



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

Division of Water  
MG&L  
MAY 12 2012  
Received

As applicable under the EPA annual capitalization grants provided to the Alaska Clean Water Fund (ACWF) and Alaska Drinking Water Fund (ADWF) loan programs, a portion of funds appropriated 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](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 Anchorage

Address Anchorage Water & Wastewater Utility Engineering Division  
3000 Arctic Boulevard Anchorage, AK 99503

Contact Name Steve Nuss, PE Title CPM Manager Telephone (907) 564-2763

---

---

### PROJECT INFORMATION

Project Name HVAC Control System-King Street Location 325 E 94th Ct, Anchorage, AK

Project Type:  New Construction  Upgrades

Stormwater Infrastructure  Energy Efficiency Project

Water Efficiency Project  Innovative Environmental Project

Green Project Description: This project installs a new digital HVAC control system at the AWWU O&M Facility on King Street in order to provide a modern, efficient HVAC control system to reduce energy costs and make the working environment more comfortable.

---

---

---

---

---

---

## 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       Retrofits/upgrades to pumps & treatment processes (BC)  
 Replace/rehabilitation of distribution (BC)       Other: Building Control System Improvements (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  
 OTHER: \_\_\_\_\_ (BC)

---

---

**PROJECT & GREEN COMPONENT COSTS**

	<u>TOTAL PROJECT COSTS</u>	<u>TOTAL "GREEN" COMPONENT COSTS</u>
Administration	\$ 0.00	\$
Legal	\$ 0.00	\$
Preliminary Studies/Reports	\$ 0.00	\$
Engineering Design	\$ 160,070.69	\$ 160,070.69
Inspection/Surveying/Construction Management	\$ 115,932.54	\$ 115,932.54
Construction	\$ 472,462.69	\$ 472,462.69
Equipment	\$ 0.00	\$
Contingencies	\$ 0.00	\$
Other <u>Overhead/DAC</u>	\$ 77,055.36	\$ 77,055.36
Total Costs	\$ 825,521.28	\$ 825,521.28

**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.

STEPHEN NUSS  
Name

Capital Program Manager  
Title

Stephen Nuss  
Signature

5/9/12  
Date

Submit Completed Form to:

Alaska Department of Environmental Conservation  
Municipal Matching Grants & Loans  
555 Cordova Street  
Anchorage, AK 99501-2617



Mayor  
Dan Sullivan

# Anchorage Water & Wastewater Utility

---

## Engineering Division



Board Chair  
Timothy M. Sullivan, Sr.

March 7, 2013

Mr. Mike Lewis, P.E., Program Manager  
Alaska Department of Environmental Conservation  
Municipal Matching Grants & Loans  
555 Cordova Street  
Anchorage, Alaska 99501-2617

**RE: ACWF Loan No. 131121 – HVAC Control System – King Street  
Green Project Assessment Follow-Up Information**

Dear Mr. Lewis:

This letter serves as response to ADEC's request for additional information regarding the post construction performance of the HVAC Control System Upgrade Project at our King Street Operations and Maintenance Facility. The letter provides technical and financial backup in support of this project for consideration as being energy efficient in accordance with the Green Project Assessment form submitted to ADEC in 2012.

AWWU constructed this project in an effort to provide better energy efficiency in the heating and cooling of its main O&M building, as well as improve air quality and air movement within this mixed use facility. Our O&M building houses administrative offices as well as vehicle maintenance, welding, and carpentry shops as well as warehouse facilities. This project replaced outdated control systems, made improvements to duct work to improve air movement in locations impacted by previous remodels, and made other system improvements to increase air changes in the building to industry standards and help improve air quality, especially in shop areas. This project was substantially complete in October 2011 and we have evaluated the energy usage, both electricity and natural gas, from before and after project completion. The attached graphs show the yearly utility usage at the facility.

Based upon the usage data taken from our utility bills, AWWU has been able to drop its electrical usage from 822,780 kwh in 2011 to 655,560 kwh in 2012. This has been an approximate 21% savings in electricity and represents an approximate cost savings of \$16,555 for 2012 (based upon an average kwh rate of 9.9 cents). For gas, consumption dropped from 50,066 ccf in 2011 to 35,147 ccf in 2012. However, 2012's usage is consistent with usage in 2010 prior to project completion. The spike in gas usage in 2011

---

Anchorage Water & Wastewater Utility  Clearly

3000 Arctic Boulevard • Anchorage, Alaska 99503  
Phone 907-564-2774 • Fax 907-562-0824 • [www.awwu.biz](http://www.awwu.biz)

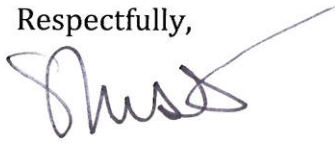


could be reflective of the lack of heating control during portions of project construction and/or a colder than normal in winter 2011/2012. Overall, the energy saved in electrical usage in 2012 represents 2% of the total project cost of \$825,521.

AWWU believes the data show the project has had significant energy savings for the facility, and we believe the facility will continue to show a reduced energy consumption level. However, due to only one year of performance data and the anomaly in the 2011 gas usage, additional longer term monitoring may be required to further validate these results.

If you have any questions, or need further information, please feel free to contact me at 564-2763.

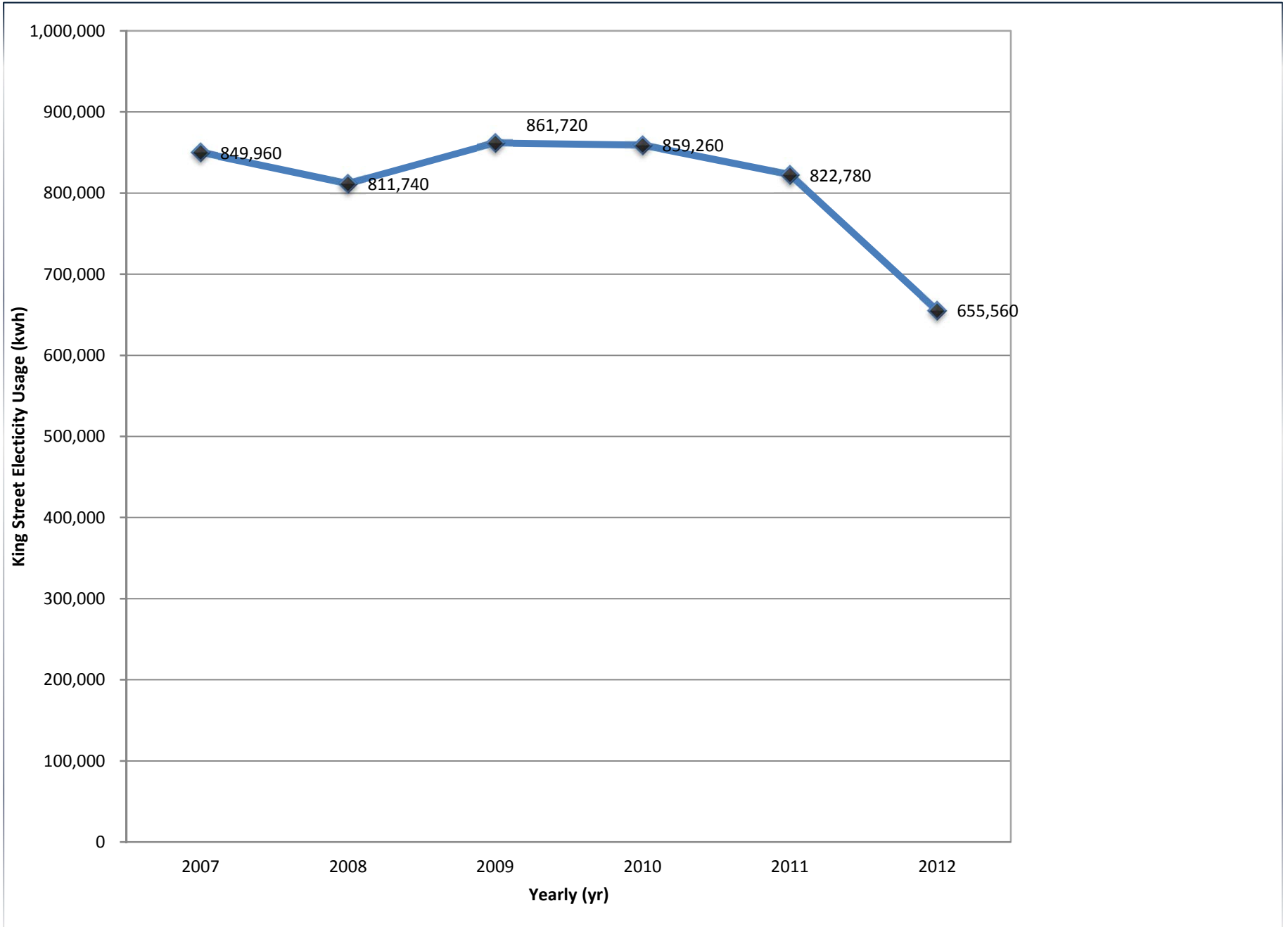
Respectfully,



Stephen Nuss, P.E.  
Capital Program Manager



AWWU Electricity Usage 2007-2012  
Operations and Maintenance Facility



AWWU Gas Usage 2007-2012  
Operations and Maintenance Facility

