10.7 amps at 230 VAC. 16000 gallons per month at 40 GPM=6.67 hours/month=16.41 KWH=$2.54/month	$2.54	$30.52		Not required with new system in place				
		Totals based on 4112 gallons per day	$1,722.54	$19,830.52				Totals based on 10,000 GPD	$528.00	$6,336.00
				$19,830.52/ 4112 GPD/yr		Calculation of savings over current system as follows; Anticipated 10,000 gpd use/ 4112 gpd current use=Future cost calculation is 2.43 times current consumption. $6,349.41/2.43= $2612.93 cost for same 4112 gallons per day by new system				$2612.93/ 4112 GPD/yr