# Village End Use Energy Efficiency Measures Program

**AEA Grant # 2195225 Administered by Alaska Building Science Network**

# Saint Michael Final Report



## Community Summary

8 community buildings and 14 teacher housing units received energy efficiency upgrades as follows:

St. Michael City Office, Bingo Hall - Old City Office, Water Treatment Plant, St. Michael Old Clinic, New Clinic, Sewer Plant, New Corporation Office, Old School Library and Teacher Housing

Retrofits Completed: November 2009 – January 2010
ABSN Field Management by: Garrison Collette, Dan Lung and Anna Hilbruner.
Trained 10 local maintenance staff who were employed by village entities to complete lighting retrofits

### Village-Wide Lighting Retrofit Summary:

- Retrofitted 393 light fixtures with electronic ballasts & T8 lamps
- Installed 239 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 52.67 Kilowatts
- Post-retrofit energy use for all lighting: 26.52 Kilowatts
- Energy savings projection: 26.15 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 50%

- Estimated Annual Savings:

Rate (FY 2009 AVE): $0.63 Fuel Cost (FY 2009 Ave): $4.36

| Hours Per Day/ 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| Locally Estimated Use | $27,904 | 2,987 | $13,027 |
| 4 Hours/day | $16,535 | 1,770 | $7,719 |
| 7 Hours/day | **$28,936** | 3,098 | $13,509 |
| 10 Hours/day | $41,338 | 4,426 | $19,298 |

- Total project cost for all measures: $42,000
  (Allocated according to number of lighting retrofits and tracked grant expense)
- Simple Payback (lighting measures only, using 7 hours/day lighting use run-time): 1.45 years
- Total village wide in-kind contribution: $10,474.05

**Additional Energy Efficiency Measures:**

- Extensive consultation on heating plant design and funding sources to the St. Michael IRA
- Re-wired the heating control electronics for the St. Michael IRA Library to correct an always-on condition, resulting in substantial fuel savings and improved comfort.

# City of Saint Michael Owned Buildings



6 buildings owned by the City of Saint Michael received energy efficient lighting upgrades as follows:

St. Michael City Office, Bingo Hall - Old City Office, Water Treatment Plant, St. Michael Old Clinic, New Clinic, Sewer Plant

- Lighting upgrades completed in: January 2010
- Retrofitted 288 light fixtures with electronic ballasts & T8 lamps
- Installed 27 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 27.965 Kilowatts
- Post-retrofit energy use for all lighting: 16.146 Kilowatts
- Energy savings projection: 11.819 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 42%

- Estimated Annual Savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| Locally Estimated | $14,243.0 | 1525.11 | $6,649.47 |
| 4 Hours/day | $7,473.15 | 800.20 | $3,488.89 |
| 7 Hours/day | $13,078.0 | 1400.36 | $6,105.55 |
| 10 Hours/day | $18,682.8 | 2000.51 | $8,722.21 |

In-kind Notes: The City of Saint Michael generously contributed more than 100 hours of in-kind labor to complete lighting retrofits in their buildings, resulting in more than $1,500 worth of direct savings to the grant.

*"It got a lot brighter. It's easier to see and do work"*

~ Bernie Joe – City of Saint Michael

## St. Michael City Office Building



*Above, the converted Anthony A. Andrews school building now houses the St. Michael city government. Center, workers retrofit the city clerk's office with new T-8 fluorescents. At right, the kitchen boasts its new quick-on, high efficiency lighting system*

| **Materials Installed** | **Quantity** | |
|---|---|---|
| 2-lamp electronic ballast, (1) 25 watt T8 lamp | 4 | |
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 98 | |
| 2-lamp electronic ballast, (2) 32 watt T8 lamps | 62 | |
| CFL-23 W | 4 | |
| • Pre-retrofit energy use: | 13692 | watts |
| • Post-retrofit energy use: | 8424 | watts |
| • Energy savings projection: | 5268 | watts |
| • Pre-retrofit to post retrofit energy reduction: | 38% | |

• Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $3,330.96 | 356.67 | $1,555.08 |
| 7 Hours/day | $5,829.17 | 624.17 | $2,721.38 |
| 10 Hours/day | $8,327.39 | 891.67 | $3,887.69 |
| 2000 Hours/year (Est.) | $6,661.91 | 713.34 | $3,110.15 |

**Notes:** Several fixtures were taken off-line in the city office building and the city gym. The new lighting systems were so much brighter than the systems they replaced that 22 fixtures (out of 64) could be taken offline with better overall lighting. In some cases, the new lighting systems would have caused an over lighting situation. The city clerk office was de-lamped on one side to 4 single-lamp fixtures with 25w lamps and 8, 2-lamp fixtures with 25w lamps.



*Above (L), before and after (center) pictures of the lighting systems in the St. Michael city gym. This facility was recently transferred from the Bering Straights School District to the City of Saint Michael and will be used extensively for community events and activities. The newer lights were so much brighter than the old yellowed lights that the space took on a new feel. At right, lighting in a new classroom/ office space brightened colors and eliminated an annoying buzz*

## Bingo Hall, Old City Office



*Above, the old city office, later converted to the St. Michael Bingo Hall, receives lighting upgrades. This building also houses the police department and jail, which were retrofitted with compact fluorescent lamps. The building needs a boiler tune-up/upgrade, air-sealing and attic insulation; the building is so drafty nobody noticed when the attic hatch was left open (right).*

| **Materials Installed** | **Quantity** |
|---|---|
| 3-lamp electronic ballast, (3) 25 watt T8 lamps | 9 |
| 4-lamp electronic ballast, (3) 25 watt T8 lamps | 10 |
| 4-lamp electronic ballast, (4) 25 watt T8 lamps | 6 |
| CFL-14 W | 1 |
| CFL-18W | 2 |
| CFL-23 W | 10 |
| CFL-27 W | 4 |

- Pre-retrofit energy use: 4695 watts
- Post-retrofit energy use: 2344 watts
- Energy savings projection: 2351 watts
- Pre-retrofit to post retrofit energy reduction: 50%

- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $1,486.54 | 159.17 | $694.00 |
| 7 Hours/day | $2,601.44 | 278.55 | $1,214.50 |
| 10 Hours/day | $3,716.34 | 397.94 | $1,735.00 |
| 2000 Hours/year (Est.) | $2,973.07 | 318.35 | $1,388.00 |

**Additional Energy Efficiency Measures:**

- Closed large attic air-bypass (temporary fix using cardboard);
- Shut off redundantly running boiler for added fuel savings

## Water Treatment Plant



| Materials Installed | Quantity |
|---|---|
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 28 |
| 3-lamp electronic ballast, (3) 32 watt T8 lamps | 1 |
| 4-lamp electronic ballast, (3) 25 watt T8 lamps | 7 |
| 4-lamp electronic ballast, (4) 25 watt T8 lamps | 1 |
| CFL-23 W | 2 |

- Pre-retrofit energy use: 3512 watts
- Post-retrofit energy use: 2039 watts
- Energy savings projection: 1473 watts
- Pre-retrofit to post retrofit energy reduction: 42%

- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $931.38 | 99.73 | $434.82 |
| 7 Hours/day | $1,629.91 | 174.53 | $760.93 |
| 10 Hours/day | $2,328.44 | 249.32 | $1,087.05 |
| 1800 Hours/year (Est.) | $1,676.48 | 179.51 | $782.67 |

**Notes:** In the garage (right photo) we took one lamp per fixture off-line for added energy savings. We also de-lamped the over-lit washeteria next door. Field managers used light meters to verify adequate light levels.

**Additional Energy Efficiency Measures:**

- ABSN field manager consulted with water plant technicians about the schedule needed for the 2 MBtu backup boiler that heats the recirculation lines that keep the city water system from freezing. It was also determined that during the spring, summer, and fall, the back-up boiler was not needed and was shut off - contributing to substantial fuel savings by eliminating these stand-by heat loses. Freezing problems persist however with the city's water supply, because oil must be brought manually to the pump shack, and occasionally the oil tank goes dry.

## St. Michael Old Clinic



| **Materials Installed** | **Quantity** |
|---|---|
| 2-lamp electronic ballast, (1) 25 watt T8 lamp | 4 |
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 13 |
| 3-lamp electronic ballast, (3) 25 watt T8 lamps | 4 |
| CFL-14 W | 1 |
| CFL-18W | 2 |
| CFL-23 W | 1 |

- Pre-retrofit energy use: 2610 watts
- Post-retrofit energy use: 1071 watts
- Energy savings projection: 1539 watts
- Pre-retrofit to post retrofit energy reduction: 59%

- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $973.11 | 104.20 | $454.30 |
| 7 Hours/day | $1,702.94 | 182.35 | $795.03 |
| 10 Hours/day | $2,432.77 | 260.49 | $1,135.75 |
| 1560 Hours/year (Est.) | $1,518.05 | 162.55 | $708.71 |

**Notes:** Setback thermostats would have been a good option for this building because of its tendency to get too warm for comfort, but the heating had bypassed the thermostats so a simple retrofit was not possible. The post-retrofit picture (at right) shows some light fixtures were taken off-line for additional savings. Pre-retrofit, this space had been medical exam rooms, but these were converted to residential lodging, which required reduced light levels. A total of four fixtures were taken offline.

## New Clinic


| Materials Installed | Quantity |
|---|---|
| Existing electronic ballast, re-lamped (2) 25 watt T8 lamps | 29 |
| 2 ft fixture, 2-lamp electronic ballast, (2) 17 watt T8 | 1 |
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 2 |

- Pre-retrofit energy use: 1944 watts
- Post-retrofit energy use: 1458 watts
- Energy savings projection: 486 watts
- Pre-retrofit to post retrofit energy reduction: 25%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $307.30 | 32.90 | $143.46 |
| 7 Hours/day | $537.77 | 57.58 | $251.06 |
| 10 Hours/day | $768.24 | 82.26 | $358.66 |
| 2000 Hours/year (Est.) | $614.60 | 65.81 | $286.93 |

**Note:** Though the new clinic lighting was fairly recent, newer lamps alone were still able to provide a good energy savings here. This is a good case in point that new systems are not always efficient.

## Sewer Plant



| Materials Installed | Quantity |
|---|---|
| 4-lamp electronic ballast, (4) 25 watt T8 lamps | 9 |

- Pre-retrofit energy use: 1512 watts
- Post-retrofit energy use: 810 watts
- Energy savings projection: 702 watts
- Pre-retrofit to post retrofit energy reduction: 46%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $443.87 | 47.53 | $207.23 |
| 7 Hours/day | $776.78 | 83.18 | $362.64 |
| 10 Hours/day | $1,109.69 | 118.82 | $518.06 |
| 1800 Hours/year (Est.) | $798.97 | 85.55 | $373.01 |

# St. Michael Native Corporation Owned Buildings



1 building owned by the St. Michael Native Corporation received energy efficient lighting upgrades as follows:

## New Corp. Office

| **Materials Installed** | **Quantity** |
|---|---|
| 4-lamp electronic ballast, (4) 25 watt T8 lamps | 4 |

- Lighting upgrades completed in: November 2009
- Retrofitted 4 light fixtures with electronic ballasts & T8 lamps
- Pre-retrofit energy use for all lighting: 0.576 Kilowatts
- Post-retrofit energy use for all lighting: 0.36 Kilowatts
- Energy savings projection: 0.216 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 38%

- Estimated Annual Savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $136.58 | 14.62 | $63.76 |
| 7 Hours/day | $239.01 | 25.59 | $111.58 |
| 10 Hours/day | $341.44 | 36.56 | $159.40 |
| 2000 Hours/year (Est.) | $273.15 | 29.25 | $127.52 |

# Bering Straits School District Owned Buildings



The Anthony A. Andrews School building owned by the Bering Straits School District and 14 teacher housing units received energy efficient lighting upgrades as follows:

Old Library, Molly Hoot Teacher Housing, 2 Duplexes, BSSD Duplex, Heery Apartment, Austin Rental, Portable Classroom – Teacher Housing

- Lighting upgrades completed in January 2010
- Retrofitted 101 light fixtures with electronic ballasts & T8 lamps
- Installed 212 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 24.133 Kilowatts
- Post-retrofit energy use for all lighting: 10.017 Kilowatts
- Energy savings projection: 14.116 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 58%

- Estimated Annual Savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| Locally Estimated | $13,388.30 | 1433.58 | $6,250.42 |
| 4 Hours/day | $8,925.55 | 955.72 | $4,166.94 |
| 7 Hours/day | $15,619.70 | 1672.51 | $7,292.15 |
| 10 Hours/day | $22,313.80 | 2389.30 | $10,417.30 |

In-kind Labor: Bering Straits School District generously provided all maintenance staff labor in-kind to the grant to complete school facility and teacher housing lighting retrofits - resulting in substantial direct cost savings to the grant.

## Old Library With Teacher Housing



| Materials Installed | Quantity |
|---|---|
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 26 |
| CFL-14 W | 1 |
| CFL-18W | 4 |
| CFL-23 W | 19 |

- Pre-retrofit energy use: 3967 watts
- Post-retrofit energy use: 1719 watts
- Energy savings projection: 2248 watts
- Pre-retrofit to post retrofit energy reduction: 57%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $1,421.41 | 152.20 | $663.59 |
| 7 Hours/day | $2,487.47 | 266.35 | $1,161.29 |
| 10 Hours/day | $3,553.53 | 380.50 | $1,658.98 |
| 1500 Hours/year (Est.) | $2,132.12 | 228.30 | $995.39 |

## Molly Hoot Teacher Housing



| Materials Installed | Quantity |
|---|---|
| 2-lamp electronic ballast, (1) 25 watt T8 lamp | 2 |
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 17 |
| 3-lamp electronic ballast, (3) 25 watt T8 lamps | 3 |
| 4-lamp electronic ballast, (3) 25 watt T8 lamps | 19 |
| 4-lamp electronic ballast, (4) 25 watt T8 lamps | 8 |
| CFL 3-Way: 12-20-26 W | 3 |
| CFL-14 W | 22 |
| CFL-18W | 22 |
| CFL-23 W | 7 |

- Pre-retrofit energy use: 8102 watts
- Post-retrofit energy use: 4126 watts
- Energy savings projection: 3976 watts
- Pre-retrofit to post retrofit energy reduction: 49%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $2,514.02 | 269.19 | $1,173.69 |
| 7 Hours/day | $4,399.54 | 471.09 | $2,053.95 |
| 10 Hours/day | $6,285.06 | 672.99 | $2,934.22 |
| 1500 Hours/year (Est.) | $3,771.04 | 403.79 | $1,760.53 |

## 2 Duplexes



| Materials Installed | Quantity |
|---|---|
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 4 |
| 4-lamp electronic ballast, (3) 25 watt T8 lamps | 12 |
| CFL-14 W | 13 |
| CFL-18W | 50 |
| CFL-23 W | 9 |
| CFL-27 W | 6 |

- Pre-retrofit energy use: 6811 watts
- Post-retrofit energy use: 2535 watts
- Energy savings projection: 4276 watts
- Pre-retrofit to post retrofit energy reduction: 63%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $2,703.71 | 289.51 | $1,262.25 |
| 7 Hours/day | $4,731.50 | 506.64 | $2,208.93 |
| 10 Hours/day | $6,759.29 | 723.76 | $3,155.61 |
| 1500 Hours/year (Est.) | $4,055.57 | 434.26 | $1,893.37 |

## BSSD Duplex

| Materials Installed | Quantity |
|---|---|
| 2-lamp electronic ballast, (1) 25 watt T8 lamp | 2 |
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 3 |
| 3-lamp electronic ballast, (3) 25 watt T8 lamps | 1 |
| CFL-14 W | 2 |
| CFL-18W | 7 |
| CFL-23 W | 12 |
| CFL-27 W | 12 |

- Pre-retrofit energy use: 3259 watts
- Post-retrofit energy use: 1018 watts
- Energy savings projection: 2241 watts
- Pre-retrofit to post retrofit energy reduction: 69%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $1,416.98 | 151.73 | $661.53 |
| 7 Hours/day | $2,479.72 | 265.52 | $1,157.67 |
| 10 Hours/day | $3,542.46 | 379.32 | $1,653.82 |
| 1500 Hours/year (Est.) | $2,125.48 | 227.59 | $992.29 |

## Heery Apartment



| Materials Installed | Quantity |
|---|---|
| 2-lamp electronic ballast, (1) 25 watt T8 lamp | 1 |
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 2 |
| CFL-18W | 3 |
| CFL-23 W | 3 |
| CFL-27 W | 1 |

- Pre-retrofit energy use: 805 watts
- Post-retrofit energy use: 268 watts
- Energy savings projection: 537 watts
- Pre-retrofit to post retrofit energy reduction: 67%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $339.55 | 36.36 | $158.52 |
| 7 Hours/day | $594.20 | 63.63 | $277.41 |
| 10 Hours/day | $848.86 | 90.89 | $396.30 |
| 1500 Hours/year (Est.) | $509.32 | 54.54 | $237.78 |

## Austin Rental


| Materials Installed | Quantity |
|---|---|
| CFL-18W | 9 |
| CFL-23 W | 3 |

- Pre-retrofit energy use: 720 watts
- Post-retrofit energy use: 231 watts
- Energy savings projection: 489 watts
- Pre-retrofit to post retrofit energy reduction: 68%
- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $309.19 | 33.11 | $144.35 |
| 7 Hours/day | $541.09 | 57.94 | $252.61 |
| 10 Hours/day | $772.99 | 82.77 | $360.87 |
| 1500 Hours/year (Est.) | $463.79 | 49.66 | $216.52 |

## Portable Classroom - Teacher Housing



| **Materials Installed** | **Quantity** |
|---|---|
| 2-lamp electronic ballast, (2) 25 watt T8 lamps | 1 |
| CFL-14 W | 2 |
| CFL-23 W | 2 |

- Pre-retrofit energy use: 469 watts
- Post-retrofit energy use: 120 watts
- Energy savings projection: 349 watts
- Pre-retrofit to post retrofit energy reduction: 74%

- Estimated annual savings:

| Hours Per Day / 250 Days Per Year | Electrical Savings | Comparative Avoided Diesel Use (gal) | Comparative Avoided Diesel Costs |
|---|---|---|---|
| 4 Hours/day | $220.67 | 23.63 | $103.02 |
| 7 Hours/day | $386.18 | 41.35 | $180.29 |
| 10 Hours/day | $551.68 | 59.07 | $257.56 |
| 1500 Hours/year (Est.) | $331.01 | 35.44 | $154.53 |

**Saint Michael, In-Kind Contribution Tracking Record - ABSN Energy Efficiency Projects**:

| In-Kind Item | Dates | Hours Contri-buted | Hourly Wage | Value / Amount | Notes |
|---|---|---|---|---|---|
| Staff time for project contact, introduction & review of intro materials | | 4 | $ 20.00 | $ 80.00 | Number of entities x 1 hour each |
| | | | | | |
| Staff time for Attending teleconference | | 2 | $ 20.00 | $ 40.00 | TC/IRA |
| Staff time for Attending teleconference | | 1 | $ 20.00 | $ 20.00 | City |
| Staff time for Attending teleconference | | 1 | $ 20.00 | $ 20.00 | Village Corp |
| Staff time for Attending teleconference | | 3 | $ 20.00 | $ 60.00 | School |
| | | | | | |
| Maint. Staff time to accompany Field Manager on building assessments | | 40 | $ 15.00 | $ 600.00 | 1st site visit - Estimated Hours |
| **Conservative village office administrative percentage of total project cost less ABSN Admin %.** Total project cost = $42,000/village - (our admin percentage , (around 12%) Approx: $5,040) = $36,960 x 5.5% = $2,032.80 (this 5.5% village admin cost estimate is spread across all entities we work with for the course of the grant for completing all energy efficiency measures. These are primarily for cumulative, otherwise unaccounted time expense for village- based project support. | Feb, '07 through | | | $ 2032.80 | Each time we call, email, or fax a village entity, someone receives the communication, reviews and/or forwards the information, follows-up on requests, etc. Whether it is to set-up a teleconference, verify maintenance staff participation in lighting or boiler trainings, set-up in-kind lodging and transportation, lighting trainings, track a shipment, verify completion of lighting in a given building, ship lamps and ballasts out of the village for recycling, request a labor reimbursement agreement, or invoice etc. Village expenses for phone charges, copying and fax costs, office supplies, etc. are part of this amount. |
| Lodging for ABSN Field Managers - 1st assessment site visit | March 7-March 12 | | | $ 375.00 | Lodging usually costs $75 and lodging was provided to us free. |
| Transportation and fuel costs - 1st assessment site-visit | | 30 | $ 100 | $ 3,000.00 | City use of BSSD school lift for one month. $100 per day |
| Lodging for ABSN Field Managers - 2nd site visit - St. Michael IRA | Nov 8-Nov 13 | 9 | 75 | $ 675.00 | Garrison 6 nights and Anna 3 nights @ 75/night |
| | | | | | |
| City of St. Michael Village Labor | | | | $ 1,566.25 | In-kind contribution for hours worked on the gym - City tracked in invoice to us |
| City of St. Michael Village Labor | 1/28/2010 | 12 | 15 | $ 180.00 | Backhaul labor for Gus Niksik, Richard, Bernie - Geoff & Bernie tracked time |
| Meals etc | 11-10, 11-11 | | | $100 | The City bought the whole crew lunch Monday, then the Corp bought the crew lunch on Tuesday. |
| BSSD In-Kind Labor for Upgrades | Nov '09 & Jan '10 | 115 | $ 15.00 | $ 1,725.00 | Upgrades in teacher housing and the old school library |
| | TOTAL | | | $10,474.05 | |

The capacity of ABSN's scope of work was greatly increased by the response of local communities to work in partnership with ABSN and provide in-kind services of project coordination, paid labor for lighting retrofits, transportation and lodging for ABSN field staff, and other valuable contributions. This allowed ABSN and the community of Saint Michael to deliver 25% more energy savings measures beyond the original grant funding.