

**AGENDA  
CITY COUNCIL  
WORK SESSION  
CITY OF EAST GRAND FORKS  
JANUARY 11, 2011  
5:00 PM**

**CALL TO ORDER**

**CALL OF ROLL**

**DETERMINATION OF A QUORUM**

1. Local Government Aid (LGA) – Scott Huizenga
2. 2011 Legislative Priorities – Scott Huizenga
3. Police Department HVAC System Replacement – Chief Hedlund

**ADJOURN**

**Upcoming Meetings**

Regular Meeting – January 18, 2011 – 5:00 PM – Council Chambers

Work Session – January 25, 2011 – 5:00 PM – Training Room

Regular Meeting – February 1, 2011 – 5:00 PM – Council Chambers

# Request for Council Action

Date: 01/06/11

To: East Grand Forks City Council, Mayor Lynn Stauss, President Dick Grassel, Council Vice President Henry Tweten, Council members: Marc DeMers, Craig Buckalew, Wayne Gregoire Greg Leigh and Mike Pokrzywinski

Cc: File

From: Scott Huizenga, City Administrator

RE: Resolution on Local Government Aid

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The Coalition of Greater Minnesota Cities requests that member cities pass a resolution in support of Local Government Aid (LGA). A draft resolution is attached.

LGA will continue to be a focal point of the 2011 Minnesota Legislative session in the wake of a projected \$6.2 billion state budget deficit. LGA has received much attention at the state level in the past several years despite the fact that the program comprises less than three percent of the overall state budget. LGA has already been cut over \$1 billion since the last round of cuts began in 2003. Locally, East Grand Forks has lost over \$1 million in LGA funding since December 2008. The City's Certified LGA for 2011 is already three percent below the previously-certified level without any further cuts from the state. The City has already cut real expenditures – without factoring inflation – by approximately five percent since 2008. In other words, most of the “fat” has been eliminated. Further funding reductions will result in cuts to programs, personnel, and infrastructure that maintain the community and keep the City competitive and attractive relative to its neighbors.

LGA at the certified level composes approximately 34 percent of the City's General Fund Budget. The City would have to raise property taxes by over 96 percent – nearly double the current levy – if the program was cut in its entirety. The “average” residence would see a tax increase of approximately \$750 if the City made no corresponding program cuts. Commercial and industrial property increases would be much higher.

The Coalition has also local chambers of commerce to oppose further cuts to LGA. The platform of the Minnesota State Chamber of Commerce calls for the elimination of all local aids and credits including LGA and the Market Value Homestead Credit (MVHC).

**Recommendation:**

Adopt a resolution opposing further cuts to Local Government Aid (LGA) and incorporate the resolution in to the City's legislative platform. Request the Grand Forks-East Grand Forks Chamber of Commerce to adopt a similar resolution opposing the elimination of LGA.

## **RESOLUTION NO. 11-01-XX**

### **RESOLUTION FOR THE LEGISLATURE TO MAINTAIN FUNDING FOR LGA AT ITS CURRENT FUNDING LEVEL FOR 2011 AND 2012.**

Council Member \_\_\_\_, supported by Council Member \_\_\_\_, introduced the following resolution and moved its adoption:

WHEREAS, LGA is a state funded property tax relief program that helps reduce the property tax burden on homeowners and businesses in East Grand Forks and

WHEREAS, higher property taxes and lower services will make East Grand Forks even less competitive in jobs and economic growth compared to suburban cities and cities in other states, and

WHEREAS, LGA has already been cut over \$1 billion statewide since 2003, causing city property taxes to rise by 59% and disproportionately hurting cities in greater Minnesota, and

WHEREAS, without LGA property taxes would have to be increased by over 90 percent or city services would have to be cut even more in East Grand Forks, and

WHEREAS, East Grand Forks has already reduced its workforce by seven percent; and reduced capital expenditures for the last three fiscal years, and

WHEREAS, East Grand Forks has set its budget based on the \$2,812,639 the state has already certified that East Grand Forks will receive in LGA for 2011, and

WHEREAS, East Grand Forks will be several months into its budget year before the Legislature acts on the state budget,

NOW, THEREFORE, BE IT RESOLVED THAT THE City of East Grand Forks urges the Legislature to keep its promise and pay the city the \$2,812,639 of LGA already certified to East Grand Forks for 2011.

BE IT FURTHER RESOLVED THAT the Legislature maintain funding for LGA at its current funding level for 2011 and 2012.

BE IT FURTHER RESOLVED THAT, upon passage, this resolution be forwarded to the State Chamber of Commerce, the Governor, the Speaker of the House, the Senate Majority Leader, and to members of the State Legislature representing the City of East Grand Forks.

Voting Aye:

Voting Nay: None.

The President declared the resolution passed.

Passed: January 18, 2011

Attest:

\_\_\_\_\_  
City Administrator/Clerk-Treasurer

\_\_\_\_\_  
President of Council

I hereby approve the foregoing resolution this 18<sup>th</sup> of January, 2011.

\_\_\_\_\_  
Mayor

# Request for Council Action

Date: 01/11/11

To: East Grand Forks City Council, Mayor Lynn Stauss, President Dick Grassel, Council Vice President Henry Tweten, Council members: Marc DeMers, Craig Buckalew, Wayne Gregoire Greg Leigh and Mike Pokrzywinski

Cc: File

From: Scott Huizenga, City Administrator

RE: 2011 Legislative Priorities

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The 2011 Minnesota Legislative session has convened. The Coalition of Greater Minnesota Cities is sponsoring its annual Greater Minnesota at the Capitol Day on Wednesday, February 9. Therefore, I request that the City establish its formal legislative priorities for presentation to state officials. The City Council may also have additional items to consider. Following discussion at the work session, staff will draft the results into a resolution to be adopted at the next regular City Council session.

1. **Local Government Aid (LGA)** – The state has cut the City's LGA by over **\$1 million** in two years. The projected state biennium budget deficit is \$6.2 billion. LGA funding has been cut over **\$1 billion** at the state level since 2003. The 2011 Certified LGA amount already has been cut from previous levels *before the Legislature convenes*. The Coalition of Greater Minnesota Cities (CGMC) has adopted a LGA stance that recommends no further cuts to LGA. If cuts have to be made, cuts should be made first to the Market Value Homestead Credit (MVHC) and other local aid programs. And, cuts should not be made until the 2012 fiscal year because the City has already certified its 2011 levy with no option to recapture any additional cuts.
2. **Levy Limits** – Levy limits should be allowed to sunset in 2011 without qualification. Levy limits represent a gross overextension of state authority on the local level. City leaders are expected to make decisions on behalf of their own communities. The Legislature should not interfere in local taxing and spending decisions.
3. **Bonding – Waste Water Improvements Phase II** – The City is investigating funding options for a potential Waste Water Phase II project, which primarily addresses improvements to the City's waste water treatment facility. The current estimate is approximately \$10 million. Project funding options include low-interest borrowing from the Minnesota Public Facilities Authority (PFA); and potential state bonding. The City used PFA loan funding for Phase I improvements, which totaled approximately \$4.2 million. Currently, the City is in the PFA's Intended Use Plan (IUP). Projects approved through state bonding typically receive about 50 percent state funding, which would significantly relieve the burden on property owners. Financing for Phase I necessitated an increase in single-family base meter charges from \$2 per month to \$10 per month over a year and a half period. The City Council also approved greater increases to multi-family and commercial rates. Using similar assumptions, rates would have to increase again by \$15-20 per

month (nearly double) on single-family homes in order to finance Phase II improvements without supplemental funding. The City supports a bonding bill in the current biennium; and requests inclusion of the City's proposed waste water project in the bill.

4. **Red River State Recreational Area (RRSRA)** – The City has a state-designated campground and recreational area that is among the most successful in the state. The City operates the campground through an agreement with the Minnesota Department of Natural Resources (DNR). The City also maintains the entire RRSRA. The agreement does not fully cover the costs of the City maintain the entire recreational area, although the state has realized record profits from the facility for the last three years. The City proposes to transfer complete ownership of the RRSRA, approximately \_\_ acres, to DNR. DNR would increase the existing intergovernmental agreement to fully compensate the City for expenditures related to campground operations, and maintenance on the RRSRA trail system including mowing, trail maintenance, and insect control.
5. **Mandate Relief** – The State imposes numerous mandates and restrictions that increasingly burden cities as budgets becoming tighter. Chief among these mandates is the state Pay Equity and Comparable Worth statutes. The City unequivocally supports the concept of “equal pay for equal work.” However, the specific reporting requirements and antiquated computational formulas provide undue administrative burdens in Cities with limited resources. Pay equity in its current form should be repealed. Additionally, Minnesota is among the most union-friendly states in the country. Labor-friendly arbitration awards and limited managerial rights greatly impede cities’ flexibility to effectively manage limited resources. Finally, excessive regulations in the areas of environmental compliance and annexation also limit the potential economic growth of cities. The City supports generally the lists of potential mandate reform efforts compiled by the League of Minnesota Cities and the Coalition of Greater Minnesota Cities.
6. **Street Improvement Districts** – Street Improvement District legislation would allow cities to *voluntarily* raise revenue through alternative means that could finance street improvements and maintenance. Property taxes alone generally do not provide adequate revenue streams for proper street maintenance. Legal opinions vary on whether or not cities can implement fees without legislative approval. Clear legislation regarding street improvement districts alleviate any potential conflicts. Similar authority already exists for other types of infrastructure such as sidewalks and street lights. The City supports extending to cities the *option* of financing its own infrastructure through Street Improvement Districts.

**Recommendation:**

Adopt by resolution an official City Legislative platform that the City present in its 2011 Legislative outreach efforts

**Attachments:**

LGA message  
 LGA Fundamentals  
 Red River State Recreational Area map  
 Street Improvement District fact sheet  
 Street Improvement District sample legislation  
 League of Minnesota Cities mandate list (electronic only)

**RESOLUTION NO. 11 – 01 – XX**

**A RESOLUTION ESTABLISHING LEGISLATIVE PRIORITIES**

Council Member \_\_\_\_, supported by Council Member \_\_\_\_, introduced the following resolution and moved its adoption:

WHEREAS, the City Council of East Grand Forks recognizes that a consistent, unified voice is vital in state-local discussions;

And WHEREAS, the City Council of East Grand Forks has identified its top legislative priorities to be submitted to the 2011 Minnesota State Legislature;

NOW, THEREFORE, BE IT RESOLVED that the City Council of East Grand Forks establishes five primary Legislative priorities that attached to this document.

Voting Aye:  
Voting Nay: None.

The President declared the resolution passed.

Passed: January 18, 2011

Attest:

\_\_\_\_\_  
City Administrator/Clerk-Treasurer

\_\_\_\_\_  
President of the Council

I hereby approve the foregoing resolution this 18<sup>th</sup> day of January, 2011.

\_\_\_\_\_  
Mayor

# LGA: It keeps your cities affordable, vibrant & competitive

## The purpose of LGA is to reduce property tax and service disparities between rural, metro and suburban cities.

- LGA promotes property tax fairness by distributing funding to cities based on their needs and tax bases.
- 65% of LGA goes to greater Minnesota because only 24% of the taxable market value can be found in greater Minnesota.
- The current LGA formula was proposed by Governor Pawlenty and meets the purpose of LGA, which is to reduce property tax disparities.
- Some suggested changes, such as distributing LGA based only on police, fire protection and other “essential” services, would weaken the program’s ability to alleviate property tax disparities.

## Additional LGA cuts will hit greater Minnesota businesses and residents harder, making our communities even less competitive with the metro area.

- LGA has been cut over \$1 billion and city property taxes are up 59% since 2003.
- In addition to increasing property taxes, cities have cut personnel, reduced services for youth and seniors, decreased police and fire protection and emptied their reserves.
- LGA has been cut at levels disproportionate to its share of the state budget, leading to disproportionate property tax increases in greater Minnesota.

## LGA must remain at \$527 million.

- This is 5% less than the amount certified in 2002.
- 2011 city budgets are being created right now based on the amount of aid certified by the Department of Revenue in July 2010.
- To be fiscally responsible, the state must honor the appropriation promised to cities; they have relied on that amount in setting their 2011 budgets.
- If LGA is cut in 2011, it would come in the middle of the city budget year, forcing cities to further reduce services, dry up cash flow accounts or engage in short-term borrowing.

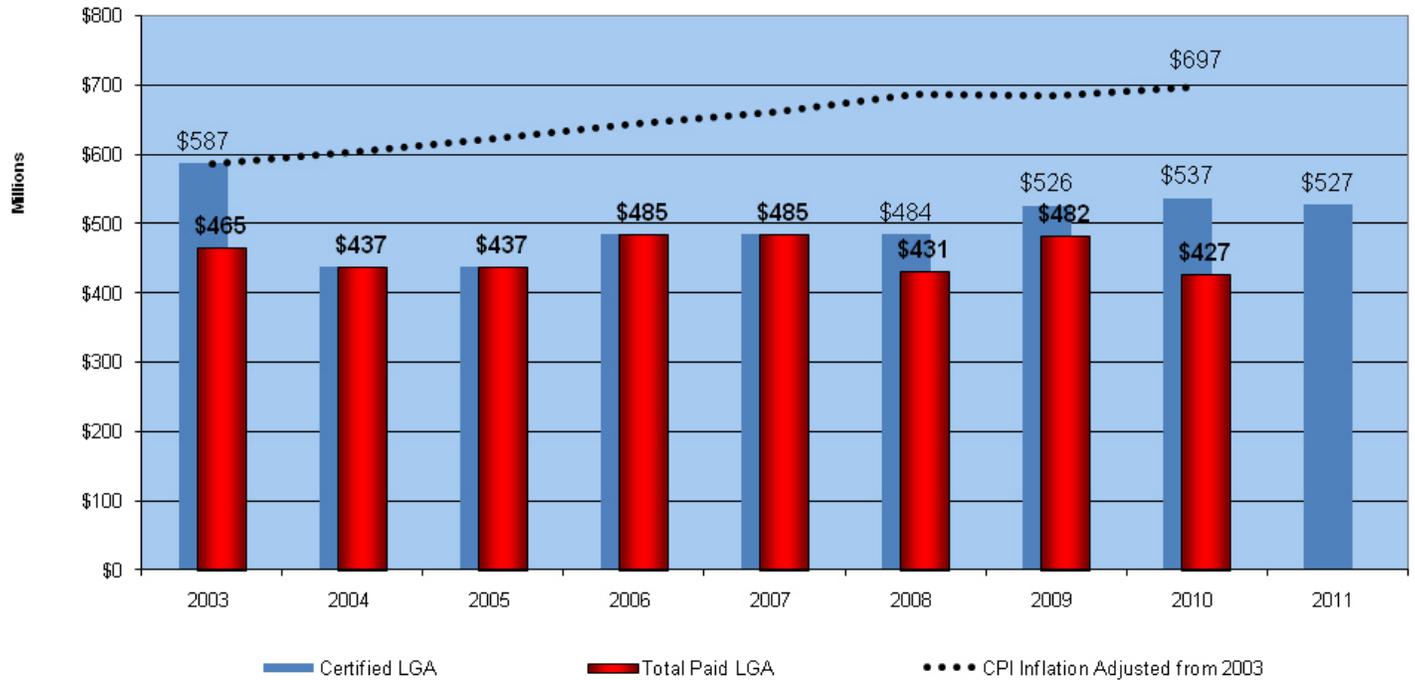


*More on reverse!*



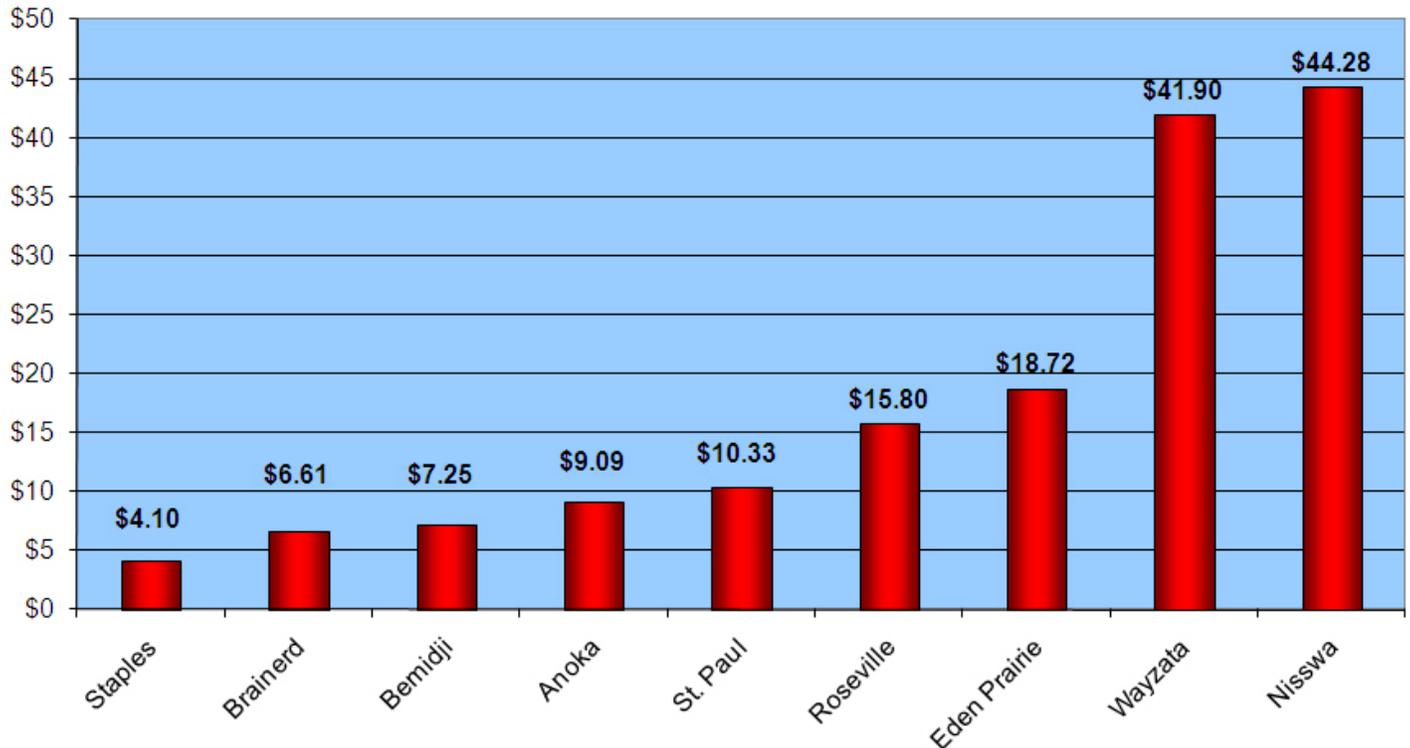
## LGA History

Since 2003, LGA has been reduced several times, including a cumulative \$317 million from its certified amount since 2008.



## Revenue Generated Per Person with a One-Percentage Point Increase in the City Tax Rate

Cities with lower property wealth do not have the same revenue-raising capabilities as wealthier cities do.



# Fundamentals of LGA

## Calculating City Property Taxes

### Basic Formula:

$$\text{Gross City Taxes} = \text{Class Rate (based of type of property)} \times \text{Taxable Market Value} \times \text{Property Tax Rate}$$

### For a \$150,000 Valued Residential Home:

$$\text{Gross City Taxes} = .01 \times \$150,000 \times \text{Property Tax Rate}$$

### Property Tax Rate:

$$\text{City Property Tax Rate} = \frac{\text{Levy}}{\text{(City Total Tax Capacity)}}$$

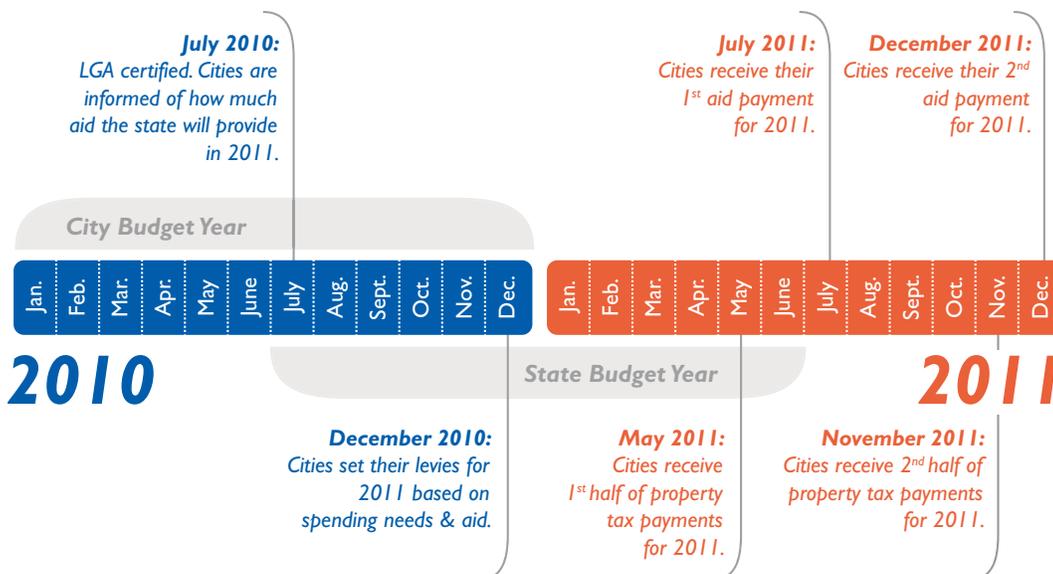
$$\text{City Total Tax Capacity} = \text{Sum of all properties within a City (Class Rate} \times \text{Taxable Market Value)}$$

### Property taxes in three Minnesota cities:

Mendota Heights	Owatonna	Plainview
A suburban city that has a revenue base (levy + aid) of \$523 per person.	A regional center that has a revenue base of \$524 per person.	A small city that has a revenue base of \$524 per person.
Tax Rate = $\frac{6,139,380}{23,252,174} = 26\%$	Tax Rate = $\frac{9,443,426}{22,572,832} = 42\%$	Tax Rate = $\frac{1,181,743}{2,011,065} = 59\%$
<b>City Property tax on a \$150,000 home</b>		
$.01 \times \$150,000 \times .26 = \$390$	$.01 \times \$150,000 \times .42 = \$630$	$.01 \times \$150,000 \times .59 = \$885$
<b>Local Government Aid</b>		
LGA = \$0	LGA = \$3,806,322	LGA = \$605,671
LGA per Capita = \$0	LGA per Capita = \$150	LGA per Capita = \$178
<b>Without LGA</b>		
The city's spending and property tax rate would be the same.	The city's spending would have to be cut \$150 per capita or the tax rate would have to increase to 59%	The city's spending would have to be cut \$178 per capita or the tax rate would have to increase to 89%

City property taxes are added to county, school district and other levies to complete a property's total gross property taxes. At that point, other credits might lower an overall tax bill.

### Property Tax Timeline



# Red River SRA State Ownership

State Park Administered

## Legend

-  State Recreation Area
-  State Park Administered

## *2009 Legislative Issues —* **Municipal Street Improvement District Authority**

### **What is it?**

The League of Minnesota Cities supports legislation that would give cities the authority to collect fees from property owners to fund municipal street maintenance, construction, reconstruction, and facility upgrades. Municipal street improvement district authority would give cities a tool that would allow maintenance and reconstruction to be performed on schedule. Timely maintenance is essential to preserving city streets, thereby protecting taxpayer investments.

### **Why is it needed?**

Cities rely on general revenues (including state aids) and special assessments to fund street maintenance. Consequently, many cities are currently deferring maintenance because of tight budgets and volatile economic conditions. Moreover, Municipal State Aid (MSA) funds are limited to cities with populations exceeding 5,000, making nearly 80 percent of Minnesota cities ineligible for that option. Without ongoing maintenance, the average life expectancy of local streets is approximately 25-30 years. With appropriate maintenance the life expectancy can be extended to 50-60 years; but this maintenance requires a dedicated funding source that does not exist under the current volatile property tax system.

### **Reasons to support Municipal Street Improvement District Authority**

- It is a good alternative to special assessments, which can be burdensome to property owners and are difficult to implement for some cities.
- It is also a good alternative to using property taxes to fund municipal street improvements. Property tax dollars are generally not dedicated and are sometimes diverted to other needs, such as public safety, water quality, and cost participation in state and county highway projects.
- This authority would provide a funding mechanism that is transparent and fair. It establishes a clear relationship between who pays fees and where projects occur.
- The authority allows cities to collect fees from tax exempt properties within a district.
- The authority would allow property owners to fund expensive projects by paying small fees over time. The tool could be used to mitigate or eliminate the need for special assessments altogether.
- The authority is enabling legislation—cities would not be required to create municipal street improvement district, but would be authorized to consider it as an option.

1 **SAMPLE LEGISLATION SEEKING SPECIAL AUTHORITY FOR STREET**  
2 **IMPROVEMENT DISTRICT**

3  
4  
5 A bill for an act  
6 relating to municipalities; authorizing the city of \_\_\_\_\_ to establish street  
7 improvement districts and apportion street improvement fees within districts; requiring adoption  
8 of street improvement plan; authorizing collection of fees; proposing coding for new law in  
9 Minnesota Statutes, chapter 435.

10  
11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

12 Section 1. **[435.39] MUNICIPAL STREET IMPROVEMENT DISTRICTS.**

13 Subdivision 1. Definitions. (a) For the purposes of this section, the following terms have  
14 the meanings given them.

15 (b) "Municipality" means the city of \_\_\_\_\_.

16 (c) "Governing body" means the \_\_\_\_\_ City Council.

17 (d) "Municipal street" means a street, alley, or public way in which the municipality has  
18 powers conferred by section 429.021.

19 (e) "Street improvement district" means a geographic area designated by the municipality  
20 within which street improvement and maintenance may be undertaken and financed according to  
21 this section.

22 (f) "Improvements" means construction, reconstruction, and facility upgrades involving:

23 (1) right-of-way acquisition;

24 (2) paving;

25 (3) curbs and gutters;

26 (4) bridges and culverts and their repair;

27 (5) milling;

28 (6) overlaying;

29 (7) drainage and storm sewers;

30 (8) excavation;

31 (9) base work;

32 (10) subgrade corrections;

33 (11) street lighting;

34 (12) traffic signals;

- 1           (13) signage;
- 2           (14) sidewalks;
- 3           (15) pavement markings;
- 4           (16) boulevard and easement restoration;
- 5           (17) impact mitigation;
- 6           (18) reconstruction, connection, and reconnection of utilities;
- 7           (19) turn lanes;
- 8           (20) medians;
- 9           (21) street and alley returns;
- 10          (22) retaining walls;
- 11          (23) fences;
- 12          (24) lane additions; or
- 13          (25) fixed transit infrastructure, trails, or pathways. "Fixed transit infrastructure" does not
- 14 include commuter rail rolling stock, light rail vehicles, or transitway buses; capital costs for park-
- 15 and-ride facilities; feasibility studies, planning, alternative analyses, environmental studies,
- 16 engineering, or construction of transitways; or operating assistance for transitways.

17           (g) "Maintenance" means striping, seal coating, crack sealing, pavement repair, bridge  
18 and retaining wall repair, sidewalk maintenance, signal maintenance, street light maintenance,  
19 and signage.

20           Subd. 2. **Establishment of districts.** The municipality may, by ordinance, establish  
21 municipal street improvement districts within the municipality's boundaries.

22           Subd. 3. **Authorization.** The municipality may defray all or part of the total costs of  
23 municipal street improvements and maintenance by apportioning street improvement fees on a  
24 uniform basis to all eligible property located in the district.

25           Subd. 4. **Adoption of plan.** Before establishing a municipal street improvement district  
26 or authorizing a street improvement fee, the municipality must propose and adopt a street  
27 improvement plan that identifies and estimates the costs of proposed improvements and  
28 maintenance for the following five years and identifies the location of the municipal street  
29 improvement district. Notice of a public hearing on the proposed plan must be given by mail to  
30 all affected owners of eligible property at least ten days before the hearing and posted for at least  
31 ten days before the hearing. At the public hearing, the governing body must present the plan, and

1 all affected owners of eligible property in attendance must have the opportunity to comment  
2 before the governing body considers adoption of the plan.

3 Subd. 5. **Use of fees.** Revenues collected from property in a district from the fee  
4 authorized in this section must be placed in a separate account and be used only for projects  
5 located within that same district and identified in the municipal street improvement district plans.

6 Subd. 6. **Unpaid fees.** Fees that, as of October 15 of each calendar year, have remained  
7 unpaid for at least 30 days may be certified to the county auditor for collection as a special  
8 assessment payable in the following calendar year against the affected property.

9 Subd. 7. **Notice; hearings.** The municipality may impose a municipal street improvement  
10 fee provided in this section by ordinance. The ordinance must not be voted on or adopted until  
11 after a public hearing has been held on the question.

12 Subd. 8. **Not exclusive means of financing improvements.** The use of the municipal  
13 street improvement fee by the municipality does not restrict the municipality from imposing  
14 other measures to pay the costs of local street improvements or maintenance, except that the  
15 municipality must not impose special assessments for projects funded with street improvement  
16 fees.

**RESOLUTION NO. 09-04-25**

**A RESOLUTION REQUESTING AUTHORITY  
TO ESTABLISH A MUNICIPAL STREET IMPROVEMENT DISTRICT**

Councilmember Leigh, Seconded by Councilmember DeMers, introduced the following resolution and moved its adoption:

**WHEREAS**, residents and businesses benefit from a sound, efficient and adequately funded transportation system that offers diverse modes of travel; and

**WHEREAS**, under-investment in transportation infrastructure diminishes quality of-life for Minnesota residents and hinders Minnesota's progress as a national business, economic and civic leader; and

**WHEREAS**, the integrity of the City of East Grand Forks's transportation infrastructure is dependent upon long-term planning and ongoing maintenance, both of which require dedicated and sustainable revenue sources; and

**WHEREAS**, existing funding mechanisms for local roads, such as special assessments, bonding and municipal state aid, have limited applications; and

**WHEREAS**, the City of East Grand Forks does not have a stable funding stream for roads to keep pace with growing costs and changing needs; and

**WHEREAS**, the cost of maintaining and repairing city streets increases by as much as six times when maintenance is deferred; and

**WHEREAS**, local cost participation requirements for trunk highway and county projects are onerous and are contributing to strains on city budgets; and

**WHEREAS**, levy limits and cuts in aids to local government have contributed significantly to destabilization of local budgets; and

**WHEREAS**, transportation infrastructure maintenance and improvement costs significantly contribute to rising property taxes; and

**WHEREAS**, the City of East Grand Fork's transportation system is failing to meet the needs necessary to promote economic development; and

**WHEREAS**, some of the City of East Grand Fork's roads are not built to modern safety standards and are not meeting the needs of industries that depend on the ability to transport heavy loads; and

**WHEREAS**, authority to establish a street improvement district would provide the City of East Grand Forks with an additional tool for funding transportation infrastructure maintenance and reconstruction.

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF EAST GRAND FORKS** that this council believes creation of a street improvement district would allow for preservation of the city's transportation infrastructure assets; and

BE IT FURTHER RESOLVED BY THE COUNCIL OF THE CITY OF EAST GRAND FORKS that this council requests that the Minnesota Legislature provide authority for the City of East Grand Forks to create a street improvement district; and

BE IT FURTHER RESOLVED BY THE COUNCIL OF THE CITY OF EAST GRAND FORKS that this Council requests that Governor Tim Pawlenty allow legislation providing authority for the City of East Grand Forks to create a street improvement district to become law.

Voting Aye: Tweten, Gregoire, Leigh, Pokrzywinski, DeMers, Grassel, and Buckalew.  
Voting Nay: None.  
Absent: None.

The President declared the resolution passed.

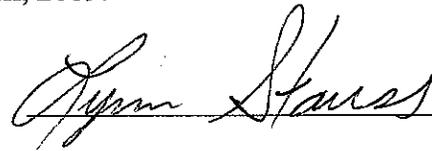
Passed: April 7, 2009

Attest:

  
\_\_\_\_\_  
City Administrator/Clerk-Treasurer

  
\_\_\_\_\_  
President of Council

I hereby approve the foregoing resolution this 7<sup>th</sup> of April, 2009.

  
\_\_\_\_\_  
Mayor



## MANDATES AFFECTING MINNESOTA CITIES

(Updated Dec. 15, 2010)

*The following list represents a compilation of some of the state and federal laws that directly impact city government operations in Minnesota. The list does not represent every law that impacts city operations nor does the list necessarily reflect the annual legislative agenda of the League of Minnesota Cities.*

### **PERSONNEL/EMPLOYEE RELATIONS**

Aggregate value of benefits (M.S. 471.6161, subd. 5)—Cities are prohibited from reducing the aggregate value of benefits in a group insurance contract without the agreement of the union. Court and arbitration decisions have interpreted this to mean that cities cannot change a provider network or increase a co-pay—even when required by the insurance carrier -- without negotiating this with the union.

Pay equity, implementation and reporting (M.S. 471.991-99)—Personnel costs have been increased by the state requirement that cities and other local governments conduct job evaluation studies, report on implementation, and meet equitable compensation standards as defined in state rules.

Workers compensation verification (M.S. 176.181)—Local licensing agencies are required to verify compliance with state workers' compensation insurance coverage requirements before they can issue or renew permits or licenses to operate a business in Minnesota. Local licensing agencies must require completion of the Certificate of Compliance for Workers' Compensation form for all businesses requiring a license or permit to operate in the state of Minnesota and turn them into the DLI before issuing a license or permit..

Public pensions - Basic and Coordinated plans (M.S. 353.27)—Cities are required to participate in the state Public Employee Retirement Association (PERA), that requires city employer contribution rates of 11.78 percent for Basic plan members and 5.53 percent (6.75 for 2009) for Coordinated plan members.

Public pensions-Police and Fire plan (M.S. 353.65)—Cities are required to participate in the state PERA Police and Fire Plan that requires a city employer contribution rate of 9.3 percent (14.1 for 2009).

Continuation of health and life insurance coverage following termination (M.S. 62A.17, M.S. 471.61 subd. 2b and M.S. 61A.092)—Cities must comply with a state requirement to offer continued health and life insurance coverage to former employees following voluntary or involuntary termination.

Continued health insurance for injured public safety officers (M.S. 299A.465)—Cities must provide continued health insurance benefits for police officers and firefighters injured in the line of duty. Prior to 2003, the law required the Department of Public Safety to reimburse cities for the full cost of administering this benefit. Since 2003, the reimbursement to cities has been on a pro-rata basis.

Prevailing wages paid on public contracts (M.S. 177.41 and A.G. Op.415c1)—The state's Davis-Bacon requirements (prevailing wage requirements), as interpreted by the Attorney General, can increase the costs of city contracts.

Veterans preference (M.S. 197.447, 455, 46, 48, 481 and 192.26)—Cities are required to give preferential treatment to veterans for hiring, protection from discharge, fully paid leave while challenging any discharge or disciplinary action, and full salary for up to three weeks for all city employees serving in the military reserves or on active duty.

Mandatory Binding Arbitration (M.S. 179A.16, .18)—Employee classes such as peace officers and firefighters are not allowed to strike. Rather, cities are mandated to comply with the compensation and benefit determinations of an appointed arbitrator, even if the elected representatives of the city's residents determine that a strike would be preferable.

PERA membership and service credit (M.S. 353.01 subd 2a)—Employees who earn more than \$425 per month are eligible to participate in PERA. This threshold has not been adjusted since 1988, which results in more part-time workers being included in the retirement system.

Permission required for employee subject to ignition interlock device to drive employer vehicle (M.S. 171.306, subd. 4)--A participant in the state's ignition interlock program may drive an employer-owned vehicle not equipped with an interlock device while in the normal course and scope of employment duties only under program guidelines established by the commissioner and with the employer's written consent.

Continuing education and professional development courses to be made available to persons with disabilities (M.S. 363A.43)—provides that upon request such courses approved or administered by a public entities must be available to persons with disabilities and that reasonable modifications be made to policies, practices and procedures that could otherwise deny equal access to continuing education to persons with disabilities. Penalties for violating these requirements include a \$500 fine per violation, plus attorney fees, costs and disbursements. The total amount of penalties is limited to \$15,000 and any action alleging a violation must be commenced within one year of the failure to comply. *Effective January 1, 2013.*

## **PUBLIC SAFETY**

Peace officer standards and training (POST) (M.S.626.84-863)—Cities are required to assure that their public safety personnel complete mandated pre-service and continuing in-service training to maintain licensed law enforcement officer status.

Temporary detention facilities/detoxification centers (M.S. 241.021)—City facilities for temporary holding of persons who have been arrested must meet state standards for the building and its maintenance.

Confined space entry (OSHA)—State and federal standards are imposed for situations where a confined space (such as a manhole) is entered. For example, there is a requirement that a minimum of two employees are present whenever a confined space is entered.

Animal control (M.S.346, 347)—State regulations set standards for facilities used for animal control, procedures for apprehending animals, and minimum holding periods.

"First responder" and firefighting by city employees on state highways—State reimbursement for these public safety services does not adequately cover the costs of performing these services.

800 megahertz radio system (M.S. 473.891-.905)—Regional public safety radio communications system for which metro-area cities must implement plans.

Ambulance staffing and equipment requirements (M.S. 144E.101)—Governed by the Emergency Medical Services Board - most recently changed in 2008.

Suspense file reduction (M.S. 299C.10-11)—Requires peace officers and community corrections agencies to immediately collect identifying information relating to persons arrested or appearing in court on certain charges. Information includes fingerprints and known aliases. Identification data must be furnished to the Bureau of Criminal Apprehension.

Peace officers post traumatic stress syndrome benefit (M.S. 299A.411)—Cities are required to pay for unreimbursed loss of wages during the time of the post-traumatic disability, not to exceed one year and for the unreimbursed expenses for medical treatment, including psychiatric or psychological counseling to relieve the effects of the post-traumatic stress syndrome, not to exceed one year.

Fine distribution for enforcement of state laws (M.S. 357.021, subd. 6)—Minnesota statutes define the distribution of fine revenue for enforcement of state laws. Although local enforcement costs have increased in recent years, the distribution to cities has not been modified. In addition, recent state-imposed traffic citation surcharges have increased the challenges of citations which increase local prosecution costs.

Fine distribution of administrative traffic citations (M.S. 169.999)—The law that authorizes cities and counties to issue administrative traffic citations provides that when the administrative traffic citation is issued by a local unit of government, two-thirds of the fine collected must be credited to the general fund of the local unit of government that employs the peace officer who issued the citation, and one-third must be transferred to the state's general fund. A local unit of government receiving fine proceeds for administrative traffic citations must use at least one-half of the funds for law enforcement purposes. The funds must be used to supplement but not supplant any existing law enforcement funding.

Forfeiture and seizure provisions (M.S. 609.531)—Officers are required to give receipts upon seizure of property related to controlled substances crimes. The local agency is required to secure seized property as prescribed in state statute.

Notification of 3.2 percent liquor licensees (M.S. 340A.403)—Cities are required to notify the commissioner of public safety within 10 days of issuing a 3.2 malt liquor license.

Must use certain colors for police uniforms and police vehicles (M.S. 626.88, 169.98)—State law sets the colors allowed for police officer uniforms. Uniforms must be predominantly blue, brown, or green. Police department motor vehicles used in patrol must be predominantly blue, brown, green, black, or white. The vehicle must display in letters at least two-and-a-half inches tall the governmental unit's identity on both front-door panels and on the rear of the vehicle. Each vehicle must have its own identifying number on the rear of the vehicle.

Use of part-time police officers restricted (M.S. 626.8468)—State law limits the use of part-time police officers. A law enforcement agency that employed a licensed part-time peace officer that was in the process of training an individual to become a licensed part-time police officer on Feb. 1, 1999, may continue to do so. No city may employ more part-time police officers than it employed in calendar year 1996, 1997, or 1998.

Profits from sale of firearms must be shared with county and state (M.S. 609.5313)—Law enforcement agencies can sell firearms, ammunition, and accessories to federally licensed firearms dealers or use them for law enforcement purposes. The proceeds are distributed 70 percent to the law enforcement agency, 20 percent to the county attorney, and 10 percent to the state.

Cities must train and equip firefighters (29 CFR 1910, M.S. 299W.01 & 299W.02)—While there is no state licensing or certification requirement for firefighters, federal and state Occupational Safety and Health Administration (OSHA) rules contain minimum training and equipment requirements. OSHA requires that employees be appropriately trained to manage the hazards they may encounter on the job.

Dangerous dog enforcement (M.S. 347.50 to 347.56)—Animal control authorities or law enforcement agencies must now enforce dangerous dog laws whether or not there is a local ordinance on the issue.

Prosecution for ordinance violations (M.S.412.861)—Cities are responsible for prosecuting all ordinance violations. The suit is brought in the name of the city upon complaint and warrant as in other criminal cases.

Hazardous buildings (M.S. 463)—To enforce the city’s order to repair or raze a hazardous building, the city must initiate and proceed with a civil court action.

## **BUILDING CODES**

Uniform building code (UBC) (Minnesota Administrative Rule 1300)—Cities are required to adopt and enforce a state uniform building code which regulates heating, ventilation, energy conservation, electric, fire standards, and plumbing. Handicap accessibility is one of the requirements which must be assured for public buildings. Cities no longer receive excess building code fees to help train local officials.

Minor residential improvements M.S. 326B.127)—Limits permit fees to \$15 or five percent, whichever is greater, for improvement, installation or replacement of a residential fixture or appliance that does not modify electric or gas service, has a labor cost of \$500 or less, and is done by the homeowner or a licensed contractor.

Building code administration (M.S. 326B.133)—Municipalities are given specific direction on how to designate a certified building official who is responsible for code administration in the city.

Bleacher Safety (M.S. 326B.112 and rules)—Establishes safety requirements that apply to all bleachers over 30 inches above grade or the floor below. Municipalities are required to provide the commissioner of Labor and Industry with a signed certification of compliance prepared by a qualified and certified building official or state licensed design professional that certifies the bleachers have been inspected, are in compliance with the safety requirements, and are structurally sound.

Pool Safety (M.S. 144.1222)—Requires cities to inspect and maintain municipal pools to new safety standards that include the installation of secure drain covers and the installation of outlets or drains that are unblockable. The outlet/drain requirements are effective for pools under four feet on January 1, 2009 and for deeper pools on January 1, 2011.

Development & Permit Fees Report (M.S. 326B.145)—Cities are required to report in detail all fees collected related to building and development in their communities if the cumulative fees collected exceeded \$5,000 in the reporting year, except that, for reports due June 30, 2009, to June 30, 2013, the reporting threshold is \$10,000. In addition, the report requires a comprehensive identification of all costs and expenses related to providing services

related to those activities. A municipality that fails to report to the Department of Labor and Industry is subject to up to a \$10,000 fine.

Lead Paint Certification (M.S. 326B.106) —When issuing permits in compliance with the State Building Code to a licensed residential building contractor, residential remodeler, manufactured home installer, or residential roofer, municipalities must verify lead certification qualifications of the licensee for renovations performed on residential property constructed prior to 1978.

Enforcement of requirements for persons with disabilities (M.S. 326B.16) —the State Building Code requirements for persons with disabilities apply statewide regardless if a city has not adopted the code. Cities that have not adopted the code must enforce the requirement by, entering into a joint powers agreement for enforcement with another municipality which has adopted the State Building Code; contracting for enforcement with an individual certified to enforce the State Building Code; or hiring or training their own staff.

## **DATA PRACTICES/OPEN MEETING LAW**

Minnesota Government Data Practices Act (M.S.13)—Nearly all government data is to be considered to be “public” under the Minnesota Government Data Practices statutes and public access to, and reproduction of this information is required. The costs and fees charged by local units of government for this data are minimal and limited.

Availability of public information to persons with disabilities (M.S. 363A.42) requires that upon request records must be made available, but the requirement does not apply to technology obtained or developed prior to January 1, 2013 or to records that cannot be made accessible without undue burden and limits penalties and award of attorney fees to \$15,000, and requiring that actions be commenced within one year of an alleged violation.

Open Meeting Law (M.S. 471.705)—Cities are generally required to open all of their meetings to the public. State law includes specific requirements for meeting notices, agendas, and minutes. Unlike violations of the law by the Legislature, city officials may be sued for alleged violations.

Job reference liability (Chapter 137, 2004 Session Laws)—Regulates city disclosure of employment information regarding current and former employees, requiring that disclosure procedures and policies be implemented to assure that information provided is complete and accurate; that disclosure of information regarding acts of violence, etc. are to be provided only in writing; that the city obtain authorization from current or former employee to the release of such information prior to disclosing public personnel data, evaluations conducted prior to separation and employee responses, employee’s personnel record and reasons (in writing) for employment separation; and provide current and former employees by mail a copy of employment information disclosed and to whom it was disclosed.

Compliance with new data practice government data classifications (Chapter 290, 2004 Session Laws)—Information such as payroll time sheets or other data that would reveal city of

residence of current and former employees, volunteers and independent contractors; data regarding employees of secure treatment facilities and their immediate family members that would reveal where they have received training or attended educational courses if such data would reveal work assignments, home address or phone number, location during non-work hours, or location of immediate family members; nonpublic classification status for preliminary and final market value appraisals of property owned by the city until a purchase agreement has been finalized or appraisals are exchanged; release to domestic abuse victim and victim's attorney of written police report and arrest data related to domestic abuse prosecution; implementation of procedures for closing, tape recording and maintaining recordings of meetings to receive security briefings.

Administrative remedies for certain violations; limited time to file and respond (M.S. 13.073, subd. 2; 13.08, subd. 4; 13.310, adding a subdivision; and 122.18, subd. 1)—requires that complaints to compel compliance under 13.08 or 13.085 may be brought within two years after the occurrence or failure to act to enforce rights under Chapter 13 or to obtain access to data to the Office of Administrative Hearings (OAH), which is authorized to hear such actions. The respondent is required to file a response to the complaint from the OAH within 15 business days of receiving the official notice of the action, and the OAH is required to make a preliminary determination regarding disposition of the complaint within 20 business days after the response is filed or the respondent's time to file the response has expired.

## **ELECTIONS**

Administrative remedy for violations of fair campaign practices (Chapter 277, 2004 Session Laws)—Cities are subject to payment of costs for the Office of Administrative Hearings to consider such complaints regarding any ballot question or elective office.

Compliance with federal Help America Vote Act (HAVA) (Chapter 293, 2004 Session Laws)—Cities are required to comply with HAVA voter registration absentee voting, military and overseas voter record reporting procedures as well as with assisted voting equipment requirements. Cities that administer absentee voting are to be open extended hours the day before election.

Conducting elections (M.S. 205)—State requirements determine when and how cities conduct elections. These laws apply to: primary, regular and special elections; elections for county, state, federal, city and some school races; the timing of the election; publication and posting of the election; the hours that polls must remain open; state-certified voting equipment; time lines for testing of voting equipment; preparation of ballots; absentee ballot procedures; and same-day voter registration.

Election judges (M.S. 204B)—Head election judge must be present in the polling place all day. Other judges may serve shifts. Head election judges must also obtain additional training (extra 2 hours--for which the head judge must be paid, plus any additional transportation costs for attending the training). State law requirements determine how many election judges are required, election judge duties, and what election judges must be paid.

Absentee ballots for overseas voters (M.S. 203B.16-17)—Overseas voters (military or civilian) may submit absentee ballot applications by fax or email (if Secretary of State determines that security concerns have been adequately addressed) as well as in writing - meaning the local election administrator must set up a process for receiving and processing fax and email absentee applications and mailing out ballots, return envelopes, etc. to additional voters living outside the U.S.

Absentee ballots for subsequent elections (M.S. 203B.16-17)—In future elections (beginning in 2001) local election administrators must automatically arrange to mail out absentee ballots for any general or special election for the remainder of the calendar year to overseas voters who previously in 2001 applied for an absentee ballot for the primary that year.

Recounts (M.S. 204C.35)—Changes to when automatic recounts must be recounted for federal, state and judicial elections means that beginning in 2001, if, in a primary, the difference in votes cast is less than one-half of one percent of the total number of votes counted for that nomination - or if the difference is 10 votes or less and the total of votes cast is 400 or less, the canvassing board (city council in most cases) must conduct a recount if the difference would determine the outcome. In a general election, if the difference is less than one-half of one percent or ten votes or less and the total number of votes cast is 400 or less, the canvassing board must also conduct a recount.

Use of public facilities for elections (M.S. 202A.19, subd. 4, 202A.192, 204B.16, subd. 6)—City councils must make their public facilities available for holding precinct caucuses and legislative district or county conventions. These facilities (including parking) must be available for city, county, state, and federal elections as well. A local government may charge no more than the lowest amount it charges any other group.

Election equipment and supplies (M.S. 204B.18, 204B.27-.29; 204C.26, 204B.32, subd. 1 (c))—The city should supply, at city expense, necessary election equipment and supplies. Each precinct should receive all necessary supplies.

Ballot Question Titles (Minn. R. 8250.0390)—The city attorney must review the title of a ballot question to determine whether it accurately describes the question asked; the title cannot be used on the ballot until approved by the city attorney.

Ballot question petitions (Minn. R. 8205.1040, 8205.1050)—The city clerk must accept petitions for ballot questions. The clerk must provide the person filing the petition with a receipt for the petition. The clerk must also inspect the form of the petition to determine if it complies with all form and filing requirements, including determining whether the petition has been signed by the required number of signatories and whether the signatories meet the applicable eligibility requirements. The clerk must complete the verification of a petition as soon as practicable but no later than ten working days after the day on which the petition was filed.

Increase in period for absentee voting (M.S. 203B.06, subd. 1; 203B.065; 203B.08, subd. 13; 203B.081; 203B.121, subds. 1-5; 203B.13, subd. 2; 203B; 204B.45, subd. 2; .)—Cities

designated to administer absentee voting must mail absentee ballot applications to voters requesting them at least 60 days prior to a city primary or general election when the city election is held simultaneously with a federal, state, county and/or school board election. When the city general election is not held in conjunction with other elections, the city is required to mail such applications at least 45 days prior to the city election. Cities are required to use political party balance in appointing members of the absentee ballot board. The absentee ballot board must begin accepting and rejecting absentee ballots 45 days prior to an election. City election officials must also enter absentee ballot application data into the Statewide Voter Registration System (SVRS) and record returned absentee ballots in SVRS as well as the notice of acceptance or rejection of returned ballots and provide accepted absentee ballots to the absentee ballot board on specific timeframes during the final 14-3 days before the election as well as to provide for training and payment of election judges and city staff to serve on such boards. Voters whose absentee ballots have been rejected must be sent written notice of the rejection and the reason(s) for the rejection. City election officials administering absentee voting are also required to reconcile each day the number of absentee ballots in the ballot box with the number of voters whose ballots have been accepted each day.

Mail-in city elections (M.S. 204B.45, subd. 2)—City election officials are required to mail vote-by-mail ballots to voters 46-14 days before the city election.

Required written notification by city to county auditor of changes made by the city to house numbers and street addresses as well as notification of filing dates for city elections; required minimum number of election judges for precinct polling places; requirements for opening the polling place on Election Day; locking the ballot box; counting and initialing of ballots; recording of discrepancy and resolution of the discrepancy between number of ballots delivered to the polls and the number cast by voters and returned to the city after the polls close (M.S. 201.11, subds.1,2; 204B.22, subd. 1; 204C.08, subd.1, 3; and 204C.24, subd. 1)

## **EMERGENCY MANAGEMENT**

Compliance with emergency medical service training requirements (Chapter 144, 2004 Session Laws)—Cities must comply with eligibility requirements for first responder trainers and to provide a physician at training and to conform to other provisions related to modifications to salary limits for ambulance service personnel; repeal on restrictions on maximum period of service for receipt of credit awards; and other measures related to local ambulance service.

Federal NIMS & MNIMS compliant (44CFR Part 201, MN Stat 115E.01-115E.11)—Cities must certify that they are compliant with NIMS by adopting a resolution formally recognizing NIMS principles and policies. Cities must train members of their emergency management

system (including staff and elected officials) using NIMs standards.

Must Adopt Emergency Management plan (MN Stat 12.25)—State law requires each city to establish a local organization to perform emergency management functions.

## **ENVIRONMENT**

Wastewater treatment standards (PCA-MN Rules Chapters 7050/7052)—State requirements exceed those set by the federal government for many standards affecting wastewater treatment. Extensive and complicated reporting requirements are mandated by the pollution control agency.

Wetlands (MN Rules Chapter 8470)—The Wetland Conservation Act must be administered by a city, county, or other local government unit including wetlands replacement, environmental review requirements, mitigation and enforcement.

Solid Waste Management (M.S. 115A, MN Rules Chapters 7035/7048)—State law specifies the existence and parameters of local recycling programs, waste collection practices, etc.

Drinking water standards (MN Rules Chapter 4720; 40CFR 141/142)—State and federal regulation of drinking water requires frequent testing and reporting to assure adherence to standards.

Surface water management organizations or plan (M.S.103)—Cities are required to participate in the development and costs of a comprehensive water management plan.

Waste disposal facilities (PCA-MN Rules Chapters 7001/7048)—State and federal regulation mandates most aspects of waste to energy facilities and sanitary landfills.

Hazardous substance transportation (M.S.221 and federal SARA)—State and federal regulations govern the transportation of hazardous substances. Cities are required to select routes for transport, and police those routes, even though they are frequently not city streets.

Minnesota Clean Indoor Air Act (M.S.144.411-17)—Cities are required to comply with and enforce the act within their public buildings.

NPDES Phase II permitting (Federal Clean Water Act; MN Rules Chapter 7050)—public education, management, mitigation and enforcement of federal clean water requirements.

Wastewater Permit Requirements (Laws 2002, chapter 220, article 8, section 15 and chapter 374, article 6, section 15)—Increase in fees to comply with permit requirements.

## **LAND USE/PLANNING/ZONING**

Land use planning (M.S. 473H)—Cities in the seven-county metro area are required by the state to have a comprehensive land use plan.

State zoning standards (M.S. 463.365)—Local zoning decisions for manufactured homes, group homes, earth-sheltered homes, etc., are limited by the state.

Flood plain management (M.S. 104.04)—The commissioner of natural resources is authorized to require and approve local government reporting on flood plain management ordinances. Costs associated with imposing local ordinances are usually borne by the local government.

Flood insurance (M.S. 104.08)—The state requires that all local governments subject to recurrent flooding participate in the national flood insurance program.

Shoreland regulations (M.S. 105.485)—The commissioner of natural resources is authorized to require and approve local government reporting on shoreland management ordinances, and monitor ongoing land use in the vicinity of the shoreland.

Must plan for growth in accordance with the President Theodore Roosevelt Memorial Bill to Preserve Agricultural, Forest, Wildlife, and Open Space Land Act (M.S. 462.357, 462.355, 103G.005)—Requires cities to consider certain open space goals promoted by the Act when adopting a comprehensive plan or amending any official control.

Feedlot zoning (M.S. 462.351 subd 1g)—When adopting land use controls related to feedlots cities must prepare a report on the economic effects from specific provisions in the feedlot ordinance. Upon completion, the report must be submitted to the commissioners of employment and economic development and agriculture along with the proposed ordinance.

Cities must provide a Board of Zoning Adjustment and Appeals to reconsider zoning decisions they have already made (M.S. 462.354 subd 2, 442.351 subd 6)—When a city has a zoning ordinance, it must, by ordinance, create a Board of Appeals and Adjustments. The board hears appeals where an error is alleged in the administration of the zoning ordinance, and hears requests for variances from the literal provisions of the ordinance. Variances can only be granted by the Board of Appeals and Adjustments

Cities must conduct studies when imposing moratoria (M.S. 462.255 subd 4)—A city council may adopt an interim ordinance (or moratorium) only if a study is being conducted or has been authorized.

Cities face restriction in the collection of park and open space dedication fees from developers (M.S. 462.358 Subd 2b)—The cash fee must now be based on fair market value of the unplatted land for which park fees have not already been paid. In order to collect these fees, cities must also adopt a capital improvement budget, have a parks and open space plan or a parks and open space component in its comprehensive plan, place the cash payments in a special fund to be used only for the purposes for which the money was obtained, use the cash payments only for the acquisition and development or improvement of parks, recreational facilities, playgrounds, trails, wetlands, or open space based on the approved park systems plan. Cash payments must not be used for ongoing operation or maintenance of parks, recreational facilities, playgrounds, trails, wetlands, or open space.

Eminent domain law requires cities to offer to sell unneeded property acquired by eminent domains to original owners at original purchase price (M.S. 117.226)—If a city determines that property acquired through eminent domain is no longer needed for a public purpose, the city must offer to sell the property back to the person it was acquired from at the original price or the current fair market value, whichever is lowest.

Cities must pay some relocation costs if eminent domain is used (42 USCA 4601-4655, M.S. 117.52 Subd 1a)—Both state and federal law protect property owners and tenants who are required to move because of eminent domain proceedings; cities, or condemning authorities, must pay relocation costs for the people who must move. In some limited circumstances, owner-occupants may waive relocation benefits. If a person must relocate but does not accept the city's relocation offer, the state law now requires that a city must seek resolution using state contested case procedures and an administrative law judge.

Cities in contested eminent domain proceedings may need to pay landowners costs and attorney's fees (M.S. 117.031)—If a person challenges a city's condemnation proceeding or amount in court, and prevails, the court may – and in some situations must – pay the person's court costs and attorney's fees.

Cities must pay for landowners appraisals in eminent domain proceedings (M.S. 117.036 Subd 2(b))—A land owner may obtain an appraisal by a qualified appraiser of the property proposed to be acquired. The owner is entitled to reimbursement for the reasonable costs of the appraisal from the acquiring authority up to a maximum of \$1,500 for single family and two-family residential property and minimum damage acquisitions and \$5,000 for other types of property, provided that the owner submits to the acquiring authority the information necessary for reimbursement including a copy of the owner's appraisal, at least five days before a condemnation commissioners' hearing.

Hearing for land use and zoning decisions (M.S. 462.357, 462.3595, 462.3597)—Prior to adopting or amending a zoning ordinance, issuing a conditional use permit, or granting an interim use permit, the planning agency or city council must hold a public hearing. Notice of the hearing must be published in the newspaper. In some cases, notice must be mailed to property owners within 350 feet of the subject property.

Hearing for subdivision applications (M.S. 462.358)—Prior to preliminary approval of a subdivision application, there must be a public hearing. Notice of the hearing must be published.

## **PUBLICATION**

Notice of election filing dates (M.S. 205.13)—At least two weeks before the first day to file affidavits of candidacy, the municipal clerk is required to publish a notice stating the first and last dates on which affidavits of candidacy may be filed in the clerk's office and the closing time for filing on the last day for filing. The clerk shall post a similar notice at least ten days before the first day to file affidavits of candidacy.

Sample ballot publication (M.S. 205.16)—For every municipal election, the municipal clerk is required at least one week before the election to publish a sample ballot in the official newspaper of the municipality, except that the governing body of a fourth class city or a town not located within a metropolitan county as defined in section 473.121 may dispense with publication.

Notice of Proposed Taxes (M.S. 275.065 Subd. 5a.)—A city that has a population of more than 2,500 is required to advertise in a newspaper a notice of its intent to adopt a budget and property tax levy at a public hearing, if a public hearing is required. The notice must be published not less than two business days nor more than six business days before the hearing. The advertisement must be at least one-eighth page in size of a standard-size or a tabloid-size newspaper. The advertisement must not be placed in the part of the newspaper where legal notices and classified advertisements appear. The advertisement must be published in an official newspaper of general circulation in the taxing authority. The newspaper selected must be one of general interest and readership in the community, and not one of limited subject matter. The advertisement must appear in a newspaper that is published at least once per week. In addition to other requirements, a city having a population of more than 2,500 must show in the public advertisement the current local tax rate, the proposed local tax rate if no property tax levy increase is adopted, and the proposed rate if the proposed levy is adopted.

Charter Election Publication Requirement (M.S. 410.10)—The notice of a charter election is required to contain the complete charter and shall be published once a week for two successive weeks in the official newspaper of the city, or if there be none, in a legal newspaper of general circulation in the city. For cities of the first class, the publication shall be made in a newspaper having an aggregate regular paid circulation of at least 25,000 copies. The governing body may in addition thereto publish the notice in any other legal newspaper published in the city.

Charter Amendments By Ordinance (M.S. 410.12)—Within one month of receiving a recommendation to amend the charter by ordinance, the city must publish notice of a public hearing on the proposal and the notice must contain the text of the proposed amendment. The city council must hold the public hearing on the proposed charter amendment at least two weeks but not more than one month after the notice is published.

Council proceedings (M.S. 412.191, subd 3)—The council, after every regular or special meeting, shall publish the official council proceedings or a summary conforming to section 331A.01, subdivision 10. As an alternative to publication, the city may mail, at city expense, a copy of the proceedings to any resident upon request. The publication shall occur within 30 days of the meeting to which the proceedings relate. Cities with a population of less than 1,000 according to the latest federal census are not required to comply with this section, but may do so at their discretion.

Ordinances (M.S. 412.191, subd 4)—Every ordinance must be published once in the official newspaper. In the case of lengthy ordinances, or ordinances which include charts or maps, if the city council determines that publication of the title and a summary of an ordinance

would clearly inform the public of the intent and effect of the ordinance, the council may by a four-fifths vote of its members direct that only the title of the ordinance and a summary be published, conforming to section 331A.01, subdivision 10, with notice that a printed copy of the ordinance is available for inspection by any person during regular office hours at the office of the city clerk and any other location which the council designates. A copy of the entire text of the ordinance shall be posted in the community library, if there is one, or if not, in any other public location which the council designates. Prior to the publication of the title and summary the council shall approve the text of the summary and determine that it clearly informs the public of the intent and effect of the ordinance. The publishing of the title and summary shall be deemed to fulfill all legal publication requirements as completely as if the entire ordinance had been published. The text of the summary shall be published in a body type no smaller than brevier or eight-point type. Proof of the publication shall be attached to and filed with the ordinance.

Municipal Contracts (M.S. 412.311)—Whenever the amount of a contract for the purchase of merchandise, materials or equipment or for any kind of construction work undertaken by the city is estimated to exceed the amount specified by section 471.345, subdivision 3, the contract shall be let to the lowest responsible bidder, after notice has been published once in the official newspaper at least ten days in advance of the last day for the submission of bids. If the amount of the contract exceeds \$1,000, it shall be entered into only after compliance with the uniform municipal contracting law (MS 471.345).

Utility Annual Financial Statements (M.S. 412.381)—An annual financial report is required to be made and a copy filed with the clerk at the close of the calendar year and shall be included as part of the annual financial report or statement of the clerk in conformity with section 471.697 or 471.698. The cost of publication of any other official statement required by law to be published shall be paid from public utility funds.

Vacation of streets (M.S. 412.851)—No vacation is permitted unless it appears in the interest of the public to do so after a hearing preceded by two weeks' published and posted notice. The council shall cause written notice of the hearing to be mailed to each property owner affected by the proposed vacation at least ten days before the hearing. The notice must contain, at minimum, a copy of the petition or proposed resolution as well as the time, place, and date of the hearing.

Announcement of hearing on annexation (M.S. 414.0333)—Both the city and town shall publish, at their own expense, notice in their respective official newspapers. If the city and town use the same official newspaper, a joint notice may be published and the costs evenly divided. All notice required by this section must be provided at least ten days before the date for the public informational meeting.

Local Improvements (M.S. 429.041)—If the estimated cost of a local improvement project exceeds \$100,000, publication is required to be made no less than three weeks before the last day for submission of bids once in the newspaper and at least once in either a newspaper published in a city of the first class or a trade paper. To be eligible as such a trade paper, a publication shall have all the qualifications of a legal newspaper except that

instead of the requirement that it shall contain general and local news, such trade paper shall contain building and construction news of interest to contractors in this state, among whom it shall have a general circulation. The advertisement shall specify the work to be done, shall state the time when the bids will be publicly opened for consideration by the council, which shall be not less than ten days after the first publication of the advertisement when the estimated cost is less than \$100,000 and not less than three weeks after such publication in other cases, and shall state that no bids will be considered unless sealed and filed with the clerk and accompanied by a cash deposit, cashier's check, bid bond, or certified check payable to the clerk, for such percentage of the amount of the bid as the council may specify.

Hearing on proposed special assessment (M.S. 429.09)—Cities must publish notice that the council will meet to consider the proposed assessment. Such notice shall be published in the newspaper at least once and shall be mailed to the owner of each parcel described in the assessment roll. Such publication and mailing shall be no less than two weeks prior to such meeting of the council.

Cooperation and Combination Plan (M.S. 465.82)—In the official newspaper of each local government unit proposing to take part in a combination, the governing body shall publish at least a summary of the adopted consolidation or combination plan, each significant modification and resolution of items, and, if appropriate, the results of each council review and comment.

Contracts to be Let (M.S. 469.015)—Before receiving bids the authority is required to publish once a week for two consecutive weeks in an official newspaper of general circulation in the community a notice that bids will be received for that construction work, or that purchase of equipment, supplies, or materials. The notice shall state the nature of the work and the terms and conditions upon which the contract is to be let, naming a time and place where bids will be received, opened and read publicly, which time shall be not less than seven days after the date of the last publication.

Tax Levy Increases for Port Authorities (M.S. 469.053)—A city is required to publish the resolution for a port authority tax increase together with a notice of public hearing on the resolution for two successive weeks in its official newspaper or, if none exists, in a newspaper of general circulation in the city. The hearing must be held two to four weeks after the first publication.

Creation of an industrial development district (M.S. 469.058)—A port authority may create and define the boundaries of industrial development districts in their port districts after holding a public hearing on the matter. At least ten days before the hearing, the authority shall publish notice of the hearing in a daily newspaper of general circulation in the port district.

Sale of property by a port authority (M.S. 469.065)—At least ten, but not more than 20, days before the hearing the authority is required to publish notice of the hearing on the proposed sale in a newspaper. The newspaper must be published and of general circulation in the port authority's county and port district. The notice must describe the property to be sold

and state the time and place of the hearing. The notice must also state that the public may see the terms and conditions of the sale at the authority's office and that at the hearing the authority will meet to decide if the sale is advisable.

Port Authority contracts for construction, equipment and supplies (M.S. 468.068)—Before receiving bids for all construction work or equipment, materials and supplies greater than \$1,000, the authority is required to publish, once a week for two consecutive weeks in the official newspaper of the port's city, a notice that bids will be received for the construction work, or purchase of equipment, supplies, or materials. The notice is required to state the nature of the work, and the terms and conditions upon which the contract is to be let and name a time and place where the bids will be received, opened, and read publicly, which time shall be not less than seven days after the date of the last publication.

Creation of economic development districts (M.S. 469.101)—At least ten days before the hearing on the creation of an economic development district, the authority is required to publish notice of the hearing in a daily newspaper of general circulation in the city.

Economic Development Authority Sale of Property (M.S. 469.105)—At least ten, but not more than 20, days before the hearing the authority is required to publish notice of the hearing on the proposed sale in a newspaper. The newspaper must be published and have general circulation in the authority's county and city. The notice must describe the property to be sold and state the time and place of the hearing. The notice must also state that the public may see the terms and conditions of the sale at the authority's office and that at the hearing the authority will meet to decide if the sale is advisable.

Economic Development Authority Tax Levies (M.S. 469.107)—A city is required to publish the resolution on an EDA levy together with a notice of public hearing on the resolution for two successive weeks in its official newspaper or if none exists in a newspaper of general circulation in the city. The hearing must be held two to four weeks after the first publication.

Tax Classification of Employment Property in an enterprise zone (M.S. 469.170)—The municipal clerk or auditor is required to publish a notice in the official newspaper of the time and place of a hearing to be held by the governing body on an application to classify property as employment property in an enterprise zone, to be held not less than 30 days after the notice is published. The notice shall state that the applicant, the assessor, representatives of the affected taxing authorities, and any taxpayer of the municipality may be heard or may present their views in writing at or before the hearing.

TIF district annual disclosure (M.S. 469.175, subd. 5)—An annual statement showing for each TIF district the information required to be reported under M.S. 469.175, subdivision 6, paragraph (c), clauses (1), (2), (3), (11), (12), (18), and (19); the amounts of tax increment received and expended in the reporting period; and any additional information the authority deems necessary is required to be published in a newspaper of general circulation in the municipality that approved the tax increment financing plan. The annual statement is required to inform readers that additional information regarding each district may be

obtained from the authority, and must explain how the additional information may be requested. The authority must publish the annual statement for a year no later than August 15 of the next year. The authority must identify the newspaper of general circulation in the municipality to which the annual statement has been or will be submitted for publication and provide a copy of the annual statement to the county board, the county auditor, the state auditor, and, if the authority is other than the municipality, the governing body of the municipality on or before August 1 of the year in which the statement must be published.

Infrastructure replacement reserve fund levy (M.S. 471.572)—Before a tax is levied under this section, the city is required to publish in the official newspaper of the city an initial resolution authorizing the tax levy.

Financial Reports for cities over 2,500 population (M.S. 471.697)—Cities are required to publish the financial report or a summary of the report, in a form as prescribed by the state auditor, in a qualified newspaper of general circulation in the city or, if there is none, post copies in three of the most public places in the city, no later than 30 days after the report is due in the office of the state auditor. The report is required to contain financial statements and disclosures which present the city's financial position and the results of city operations in conformity with generally accepted accounting principles. The report shall include such information and be in such form as may be prescribed by the state auditor

Financial Reports for cities under 2,500 population (M.S. 471.698)—Cities are required to publish the financial statement, or a summary of the statement in a form as prescribed by the state auditor, within 90 days after the close of the fiscal year in a qualified newspaper of general circulation in the city or if there is no qualified newspaper of general circulation in the city, the clerk shall, at the direction of the city council, post copies in three of the most public places in the city.

Summary Budget Statement (M.S. 471.6965)—Annually, upon adoption of the city budget, the city council is required to publish a summary budget statement in either the official newspaper of the city, or if there is none, in a qualified newspaper of general circulation in the city or in a city newsletter or other city mailing sent to all households in the city.

Municipal liquor store balance sheet (M.S. 471.6985)—Any city operating a municipal liquor store is required to publish a balance sheet using generally accepted accounting procedures and a statement of operations of the liquor store within 90 days after the close of the fiscal year in the official newspaper of the city.

Capital improvement bonds (M.S. 475.521)—Before the issuance of capital improvement bonds, the municipality is required to publish a notice of its intention to issue the bonds and the date and time of the hearing to obtain public comment on the matter. The notice must be published in the official newspaper of the municipality or in a newspaper of general circulation in the municipality. Additionally, the notice may be posted on the official Web site, if any, of the municipality. The notice must be published at least 14 but not more than 28 days before the date of the hearing.

Alternative dissemination of bids and requests (M.S. 331A.03)—In addition to or as an alternative to the statutory requirements for newspaper publication, a political subdivision may disseminate solicitations of bids, requests for information, and requests for proposals by a means authorized in paragraph (b), if the political subdivision simultaneously publishes, either as part of the minutes of a regular meeting of the governing body or in a separate notice published in the official newspaper, a description of all solicitations or requests so disseminated, along with the means by which the dissemination occurred.

(b) A political subdivision may use its Web site or recognized industry trade journals as an alternative means of dissemination. Dissemination by alternative means must be in substantially the same format and for the same period of time as a publication required by this chapter.

(c) For the first six months after a political subdivision designates an alternative means of dissemination, it must continue to publish solicitation of bids, requests for information, and requests for proposals in the official newspaper in addition to the alternative method. The publication in the official newspaper must indicate where to find the designated alternative method. After the expiration of the six-month period, an alternative means of dissemination satisfies the publication requirements of law for solicitation of bids, requests for information, and requests for proposals.

## **TRANSPORTATION**

Municipal state aid roads (M.S.162.09 and MnDOT rules)—Cities must comply with standards in order to receive reimbursement for funding for construction and maintenance of certain roads. These standards sometimes result in "overbuilding" city streets. Many items, such as full signals, landscaping, pre-engineering, and certain legal costs are not eligible for compensation.

Variances from Municipal State Aid standards (M.S. 162.09, subd. 3)—Cities that want to modify state aid roads to serve local needs must seek variances from State Aid rules and engineering standards. This requires a written request to MnDOT and compliance with the variance process.

Computer requirements (Dept. of Transportation)—The MnDOT Office of State Aid requires that cities receiving municipal state aid must purchase, and may only use, MnDOT specified network computer hardware and software.

Biodiesel fuel mandate (M.S. 239.77)—Requires that fuel sold in the state after June 30, 2005, for use in internal combustion engines, contain a minimum of two percent of biodiesel fuel by volume. The percentage is increased on May 1, 2009 to five percent. This requirement could increase fuel costs or increase maintenance costs for affected vehicles.

Railroad Quiet zones (M.S. 219.166)—Authorizes cities and others to establish "quiet zones" in which the sounding of railroad horns, whistles and other audible warnings is regulated or prohibited. Requires quiet zone ordinances and regulations to conform to federal law and

regulation. Federal Railroad Administration localities are allowed to regulate train whistles only if they establish quiet zones where all rail highway grade crossings have protective measures, including crossing gates that “fully compensate for the absence of the audible warning provided by the locomotive horn.”

Cities may be required to create cartways for landlocked property owners (M.S. 435.37)—Cities must establish a road in certain situations. A property owner who has limited access to their land may petition the city council to connect the land to a public road.

## **GENERAL GOVERNMENT/RECORD KEEPING**

Minncor (M.S.16B.181)—If annual performance goals to maximize inmate work program participation are not met, state law requires all political subdivisions that are supported in whole or in part with funds from the state treasury to purchase only from MINNCOR when purchasing the products MINNCOR produces.

Non-visual technology—A 1998 law mandates the state and all political subdivisions to require **all** technology hardware and software purchases and upgrades to satisfy non-visual technology standards that exceed the Americans with Disabilities Act (ADA) requirements. This mandate requires the purchase of technology that is either not yet available or is cost prohibitive.

Street lighting (M.S. 216C.19)—State law requires all new and replacement lighting for street and parking lot lighting to meet energy efficiency standards adopted by the Department of Transportation. Lamps with initial efficiencies of at least 70 lumens per watts, such as high-pressure sodium or metal halide lamps, are required; mercury vapor lamps may not be used.

State record retention schedule (Dept. of Administration)—State regulations determine what records cities must keep and for what length of time. Requirements include storage time ranging from three years to infinity.

60-Day Approval Requirement (M.S. 15.99)—Cities are required to complete their decision on written applications for permits and zoning changes or variances within 60 days.

Competitive bidding (M.S. 471.345 and M.S. 429.041)—The uniform municipal contracting law contains extensive regulation of the requirements for the advertising of and bidding on municipal contracts.

Examination of bonded public employees (M.S. 574.23)—An examination process is required whenever there is a change in the personnel for city clerks and treasurers.

Summary budget statement publication (M.S. 471.6965)—Annual publication of the city’s summary budget must include information relating to anticipated revenues and expenditures in a design so that a comparison may be made between the current and budget years. This must be published in the official newspaper of the city.

Home rule city charters (M.S. 410) - State regulations are provided for the framing, adoption, and amendments to the charter, and the operation of the charter commission.

Municipal liquor store financial statements (M.S. 471.6985)—Cities that operate municipal liquor stores must publish a balance sheet with a statement of liquor store operations within 90 days after the end of the fiscal year.

Fee limits for many liquor licenses (M.S. 340A.408, 340A.504, 340A.414)—The maximum fee for many liquor licenses is limited by statute; these may not reflect actual city costs in administering the license.

Annual Tax Increment District Reporting Requirements (M.S. 469.175)—Comprehensive and detailed annual reports of each TIF district are required and they must be provided by cities to County Board(s), County Auditor(s), School Board(s), and the State Auditor.

Business Subsidy Reporting—(M.S. 116J.993-995)—Local governments providing business subsidies or financial assistance are required to submit information to the DEED for two years after the benefit date, or until the goals are met, whichever is later.

Securing vacant buildings (M.S. 463.251)—Notice must be sent to the owner or owner's agent, the property taxpayer of record, holders of mortgage or sheriffs' certificates, and the neighborhood association in the metro area.

Development fees (M.S. 462.353)—Requires fees imposed under M.S. 462 must be fair, reasonable and proportionate to the actual cost of the service for which the fee is imposed. This requirement has added a level of complexity to the calculation of local development fees. The law also requires cities to establish procedures to account for the use of the fees.

Cities face penalties related to developer financial securities held by the city (M.S. 462.358 Subd 2a)—Cities have 30 days to release any financial securities after the applicant notifies the city, by certified letter, that all the city's requirements for approval are met; if a city fails to release and return letters of credit, the applicant receives any interest accrued.

Cities must bill developers for application review services at an established billing rate (M.S. 462.358 Subd 2a)—Services provided by municipal staff or contract professionals must be billed at an established rate, which may not account for unique circumstances related to individual projects and may discourage contract professionals from offering cities discounted rates for uniquely city services.

Cities utilities must follow the cold weather rule (M.S. 216B.097)—The municipal rule states that no utility shall disconnect and must reconnect utility service to a residential unit during cold weather months (Oct. 15 through April 15), if that disconnection would in any way affect the primary heat source of the unit and the consumer complies with the provisions of the rule. "Disconnection" includes a service or load limiter or any device that limits or interrupts electric service in any way. The rule also requires various notices and hearings.

Cities must pay interest on utility deposits (M.S. 325E.02)—State law requires that any privately or publicly owned water, gas, telephone, cable television, electric light, heat, or power company pay interest on deposits of more than \$20. The rate of interest must be set annually and be equal to the weekly average yield of one-year United States Treasury securities adjusted for constant maturity for the last full week in November. The interest rate must be rounded to the nearest tenth of one percent. By December 15 of each year, the commissioner of commerce shall announce the rate of interest that must be paid on all deposits held during all or part of the subsequent year.

Cities must turn over unclaimed utility deposits to state (M.S. 354.34)—Utility deposits left unclaimed for more than one year after service is terminated are considered abandoned. State law requires abandoned utility deposits be paid over to the state each year.

Governmental Accounting Standards Board (GASB) (GASB Statement No. 34)—Established new financial reporting standards for state and local governments throughout the United States. All cities in Minnesota must now comply with extensive GASB 34 standards for financial reporting including but not limited to reporting costs of terminations, intangible assets, and depreciation schedules for all city assets, other post employment benefits and implicit subsidies.

Federal audits (31 U.S.C.A. § 7502 (a) (1) et seq. 31 U.S.C.A. § 7503)—The Federal Single Audit Act, requires that all local units of government receiving \$300,000 or more per year in federal funds obtain either a single audit or a program-specific audit. The federal audits must be conducted annually unless the city is authorized by statute to undergo less frequent audits; in this case, the audit may be done biennially. The biennial audit must cover both years within the biennium.

State mandated audits (M.S. 471.697)—Cities with populations over 2,500 must conduct an annual audit. Cities may use their audit to report to the agencies that gave the federal aid, rather than conducting separate audits for each agency.

State summary budget publication (M.S. 471.6965)—Annually, upon adoption of the city budget, the city council must publish a summary budget statement. The statement must be published either in the official newspaper of the city, or if there is none, in a qualified newspaper of general circulation in the city; or in a city newsletter or other city mailing sent to all households in the city.

Summary budget reports (M.S. 6.745)—Cities must send summary budget information to the state auditor, using forms prescribed by the state auditor. This summary budget data must be provided to the state auditor no later than Jan. 31.

State required financial activity reports (M.S. 6.74)—In addition to all of the above, cities are required to report their financial activities each year to the Office of State Auditor.

## **TAXES/REVENUE RESTRICTIONS**

New taxes prohibited (M.S. 477A.016)—Prohibits counties, cities, towns or other taxing authorities from increasing a present tax or imposing a new tax on sales or income.

Local Option Sales Taxes (M.S. 297A.99)—Requires that cities seeking authority to impose a local sales tax must 1) adopt a council resolution, 2) receive special legislative authority to impose a sales tax, and 3) receive approval from the voters via a referendum. The statute also restricts the use of the sales tax proceeds to capital project and requires that the tax must sunset for one year after the project has been funded.

Property tax personnel training (M.S. 273.0755)—Requires that every person licensed by the state board of assessors at the Accredited MN Assessor level or higher shall successfully complete a week-long MN laws course sponsored by the Department of Revenue at least once every four years.

Training for local boards of review (M.S. 274.014)—Requires that at least one member of the local boards of review must attend an appeals and equalization course developed or approved by the commissioner of revenue starting January 1, 2006.

Valuation and classification notice (M.S. 273.121)—Requires notices for all properties on the tax rolls, not just for those that were reassessed or reclassified that year, requiring the notices to show the market value and classification of the property for both the current and previous year's assessment and authorizing the commissioner to specify the form of the notice for all counties.

Department of Revenue cost of collecting local sales taxes (M.S. 297A.99)—Requires the Commissioner of Revenue deduct from the payments of local sales tax collections to local jurisdictions, the cost of constructing and maintaining a zip code or geo-code data base as required by the streamlined sales and use tax agreement for administration of local sales taxes. This requirement only impacts those cities that currently impose a local sales tax.

Levy limits (M.S. 275.70-.73)—Cities with populations of 2,500 or more are restricted under state law from increasing property taxes beyond a state-imposed level. This restriction is currently in effect for taxes payable years 2009, 2010 and 2011.

Tax exempt property (State Constitution and M.S. 272.02)—Many properties in cities are defined by state statute as exempt from property taxes imposed by the city. The use and nature of these properties frequently increase city costs (police and fire protection, road maintenance, street lighting, etc.). Examples include: state institutions, such as universities, hospitals, corrections facilities, and other state-owned properties.

Limitations on local special assessments (M.S. 429)—Statutory restrictions are imposed on the uses, notices, hearings, bidding, contracts, apportionment of cost, assessment procedures, and collection of special assessments.

Local improvement requirements (M.S. 429.031)—Feasibility reports must contain information showing the need and cost effectiveness of the project.

Limitations on maximum penalties and fine (M.S. 609.033-0391)—Statutory restrictions are placed on allowable penalties and fines for ordinance violations, and petty and gross misdemeanors.

Truth-in-taxation (M.S. 275.065)—State law requires that cities must provide property owners with preliminary information on the impact of proposed property tax changes through a parcel-specific notification prepared by the county. The notice must also include information on the hearing or hearings where the public will be able to comment on the city's budget. In addition, when the city publishes in its official newspaper the proceedings or summary of the proceedings of the hearing where the preliminary levy is adopted, the time and place of those subsequent hearings must be included in the published notice. Cities must certify a proposed levy amount by September 15 and, with few exceptions, are not allowed to increase this amount. Cities must also pay a proportional share of the counties' costs of preparing and mailing parcel specific notices.

## **MISCELLANEOUS**

State sales and MVST on city purchases (M.S. 297A)—Cities are required to raise, through property taxes or fees, adequate revenue to pay the 6.875 percent sales tax on most city purchases of goods and services. In addition, they must pay the motor vehicle sales tax (MVST) on vehicles such as road maintenance vehicles, plows, dump trucks, etc.

Maintenance of Effort-Grandfathered contributions to regional libraries (M.S. 134.34)—The state requires that once a city participates in funding a regional library, the minimum contribution made may not be reduced.

Ordinance copies to law libraries (M.S. 415.021)—Cities are required to furnish copies of any ordinances they adopt to the local county law libraries and do not receive reimbursement for reasonable copying charges unless they make a request to the library.

TIF grant fund cancellation—Cancels the appropriations to the TIF grant fund (\$91 million in FY 2002 and \$38 million in FY 2003 and thereafter) and repeals the entire grant program enacted in 2001 for grants payable in 2003 and thereafter. At least part of the rationale for the TIF grant fund was that the impacts on existing districts resulted from the state's changes to the property tax system. Where a city has outstanding bonds or other obligations, it will now have to look for internal solutions to address the impacts from prior state actions. (Laws 2002, chapter 220, article 13, section 8)

Required equipment and apparel purchases (M.S. 181.986)—prohibits public employers from knowingly purchasing or acquiring, furnishing or requiring an employee to purchase or acquire for wear or use while on duty, apparel or public safety equipment not manufactured in the United States. In addition, preference must be given to purchases from manufacturers who pay an average annual income equal to at least 150 percent of the federal poverty guideline adjusted for a family of four.

# Request for Council Action

Date: January 5, 2011

To: East Grand Forks City Council, Mayor Lynn Stauss, President Dick Grassel, Council Vice President Henry Tweten, Council Members: Marc Demers, Craig Buckalew, Wayne Gregoire, Greg Leigh, and Mike Pokrzywinski.

Cc: File

From: Michael S. Hedlund – Chief of Police

RE: Police Department HVAC System Replacement

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Background: The primary East Grand Forks Police Department Heating, Ventilating and Air Conditioning (HVAC) System currently consists of three rooftop units (additional unit heaters are present in the garage bays and in one storage area which is located off of a garage bay). These units include one 15 ton cooling capacity unit and two 7.5 ton cooling capacity units. I believe that these units are original from the time the building was retrofitted to become the Police Department facility. We have had to make repeated repairs to all of these units. Problems with the current system include uneven heating/cooling with very significant temperature differences being found from one room to the next. We also have significant humidity issues in the summer – this is generally believed to be caused by the incorrect size of the heating/cooling units – the systems cool the air down too quickly to effectively remove sufficient moisture so the building has constant high levels of humidity in the summer. An additional problem with the current situation is that the jail cells are served by one of these units with added heat supplied by a “plenum heater” in the ductwork. This seems to be an ineffective and/or inefficient system as the cells are consistently quite cold. Xcel Energy did an energy audit of the facility in May 2009 and EAPC did an Energy Evaluation that was submitted to the City in May 2010. In the Xcel Energy report they state that the current units are nearing the end of their expected life cycle and that significant energy savings can be had with the replacement of these units. The EAPC report is very extensive and recommends replacing the current units with high efficiency gas furnaces. A copy of the EAPC report was provided to each of the six companies that was contacted reference this project. We received proposals from three of the six companies. Proposals were submitted by McFarlane, Grand Forks Heating and Custom Aire. The proposal from Grand Forks Heating and one of the proposals from McFarlane both essentially involve the replacement of the current systems with three new rooftop units that are correctly sized for this building. This McFarlane proposal did not include an estimated cost for testing and balancing the system. When I contacted their representative they stated that it would be approximately \$4,000 to \$4,500. The bid from Custom Aire involved replacing the current units with Aeon rooftop units that include air source heat pumps. I spoke to a representative from Custom Aire who stated that their units would be significantly more cost efficient than standard rooftop units and

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would not use natural gas until the outside temperature reaches 5 degrees. I spoke to an outside consultant who is not affiliated with any of these companies but does work in the field. He stated that in his opinion the heat pumps do not save as much money as typically advertised, especially with the current relatively low cost of natural gas. He stated that the heat pumps are also more prone to higher on going maintenance costs. The second proposal from McFarlane is in line with the EAPC reports recommendation and involves the installation of four high efficiency furnaces, four two stage heat pumps and four energy recovery ventilators.

On a related note, Chuck Narlock of Tru-Temp Heating and Cooling, (the company currently doing the maintenance of the system) has stated that in his opinion our problems would be best served by removing one of the existing units and reworking the existing ductwork to utilize the two remaining units. He would then recommend adding a new heating system for the cell areas that would be more efficient and not involve the significant amount of air exchange that currently occurs in that area unless it is occupied. He felt that would enhance efficiency and allow for better warming of that area. Mr. Narlock did not submit a proposal for this project.

The original proposal from Grand Forks Heating also did not include a cost for the balancing and testing. Upon my request they provided additional information, which is attached to their initial proposal.

Recommendation:

Enclosures:

1. Bid from Grand Forks Heating.
2. Bid for roof top units from McFarlane
3. Bid from Custom Aire
4. Bid for interior furnaces from McFarlane
4. Xcel Energy Evaluation
5. EAPC Report – Pages specifically related to this project – entire report available upon request

Attachment #1

# GRAND FORKS HEATING

2800 GATEWAY DRIVE  
Grand Forks, ND 58203  
(701) 746- 8838  
(701) 746-0290 FAX

**BID PROPOSAL**

**DATE: 11-19-10**

**JOB: EGFPD HVAC System**

## BID INCLUDES:

- Remove old roof top units
- Install new Carrier units with humidifier humidifier option on each.
- Replace current 30 ton load with 18.5 ton load
- High efficiency units
- Test and Balance system
- New humidity/temperature control thermostats
- Electrical work included

**PRICE: \$41,409.00**

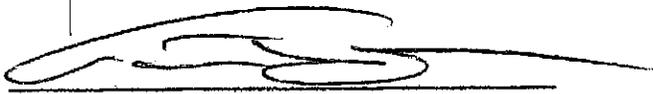
## BID EXCLUDES:

- Duct work modifications, balancing dampers, zoning
- Roofing (shouldn't be required, however roof is in bad shape)

**\*\*We will balance the system as well as possible, however we cannot guarantee identical temperatures in all rooms without modifications to duct work.\*\***

All material and labor for the above work are guaranteed for one year from the installation date. Workers Safety and Insurance and Liability insurance are provided by Grand Forks Heating, Inc. This proposal may be withdrawn if not accepted with in 30 days.

**AUTHORIZED SIGNATURE**



**TIM OLSON**

**GRAND FORKS  
HEATING**

2800 GATEWAY DRIVE  
GRAND FORKS, ND 58203

PH(701) 746-8838

FAX(701) 746-0290

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***Fax Transmittal Form***

**To: Mike Hedlund**  
EGF Police Department

**From**  
TIM OLSON  
tim.gfhtg@integra.net

**RE: HVAC Remodel proposal**

Date sent: 12-9-10

Time sent: 7:25 am

# of pages including cover page: 1

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Message: Mike,

I did get your phone message but have been out of the office for a couple of days.

To answer your question; Grand Forks Heating will use an air flow hood to balance the system as well as possible after the new installation.

If certain rooms still are not satisfactory, then we would look at duct work modifications and or adding more supply or return air to those areas as necessary.

We could give estimates at that time. Generally, the cost would be \$35/hour for labor plus materials.

With the three units in the condition they were when we visited (two were not operating) it was not possible to get an accurate idea of what rooms may or may not have problems. It is really impossible to estimate until we have a fully functioning system.

We would recommend a \$5,000.00 allowance for duct modifications to the existing systems should they be necessary.

Thank you,

  
Tim Olson  
Project Manager/Estimator

A#achment#2

# MCFARLANE

Endless. Expert. Energy.

P.O. Box 12095  
Grand Forks, ND 58201  
Ph: (701) 772-9511  
Fax: (701) 772-7528

PROPOSAL SUBMITTED TO		PROPOSAL NUMBER	DATE
EGF Police Dept.		2011-0104	11/19/2010
STREET		JOB NAME	
		EGF PD HVAC System	
CITY, STATE, AND ZIP CODE		JOB LOCATION	
		East Grand Forks	
ARCHITECT	DATE OF PLANS	CONTACT PERSON	JOB PHONE
		Michael S. Hedlund	218-773-1104

**WE PROPOSE TO PERFORM THE FOLLOWING:**

- Provide and Install the following.
- One CARRIER 48TCDB 5 TON Rooftop Unit
- One CARRIER 48TCDB 6 TON Rooftop Unit
- One CARRIER 48 TCDE 7 1/2 TON Rooftop Unit

**Includes:** Removal of existing RTU's, curb modification adapters, revised gas piping, revised control wiring.

**Electrical Disconnect and Reconnect by Eagle Electric.**

**Repair of Generator Intake/Exhaust dampers with the addition of Birdscreens.**

**Excludes:** Test and Balance of New RTU's.

**We Propose** hereby to furnish material and labor – complete in accordance with above specifications, for the sum of Thirty Four Thousand Five Hundred Dollars.....(\$34,500)

Monthly progress payments will be submitted on all projects over \$5,000. Monthly progress payments are due by the 20<sup>th</sup> of the following month. A late payment charge of 1 1/2% per month will be assessed on all accounts 30 days past due. All work to be completed in a workmanlike manner according to standard practices. Any alterations or deviations from the above scope of work involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature Bill Starn

Note: This proposal may be withdrawn by us if not accepted within 30 days.

**Acceptance of Proposal** –The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature \_\_\_\_\_

Date of Acceptance: \_\_\_\_\_

Signature \_\_\_\_\_

Attachment # 3



5525 1st Avenue North  
Grand Forks, ND 58203  
www.customaire.net

## HVAC BID PROPOSAL

November 19, 2010

Attn: Chief Mike Hedlund

East Grand Forks Police Department

Project: EGFPD HVAC System  
East Grand Forks, MN

Custom Aire, Inc. proposes to furnish and install **HVAC** complete. Work is to include the following. Demolition of existing units, modifying generator intake with new damper and bird screen, adding bird screen to generator exhaust, 3 –new Aaon roof tops, new thermostats, air balancing start-up of equipment, and owner training. Roof tops are sized to control heating, cooling and humidity problems.

Aaon RQ units will give you best value and efficiency for the dollar while giving you a commercially rated unit. The listed items below are a quick snapshot of energy saving methods employed in this unit that differentiate this unit from other more residential style construction.

- Air source heat Pump with average heating COP of 3.2 (i.e 320% efficient) with operation down to 5 deg F.
- Variable frequency drives to increase fan efficiency by an average of 18%
- R-13 Foam injected thermally broke construction ( compared to standard units at R-4) average savings over standard units of 10%
- Stainless Steel NG 80% gas furnace efficiency at full fire with increased efficiency due to fully modulating gas burner which also adds to comfort level by the constant discharge air temp.
- ECM condenser fan motors 15 % more efficient than standard motors
- Modulating digital Scroll Compressor, Saving over traditional cycling compressors on average of 22%, also leads to better humidity control and space comfort in the space.

### EXCLUDES:

- |                            |                     |
|----------------------------|---------------------|
| ➤ Allowances / Contingency | ➤ Bond              |
| ➤ Temporary Heat           | ➤ CAD drawings      |
| ➤ Temporary Facilities     | ➤ Engineering Stamp |

Acknowledge Addendum 1

(701) 775-0305 Fax: (701) 775-0402 E-Mail: quality@customaire.net



5525 1st Avenue North  
Grand Forks, ND 58203

www.customaire.net

**BASE BID: \$57,590.00**

**No bid on the gas fired furnace, air source heat pumps with air exchangers.**

Thank you for the opportunity to submit this quote to you. If you have any questions please call our office.

**THIS PROPOSAL WILL EXPIRE IN 30 DAYS.**

Sincerely,

Dwayne Stenhjem  
Project Coordinator

To accept this proposal and authorize us to begin planning for the job, sign, date and return one copy of this proposal or fax to 701-775-0402.

Accepted By: \_\_\_\_\_ Date: \_\_\_\_\_

# MCFARLANE

Endless. Expert. Energy.

P.O. Box 12095  
 Grand Forks, ND 58201  
 Ph: (701) 772-9511  
 Fax: (701) 772-7528

PROPOSAL SUBMITTED TO		PROPOSAL NUMBER	DATE
EGF Police Dept.		2011-0104 Revised	1/5/2010
STREET		JOB NAME	
		EGF PD HVAC System	
CITY, STATE, AND ZIP CODE		JOB LOCATION	
		East Grand Forks	
ARCHITECT	DATE OF PLANS	CONTACT PERSON	JOB PHONE
		Michael S. Hedlund	218-773-1104

**WE PROPOSE TO PERFORM THE FOLLOWING:**

**Provide and Install the following.**

- Four Carrier High Efficiency Furnaces**
- Four Carrier 2 Stage Heat Pumps**
- Four Renewaire Energy Recovery Ventilators**

**Includes: Removal of existing RTU's, curb caps, revised gas piping, revised control wiring, furnace venting, revised supply and return air ductwork to allow installation of the furnaces above the ceiling, removal and replacement of ceiling as necessary.  
 Electrical Disconnect and Reconnect by Eagle Electric.  
 Repair of Generator Intake/Exhaust dampers with the addition of Birdscreens.**

**To include Test and Balance of new systems ADD \$4,300**

**We Propose** hereby to furnish material and labor -- complete in accordance with above specifications, for the sum of Seventy Three Thousand Six Hundred Dollars-----**(\$73,600)**

Monthly progress payments will be submitted on all projects over \$5,000. Monthly progress payments are due by the 20<sup>th</sup> of the following month. A late payment charge of 1 ½% per month will be assessed on all accounts 30 days past due. All work to be completed in a workmanlike manner according to standard practices. Any alterations or deviations from the above scope of work involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature



Note: This proposal may be withdrawn by us if not accepted within 30 days.

**Acceptance of Proposal** --The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature \_\_\_\_\_

Date of Acceptance: \_\_\_\_\_

Signature \_\_\_\_\_



PO Box 637  
East Grand Forks, MN 56721  
PH: 701-746-0449 FAX: 218-773-2203

**TO: McFarlane, Inc.**  
3473 North Washington St  
PO Box 12095  
Grand Forks, ND 58208-2095

**Attention: Bill Stauss**  
**Phone: 701-740-0435**  
**Email: bstauss@mcfarlane-e3.com**

**EGF Police Dept.**  
520 Demers Avenue  
East Grand Forks, MN 56721

**Estimate for the electrical construction replacement of 3-heat/cool roof top units as per specifications and as listed below:**

1. Remove and replace 4-existing fluorescent lights in west hallway and report room for the installation of new furnace equipment to be installed
2. Disconnect 3-existing heat/cool roof top units (2-7.5 ton units and 1-15 ton unit)
3. Connect 4-new air conditioner roof top units with disconnects (1-50 amp unit and 3-40 amp units)
4. Install 4-20 amp 120 volt dedicated circuits for new gas furnace units and connect gas furnace units mounted above drop ceiling in building, controlled from unit disconnect switch
5. Install 4-20 amp 120 volt outlets for condensate pump units at each gas furnace
6. Provide 4-18/8 low voltage control conductors from the new gas furnace units to the thermostat control location inside building
7. Install 4-20 amp 120 volt outlets for 4-air to air units located adjacent to the new gas furnaces
8. Install 1-20 amp 120 volt weatherproof GFCI protected duplex outlet on roof top in order to meet 2011 NEC code regulations
9. Disconnect 1-existing steam humidifier unit mounted in duct work in the report room
10. Install 1-100 amp 1PH 208 volt 8-circuit subpanel and 3-60 amp 1PH 208 volt 4-circuit subpanels located adjacent to the new interior HVAC equipment in order to supply them with individual branch circuits

**NOTES**

- Any additions or subtractions to the scope of work as listed above will be completed on a time and material basis
- Any roof repairs or penetration needed for completion of electrical construction will be completed by other
- All branch circuits required to supply new roof top units will be provided by existing conductors, conduits and fused disconnects
- All low voltage control wiring connections at air conditioner roof top units, gas furnaces, air to air units and thermostats will be completed by others
- MN Wiring Certificate and all inspections required by the MN State Electrical Board included in bid price

## CUSTOMER SUMMARY PAGE

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<b>Customer Name:</b>	<u>East Grand Forks Police Station</u>	<b>Account Number(s):</b>	<u>51-4795150-8</u>
<b>Service Address:</b>	<u>City of East Grand Forks</u> <u>520 Demers Avenue</u> <u>East Grand Forks, MN 56721</u>		
<b>Additional Service Address:</b>	<u></u>	<b>Additional Service Address:</b>	<u></u>
<b>Customer Contact:</b>	<u></u>	<b>Site Contact:</b>	<u>Chief Mike Hedlund</u>
<b>Phone:</b>	<u></u>	<b>Phone:</b>	<u>218/ 773-2283</u>
		<b>Email:</b>	<u>mhedlund@eastgrandforks.net</u>

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<b>Xcel Energy Rep:</b>	<u>Julie Woolford</u>	<b>Energy Auditor:</b>	<u>John Ipsen</u>
<b>Phone:</b>	<u>715/ 737-4057</u>	<b>Company:</b>	<u>GDS Associates, Inc</u>
<b>Fax:</b>	<u></u>	<b>Phone:</b>	<u>608-273-0182</u>
<b>Email:</b>	<u></u>		

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<b>Building Type:</b>	<u>Police Station</u>	<b>Peak Demand:</b>	<u></u>
<b>Electric Service Provided by:</b>	<u>Unknown</u>	<b>Gas Service Provided by:</b>	<u>Xcel Energy</u>
<b>Date of Site Visit:</b>	<u>5/11/2009</u>	<b>Square Footage:</b>	<u>11,850 sqft</u>

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## **Disclaimer**

Xcel Energy and the service provider do not guarantee that a specific level of energy or cost savings will result from the implementation of energy conservation measures described in the recommendations in this Energy Assessment. Xcel Energy and the service provider shall not, under any circumstances, be liable to the customer in the event that potential energy savings are not achieved.

The recommendations in this report are based on an analysis of conditions observed at the time of the survey, information provided by customer representatives and Xcel Energy, and costs based on service provider experience on similar projects. The performance guidelines provided in the report are for informational purposes only and are not to be construed as a design document. Xcel Energy will not benefit in any way from your decision to select a particular contractor or vendor to supply or install the products and measures recommended by the service provider.

Xcel Energy advises that customers check with their Xcel Energy sales representative to determine the estimated value of their rebate and to verify that the equipment qualifies for Xcel Energy programs prior to implementing any conservation measure. Some measures identified in this report may qualify for an Xcel Energy Custom Efficiency rebate. Custom Efficiency projects require pre-approval prior to purchase and installation. The customer is responsible for submitting project information to their Xcel Energy sales representative to obtain pre-approval for Custom Efficiency projects and to determine the eligible custom rebate amount.

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- I. Executive Summary
- II. Facility and Operations Description
- III. Energy Profile
  - a. Total Annual Energy Expense
  - b. Annual Electric Consumption (kW, kWh, power factor, \$, \$/kWh, load factor)
  - c. Electric Energy End-Use Breakdown
  - d. Annual Gas Consumption (therms, \$, \$/CCF, DD, CCF/DD)
  - e. Gas Energy End-Use Breakdown
- IV. Energy Conservation Opportunity
  - a. Summary of Recommendations
  - b. Conservation Opportunity Analysis
  - c. Strategic Opportunity Analysis
- V. Additional Information
- VI. Equipment Inventories (as appropriate)
- VII. Glossary

## Executive Summary

The 11,850 square foot building houses the police department offices, several holding cells, a prisoner visiting area, and a vehicle storage garage. The facility is open at all times, although the office area usage varies at different times of the day and week. The building was constructed in 1995 and is generally in good condition. Future replacement of equipment with high efficiency equipment is highly recommended since the facility is never unoccupied or closed. Automated controls are also very advantageous due to the continual but varied space occupancy.

## Energy Conservation Opportunities

Summary of Energy Conservation Recommendations

	Energy Conservation Opportunities	Estimated Annual Cost Savings (\$)	Estimated Capital Cost (\$)	Simple Payback (Years)	Estimated Xcel Energy Incentives (\$)*
1	CFL Lighting	\$ 90	\$ 56	0.6	*
2	HVAC Replacement	\$ 8,627	\$ 31,500	3.7	\$ 225*
3	Occupancy Sensors	\$ 10	\$ 75	7.9	*
4	Super T8 Fixtures	\$ 6	\$ 95	17.1	*

\*Items marked with an asterisk are electric energy efficiency measures. Please check with your electric provider before purchasing/implementing these measures for available incentives.

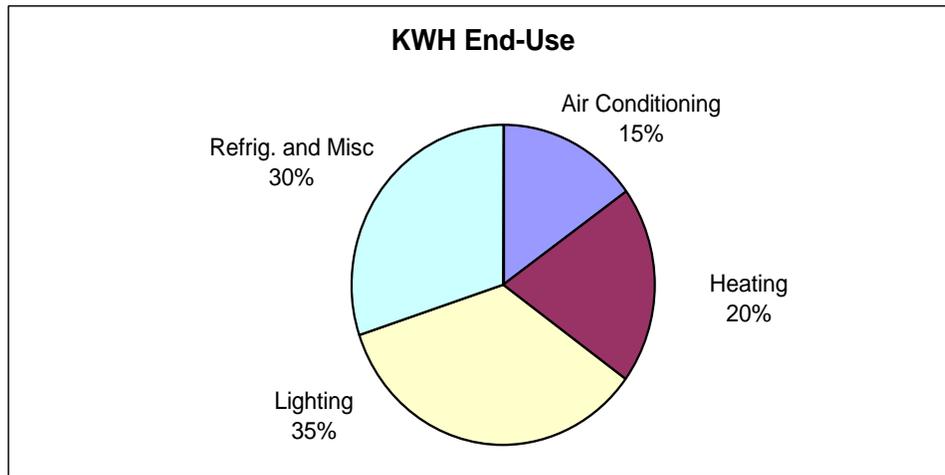
## Facility and Operations Description

Primary energy uses in the building are lighting, cooling, and space heating. Three (3) gas-fired rooftop units (RTU) with direct expansion refrigerant cooling sections serve all but the garage area. One 15-ton cooling unit serves the central core areas and the two smaller 7-1/2 ton units serve each end of the building. Controls consist of one programmable thermostat for each unit, which provides all control of each constant-volume single zone unit. Combustion efficiency on units is 80%. The building is generally provided with 32 watt T8 fluorescent lighting. The dispatch area has 3-lamp fixtures, but the remainder of the building is mostly 4-lamp fixtures. The building appears to be reasonably weather-tight and insulated. Any future replacement of the roof should include investigating the advantages of adding more building insulation. Exterior metal personnel entry doors are generally in good condition, but should be periodically checked for needed repair of damaged or missing weather-stripping.

## Energy Profile

The electric utility annual use was not available at the time of the East Grand Forks Police Station energy audit. For this report, any estimated savings were calculated using an electric rate of \$0.08/KWh.

Electric Energy End Use Profile



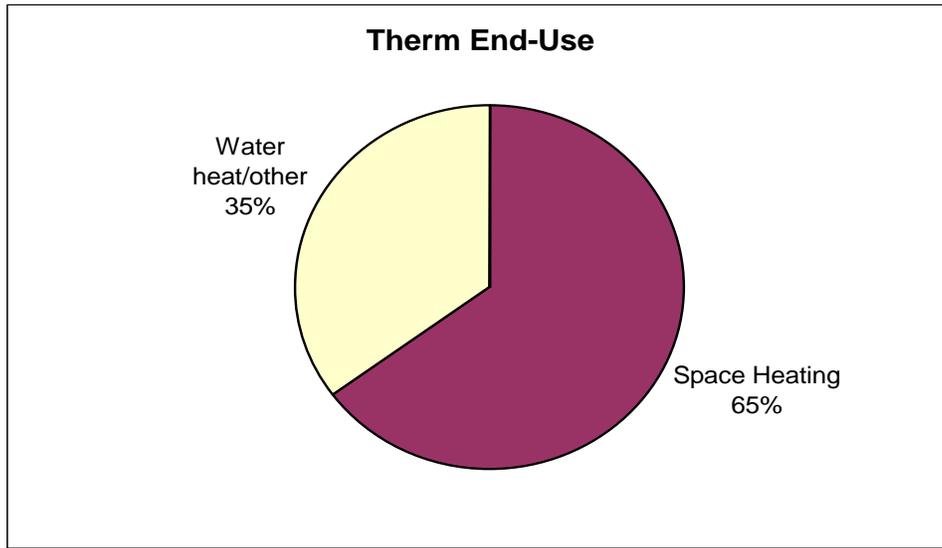
This chart shows the areas of electric use and their approximate percentage of total annual electric consumption.

Annual Natural Gas Consumption – Previous 12 months (definition of terms can be found in the glossary)

April 2008 – March 2009

Date	Days	Heating Degree Days	Use Therms	Cost \$	Average \$/Therm
March-09	29	1,515	1,847	\$ 1,599.25	\$ 0.87
February-09	31	1,721	2,154	\$ 2,157.82	\$ 1.00
January-09	32	2,163	3,294	\$ 3,522.43	\$ 1.07
December-08	33	1,445	1,840	\$ 1,896.04	\$ 1.03
November-08	29	634	302	\$ 303.94	\$ 1.01
October-08	29	224	106	\$ 133.92	\$ 1.26
September-08	33	95	53	\$ 97.02	\$ 1.83
August-08	29	1	44	\$ 101.57	\$ 2.31
July-08	32	25	75	\$ 147.09	\$ 1.96
June-08	30	194	109	\$ 190.63	\$ 1.75
May-08	29	540	221	\$ 314.54	\$ 1.42
April-08	32	1,014	497	\$ 634.53	\$ 1.28
<b>TOTALS</b>	<b>368</b>		<b>10,542</b>	<b>\$11,098.78</b>	<b>\$ 1.05</b>

Natural Gas End Use Profile



This chart shows the areas of natural gas use and their approximate percentage of total annual natural gas consumption.

Energy Star Benchmarking Results

Not a benchmarked facility type.

**Energy Conservation Opportunities**

Summary of Recommendations

For detailed description, please refer to the Conservation Opportunity Analysis section following this table.

Energy Conservation Opportunity	Estimated Demand Savings (kW)	Estimated Energy Savings (kWh)	Estimated Nat Gas Savings (Therms)	Estimated Annual Cost Savings (\$)	Estimated Capital Cost (\$)	Simple Payback (Years)	Estimated Xcel Energy Incentives (\$)*
<b>Payback less than 2 years (low/no cost opportunities)</b>							
1 CFL Lighting	0.4	1,123		\$ 90	\$ 56	0.6	*
<b>Retrofit opportunities payback 2 – 10+ years</b>							
2 HVAC Replacement	8.0	8,119	996	\$ 8,627	\$ 31,500	3.7	\$ 225*
3 Occupancy Sensors		120		\$ 10	\$ 75	7.9	*
4 Super T8 Fixtures	0.02	69		\$ 6	\$ 95	17.1	*
<b>Discount Rate Opportunities</b>							
5							

\*Items marked with an asterisk are electric energy efficiency measures. Please check with your electric provider before purchasing/implementing these measures for available incentives.

## Conservation Opportunity Analysis

### **Task 1 – CFL Lighting**

The second floor storage level has several (est. 8) fixtures with incandescent lamps that should be replaced with compact fluorescent fixtures (CFLs).

Information attached to this report indicates a potential annual savings of 0.4 KW and 1,123 KWh of electricity for a savings of \$90 per year in energy costs. A first cost of \$56 is estimated for this energy saving measure, resulting in a payback of 0.6 years.

This measure may be eligible for an energy efficient rebate. Please check with your electric provider for possible opportunities before installing or implementing any energy efficient measures.

### **Task 2 – HVAC Replacement**

Three (3) gas-fired rooftop units (RTU) with direct expansion refrigerant cooling sections serve all but the garage area. One 15-ton cooling unit serves the central core areas and the two smaller 7-1/2 ton units serve each end of the building. These units are nearing the end of their expected life and will probably need replacement in the next few years. At that time, units with the highest available cooling efficiency should be considered and may also qualify for efficiency rewards from Xcel Energy. Full economizer cooling capability should be provided where available.

Information attached to this report indicates a potential annual savings of 8 KW and 8,119 KWh and 996 Therms for a savings of \$8,627. Estimated first cost is \$31,500 for a payback or 3.7 years.

The heating portion of this measure qualifies for an Xcel Energy Heating System Rebate. The rebate amount is good for \$75 per furnace for a total of \$225 for this measure. This measure may be eligible for a cooling energy efficient rebate. Please check with your electric provider for possible opportunities before installing or implementing any cooling units.

### **Task 3 – Occupancy Sensors**

There are occupancy sensors in general areas, but there are many opportunities for adding controllers to turn off lighting when office and work spaces are not being used. Staff is generally conscientious about turning off lights, but there is still room for improvement, which can be assured with automated controllers. The offices are open for all three shifts, but the actual rooms are randomly used by occupants of each shift.

Information attached to this report indicates an average potential annual savings of 120 KWh of electricity for a savings (per two fixtures) of \$10 per year in energy costs. A first cost of \$75 is estimated for this energy saving measure, resulting in a payback of 7.9 years.

This measure may be eligible for an energy efficient rebate. Please check with your electric provider for possible opportunities before installing or implementing any energy efficient measures.

## Task 4 – Energy Efficient Lighting

The building is generally provided with 32 watt T8 fluorescent lighting. The dispatch area has 3-lamp fixtures, but the remainder of the building is mostly 4-lamp fixtures. Possible improvements include:

- Replacing fixtures or lamps and ballasts with high-performance T8 units, which use about 20% less energy.
- Where spaces are over-lit, investigate reducing the number of fixtures or installing units with less lamps per fixture.
- Delamping existing fixtures (removing 2 lamps from 4-lamp fixtures) saves minimal energy when the one ballast is sized to power four lamps in the fixture.
- Hallways and corridors that are overlit can have the 32 watt lamps replaced with lower wattage lamps; 28 watt lamps are commonly used.

Replacing the lighting with Super T8 fixtures offers a potential annual savings of 0.02 KW and 69 KWh of electricity (per fixture) for a savings of \$6 per year in energy costs. A first cost of \$95 is estimated for this energy saving measure, resulting in a payback of 17.1 years.

This measure may be eligible for an energy efficient rebate. Please check with your electric provider for possible opportunities before installing or implementing any energy efficient measures.

### Strategic Opportunity Analysis

None identified at this time

## For More Information

In addition to the energy conservation measures we recommend in this energy assessment, Xcel Energy offers cash rebates and a variety of payment and billing programs to better manage your cash flow. *BillWise from Xcel Energy<sup>SM</sup>* programs include payment options like

- Auto Pay – a simple and convenient way to have monthly energy payment automatically withdrawn from a bank account on the day it is due.
- EFT (Electronic Funds Transfer) – allows simplification of the bill paying process and improving cash management by directly transferring money from your account to Xcel Energy.
- Pay By Phone – allows quick and secure transfer of energy payment from a bank account directly to Xcel Energy, right over the phone, at no cost.
- Credit/Debit Cards Payments – allows payment of energy bill online or by phone using a credit or debit card for a small fee.

The Billing options include – EDI (Electronic Data Interchange) which allows receipt of your energy bill electronically the day after the billing cycle is complete. More information on all these programs can be obtained by discussing eligibility requirements with your Xcel Energy representative. You also can call the Business Solution Center at 1-800-481-4700 or visit us at [xcelenergy.com](http://xcelenergy.com) for more information about qualifying for cash rebates, discount rates or billing/payment options.

Xcel Energy hopes you find this information valuable and that you consider adapting the strategies that are outlined. If you need help funding your energy projects, Xcel Energy also offers financing to help you make energy and process improvements that will give your business a competitive edge. Financing is subject to bank approval. Once approved, you can take advantage of these benefits:

- No down payment required
- Terms up to five years
- Loans cover qualifying equipment and contract labor, or study costs over \$1,000
- Competitive interest rates as low as 0%
- Make payments on an Xcel Energy bill
- Flexible loan amounts to meet your needs

## Equipment Inventories

Attach as appropriate

## Glossary

The following definitions will help you understand the information and how it relates to your energy bills.

**Actual Demand** is the highest average 15 minutes of demand over a billing period.

**Billed Demand** is the actual demand plus the adjusted demand for power factor correction.

**CCF** is 100 cubic feet of natural gas. For the purposes of measuring energy use, a therm and a CCF of natural gas are equivalent.

**Load Factor** is a measure of efficiency. Load factor is the ratio of average load in kilowatt supplied during a designated period to the peak load occurring that period.

$$\text{Load Factor} = \frac{\text{kWh supplied in a period}}{\text{Peak kW in a period} \times \text{Hours in a Period}}$$

**Power Factor** measures how effectively your equipment uses electric current from the utility. Power factor is a measure of how effectively the current delivered to the equipment is converted into useful energy, and is shown as a percentage. If your power factor is below 90 percent Xcel Energy, like many utilities, charges extra for low power factor, because it costs the utility more to build and operate the additional equipment that carries the extra current to operate your equipment.

**Therm:** A therm is a unit of energy equivalent to 100,000 BTU.

**Report For:**

**City of East Grand Forks  
Law Enforcement Facility**

**Address:**

**520 DeMers Ave. NW  
East Grand Forks, MN**

**Energy Evaluation**



**Submitted To:**

**City of East Grand Forks  
Attn: Nancy Ellis**

**EAPC Project # 20102780**





25 May 2010

City of East Grand Forks Law Enforcement  
520 DeMers Ave. NW  
East Grand Forks, MN 56721

SUBJ: Energy Evaluation

RE: Evaluation of Building, and  
HVAC Systems.

FILE: 20102780

Attn: Nancy Ellis

Dear Nancy:

Pursuant to your request, the undersigned staff of EAPC visited the subject Property on 2-18-2010 to make a visual review of the existing heating, ventilation, and air conditioning (HVAC) systems, and Architectural components of the building occupied by the City of East Grand Forks, MN Law Enforcement.

#### PART I: BACKGROUND

1. The existing Heating, Ventilation, and Air Conditioning Systems appear to be operating inefficiently, ineffectively, and at the end of the normal life expectancy of the units.
2. The occupied spaces are reportedly difficult to maintain consistent and acceptable comfort levels.
3. Doors, windows, roofing, and lighting are potential sources of wasted energy and have been reviewed.

#### PART II: EXISTING CONDITIONS

##### ARCHITECTURAL

1. Daylight was observed through the seals around two walk-in doors, indicating failed seals and potential energy loss. Replacement of the doors and seals is recommended and will save energy loss due to infiltration of unconditioned air.
2. The surface of the West facing exterior wall of the building is troweled surface and has become severely cracked. Moisture may be able to enter the wall structure causing continued damage and possible mold and mildew problems inside the building. Adding a new facing to the West wall is recommended. A new face brick façade would provide a very durable and long lasting, low maintenance surface.



3100 DeMers Avenue • Grand Forks, ND 58201 • 701.775.3000 (t) • 701.772.3605 (f)  
Bemidji, MN • Fargo, ND • Jamestown, ND • Bismarck, ND • Norwich, VT

www.eapc.net  
Page 60

3. The windows are double pane standard glass. Replacement with low-e insulated glass will provide energy savings through better glass performance as well as allowing for re-sealing of the windows against infiltration during the installation.
4. The roofing has had leaks and many patches over the years and replacement with new R=30 roof system is recommended. This replacement will improve the insulating value of the roof and reduce energy losses.

## MECHANICAL

1. The heating, ventilation, and air conditioning systems include three 80% efficient natural gas fired packaged roof top units, several power roof ventilators for exhaust from bathrooms, kitchen, holding cells, and the garages. The garages are heated by four 80% efficient natural gas fired unit heaters. The hot water is provided by an 80% efficient natural gas fired domestic water heater.
2. Existing Primary Heating and Cooling Equipment:
  - a. Roof Top Unit RTU-1  
Carrier:  
Model: 48TJF008---511  
Serial: 4895G30634  
Heating Capacity: 179 MBH Max output.  
Cooling Capacity: 7.5Tons
  - b. Roof Top Unit RTU-2  
Carrier (same as RTU-1)  
Unable to find nameplate info.  
Heating Capacity: 179 MBH Max output.  
Cooling Capacity: 7.5 Tons
  - c. Roof Top Unit RTU-3  
Model: 48TJE016  
Serial: 4595F78292  
Series 5Q90Q  
Heating Capacity: 216,000 Btuh Max output.  
Cooling Capacity: 15 Tons
  - d. Unit Heaters UH-1, 2, 3, and 4  
Model: Reznor, 80% Efficient.  
Heating Capacity: 75,000 Btuh each.
  - e. Water Heater - WH  
Model: Natural Gas Fired, 80% Efficient.

3. The existing mechanical HVAC systems are reported to be performing in such a manner as to over/under heat, and over/under cool some of the spaces served.
4. The amount of fresh air being brought into the building by the roof top units is inconsistent since the roof top unit fans cycle on and off with the thermostats calling for heating or cooling. The amount of fresh air the roof tops unit bring into the building when running is unknown and appears to be excessive since strong positive air pressure was observed at the roof access door at the time of our visit to the building.
5. According to the mechanical plans for the building, the supply ductwork from one roof top unit serves the same spaces as the return ducts from another roof top unit.
6. The HVAC systems and controls in those areas include digital programmable thermostats for each RTU, and a variable air volume terminal box on RTU-3 only.
7. There are six roof mounted exhaust fans, three fans were observed to be operating at the time of this visit.
8. Four 80% efficient natural gas fired Unit Heaters provide heating in two garages and the property storage room.
9. The gas fired unit heaters serving the shop/garage areas have locally mounted thermostats.

### PART III. RECOMMENDATIONS

1. It is recommended that the existing 80% efficient gas fired roof top units, 80% efficient gas fired water heater, and 80% efficient gas fired unit heaters be replaced with 96% high efficiency gas furnaces, air source heat pumps, energy recovery ventilators, 92% high efficiency water heater, and 92% high efficiency unit heaters.

The total estimated cost of           \$ 88,166  
 Divided by a savings of               \$ 8,395  
 Gives a Simple Payback Period of 10.5 years.

2. It is recommended that the walk-in doors be replaced in order to improve the weather seal performance.

The total estimated cost of           \$ 4,000  
 Divided by a savings of               \$ 206.47  
 Gives a Simple Payback Period of 19.4 years.

3. The windows may be replaced in order to improve the weather seal performance.

The total estimated cost of \$ 14,000

No payback period is available since the period is much longer than the life expectancy of the windows.

4. The exterior facade may be replaced in order to improve the condition and weather performance.

The total estimated cost of \$ 44,000

No payback period is available since the period is much longer than the life expectancy of the windows.

5. The West vestibule glass may be replaced in order to improve the weather seal performance.

The total estimated cost of \$ 25,000

No payback period is available since the period is much longer than the life expectancy of the windows.

6. It is recommended that the roofing be replaced in order to improve the energy and weather seal performance.

The total estimated cost of \$ 107,100

No payback period is available since the period is much longer than the life expectancy of the roofing.

PART IV. OPINION OF ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COSTS

*\*Notes: Construction costs do not include any asbestos abatement work if any.  
Assumes electrical service is adequate for added loads.*

*A. Heating, Ventilation, and Air Conditioning Systems:*

<i>1. Remove Three Packaged Roof Top Units.</i>	<i>\$</i>	<i>2,100</i>
<i>2. Remove one natural gas fired water heater.</i>	<i>\$</i>	<i>500</i>
<i>3. Four New 96% Efficient Natural Gas Fired Furnaces, and 15 SEER Heat Pumps for the Offices.</i>	<i>\$</i>	<i>57,585</i>
<i>4. Four New Energy Recovery Ventilators to serve the furnaces.</i>	<i>\$</i>	<i>5,950</i>
<i>5. Four New 92% Efficient Gas Fired Unit Heater.</i>	<i>\$</i>	<i>7,500</i>
<i>6. New domestic water heater, High Efficiency Electric with COP=2.4.</i>	<i>\$</i>	<i>3,000</i>

*B. Miscellaneous Electrical Connections:*

<i>1. 4 – Furnaces</i>	<i>\$</i>	<i>1,200</i>
<i>2. 4 – Air Source Heat Pumps</i>	<i>\$</i>	<i>2,000</i>
<i>3. 1 – Energy Recovery Ventilator</i>	<i>\$</i>	<i>500</i>
<i>4. 4 – Unit heaters</i>	<i>\$</i>	<i>800</i>
<i>5. 1-Domestic Water</i>	<i>\$</i>	<i>500</i>

*C. Architectural Building Upgrades and Repairs:*

<i>1. Replace Walk-in Exterior Doors.</i>	<i>\$</i>	<i>4,000</i>
<i>2. Replace Windows with Low-e insulating.</i>	<i>\$</i>	<i>14,000</i>
<i>3. Replace West Exterior Wall Surface with Face Brick.</i>	<i>\$</i>	<i>44,000</i>
<i>4. West Entry Exterior Glass Allowance.</i>	<i>\$</i>	<i>25,000</i>
<i>5. Replace Roof with R-30 Roofing System.</i>	<i>\$</i>	<i>107,100</i>
<i>6. Painting.</i>	<i>\$</i>	<i>7,500</i>

*D. A/E fees*

<i>1. Architectural/Engineering (8%)</i>	<i>\$</i>	<i>22,658</i>
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**TOTAL COST**                    **\$**                    **305,893**

PART IV: DISCLAIMER

The conclusions and opinions contained in this report are based on information directly observed by EAPC, reported to EAPC, or otherwise made known to EAPC, and are held to a reasonable degree of engineering certainty. Any new or subsequent information may void all or part of this report.

Please contact us if you have any questions concerning this report.

Respectfully submitted,



Brion Mahin P.E. (ND PE-4882)

for  
EAPC

BDM

Enclosures:

- Attachment 1
- Attachment 2
- Attachment 3
- Attachment 4

**ATTACHMENT 1**



**ATTACHMENT 2**

**ATTACHMENT 2**

Date: 5/24/2010  
 Project: EGF City Police Dept. Energy Analysis



**Description: Trace 700 Calculations Review.**

Given:	Fuel Type:	Nat Gas	Nat Gas	Nat Gas/ASHP
	System Type:	Gas Fire dRoof Top Units, Unit Heaters.	Gas Fired Roof Top Units, Unit Heaters. Trace Alt1	Gas Furnaces and Air Source Heat Pumps Trace Alt2
<b>Comparison of Actual vs. Calculated Existing, and Calculated New Systems.</b>		<b>Existing Performance</b>	<b>Calculated Performance.</b>	<b>Calculated New System Performance.</b>
Building Area (s.f.):		11,187		
Annual Consumption of Fuel (Therms/year):		11,156		
Annual Cost of Consumed Fuel (Therms):				
Estimated Building Load (Btuh/sf/year):				
Estimated Building Load (MMBtuh/year):				
Cost per Therm Nat Gas:		\$0.96		
System Efficiency %:		75		
Usage Percentage for year:		100		
Conversion Nat Gas Btu/Therm:		100,000		

**Find:** Calculated Net Project Savings.

**Solution:** Convert "Annual Consumption of Fuel (Therms/year)" to (kBtu/yr):

Multiply by 100 kBtu/Therm,	1,115,600	kBtu/yr	
Subtract Estimated Auxiliary Load: Domestic Water Heater (Btuh/yr):	156,100	kBtu/yr	
<b>Gives Annual Heating Nat Gas Energy Use by System (Btuh):</b>	<b>959,500</b>	<b>kBtu/yr</b>	

<b>Trace Results, From "Energy Consumption Summary":</b>			
Electrical Use (kWh/yr):		18,717	23,984
Nat. Gas Use (kBtu/yr):		382,840	298,762

**Calculated Nat Gas \$ Savings:**

Annual Heating Nat Gas Energy Use by Existing System (Btuh):	959,500 kBtu/yr	
Subtract Annual Heating Nat Gas Energy Use by New System (Btuh):	298,762 kBtu/yr	
Saved Energy, Nat. Gas (kBtu/yr):	660,738 kBtu/yr	
Divide by 100 Therms/kBtu:	6607.38 Therms	
Multiply by \$0.959/ Therm,	\$0.959	
<b>Gives Saved \$/year for Nat Gas:</b>		<b>\$6,336</b>

**Calculated Electric Use Cost \$ Change:**

Annual Heating Electrical Energy Use by Existing System (kWh):	18,717 kWh/yr	
Subtract Annual Heating Electrical Energy Use by New System (kWh):	23,984 kWh/yr	
Net Energy Use Change (kWh/yr):	-5,267 kWh/yr	
Multiply by \$0.818/kWh	\$0.082	
<b>Gives Added \$ Cost for Electric Use (\$/kWh):</b>		<b>-\$430.84</b>

Savings by Changing to Hybrid Electric COP=2.3 Domestic Water Heater: \$232  
 Savings by adding Ventilation Heat Recovery per attached calculation: \$1,017

<b>Total Savings:</b>	<b>\$7,155.11</b>
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# ENERGY CONSUMPTION SUMMARY

By EAPC

	Elect Cons. (kWh)	Gas Cons. (kBtu)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
<b>Alternative 1 - Existing Systems</b>					
<b>Primary heating</b>		382,840	56.0 %	382,840	382,840
Primary heating			0.0 %	0	0
Other Htg Accessories			56.0 %	382,840	382,840
Heating Subtotal					
<b>Primary cooling</b>			7.4 %	50,618	151,870
Cooling Compressor	14,831		0.7 %	5,030	15,090
Tower/Cond Fans	1,474		0.0 %	0	0
Condenser Pump			1.2 %	8,232	24,699
Other Clg Accessories	2,412		9.3 %	63,880	191,660
Cooling Subtotal....	18,717				
<b>Auxiliary</b>			0.0 %	0	0
Supply Fans			0.0 %	0	0
Pumps			0.0 %	0	0
Stand-alone Base Utilities			0.0 %	0	0
Aux Subtotal....					
<b>Lighting</b>			34.7 %	237,300	711,970
Lighting	69,528				
<b>Receptacle</b>			0.0 %	0	0
Receptacles					
<b>Cogeneration</b>			0.0 %	0	0
Cogeneration					
<b>Totals</b>	<b>88,245</b>	<b>382,840</b>	<b>100.0 %</b>	<b>684,020</b>	<b>1,286,470</b>

Existing System  
 NAT GAS  
 ANNUAL  
 Consumption (kBtu)

Existing System  
 ELECTRICITY USED  
 FOR HEATING (kWh/yr).

\* Note: Resource Utilization factors are included in the Total Source Energy value.  
 \*\* Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

# ENERGY CONSUMPTION SUMMARY

By EAPC

	Elect Cons. (kWh)	Gas Cons. (kBtu)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
<b>Alternative 2 - Gas Furnaces - High Efficiency with Air Source Heat Pumps</b>					
<b>Primary heating</b>		298,762	41.0 %	300,327	303,456
Primary heating	458				
Other Htg Accessories	33,156		15.5 %	113,161	339,517
Heating Subtotal	33,614	298,762	56.4 %	413,488	642,973
<b>Primary cooling</b>			7.4 %	54,207	162,636
Cooling Compressor Tower/Cond Fans	15,882		1.1 %	8,072	24,219
Condenser Pump	2,365		0.0 %	0	0
Other Clg Accessories	5,736		2.7 %	19,577	58,737
Cooling Subtotal...	23,984		11.2 %	81,856	245,592
<b>Auxiliary</b>			0.0 %	0	0
Supply Fans			0.0 %	0	0
Pumps			0.0 %	0	0
Stand-alone Base Utilities			0.0 %	0	0
Aux Subtotal....			0.0 %	0	0
<b>Lighting</b>			32.4 %	237,300	711,970
Lighting	69,528				
<b>Receptacle</b>			0.0 %	0	0
Receptacles					
<b>Cogeneration</b>			0.0 %	0	0
Cogeneration					
<b>Totals</b>	127,126	298,762	100.0 %	732,643	1,600,535

*NEW SYSTEM ESTIMATED CONSUMPTION - ANNUAL (kBtu/yr).*

*NEW SYSTEM ELECTRICAL USE (kWh/yr). ANNUAL*

\* Note: Resource Utilization factors are included in the Total Source Energy value.  
 \*\* Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.



# System Checksums

By EAPC

RTU-2

Single Zone

COOLING COIL PEAK		CLG SPACE PEAK		HEATING COIL PEAK		TEMPERATURES	
Peaked at Time: Mo/Hr: 7 / 16		Mo/Hr: Sum of OADB: Peaks		Mo/Hr: Heating Design OADB: -30			
Outside Air: OADBWB/HR: 90 / 69 / 76							
Sens. + Lat. Btu/h	Plenum Btu/h	Net Percent Total Btu/h	Space Percent Sensible Of Total Btu/h	Envelope Loads Btu/h	Space Peak Btu/h	Coil Peak Btu/h	Percent Of Total (%)
Envelope Loads	0	0	0	Envelope Loads	0	0	0.00
SkyLite Solar	0	0	0	SkyLite Solar	0	0	0.00
SkyLite Cond	0	0	0	SkyLite Cond	0	0	0.00
Roof Cond	0	0	0	Roof Cond	0	-5,324	15.92
Glass Solar	0	0	0	Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0	Glass/Door Cond	0	0	0.00
Wall Cond	762	572	6	Wall Cond	-4,224	-8,142	24.35
Partition/Door	0	0	0	Partition/Door	0	0	0.00
Floor	0	0	0	Floor	-6,120	-6,120	18.30
Adjacent Floor	0	0	0	Adjacent Floor	-4,341	-4,341	12.98
Infiltration	1,068	1,068	5	Infiltration	-14,685	-23,927	71.56
Sub Total ==>	1,830	4,907	31	Sub Total ==>			
Internal Loads	4,390	1,098	26	Internal Loads	0	0	0.00
Lights	2,169	0	10	Lights	0	0	0.00
People	4,806	0	22	People	0	0	0.00
Misc	11,365	1,098	58	Misc	0	0	0.00
Sub Total ==>	2,333	-2,333	13	Sub Total ==>	-3,686	-10,591	31.67
Ceiling Load	0	0	0	Ceiling Load	0	0	0.00
Ventilation Load	0	0	0	Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0	Adj Air Trans Heat	0	0	0.00
Dehumid. Ov Sizing	0	0	0	Ov/Undr Sizing	0	0	0.00
Exhaust Heat	0	-678	-3	Exhaust Heat	1,080	1,080	-3.23
Sup. Fan Heat	0	0	0	OA Preheat Diff.	0	0	0.00
Ret. Fan Heat	0	0	0	RA Preheat Diff.	0	0	0.00
Duct Heat PkUp	0	0	0	Additional Reheat	0	0	0.00
Underfir Sup Ht PkUp	0	0	0	Underfir Sup Ht PkUp	0	0	0.00
Supply Air Leakage	0	0	0	Supply Air Leakage	0	0	0.00
Grand Total ==>	15,528	2,994	100.00	Grand Total ==>	-18,371	-33,437	100.00

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Coil Airflow cfm
Main Cig	1.8	18.8	671
Aux Cig	0.0	0.0	0
Opt Vent	0.0	0.0	0
Total	1.8	21.4	671

ENGINEERING CKS	
% OA	Heating Ent °F
14.6	49.2
0.42	55.0
376.20	62.8
901.78	49.2
13.31	0.0
5	0.0

AREAS	
Gross Total	Glass ft² (%)
Floor	1,608
Part	0
Int Door	0
ExFir	85
Roof	1,608
Wall	850
Ext Door	0

AIRFLOWS	
Cooling	Heating
Diffuser	671
Terminal	671
Main Fan	671
Sec Fan	0
Nom Vent	98
AHU Vent	98
Infil	40
MinStop/Rh	0
Return	711
Exhaust	138
Rm Exh	0
Auxiliary	0
Leakage Dwn	0
Leakage Ups	0



# System Checksums

By EAPC

UH 1 2 3 4 5

Unit Heaters

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
Peaked at Time: Outside Air:		Mo/Hr: 0/0 OADBWB/Hr: 0/0/0		Mo/Hr: 0/0 OADB: 0		Mo/Hr: Heating Design OADB: -30		SADB		Cooling		Heating			
Space Sens. + Lat.	Plenum	Net Percent Total	Space Percent Sensible	Space Peak	Coil Peak Percent	Ra Plenum	Return	Ret/OA	Fn MtrTD	Fn BidTD	Fn Frict				
Btu/h	Btu/h	Btu/h (%)	Btu/h (%)	Btu/h	Btu/h (%)	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h				
Envelope Loads				Envelope Loads											
SkyLite Solar	0	0	0	SkyLite Solar	0	0	0	SkyLite Cond	0	0	0	0.0	125.0		
SkyLite Cond	0	0	0	SkyLite Cond	0	0	0	Roof Cond	0	0	0	0.0	50.8		
Roof Cond	0	0	0	Roof Cond	0	0	0	Glass Solar	0	0	0	0.0	70.0		
Glass Solar	0	0	0	Glass Solar	0	0	0	Glass/Door Cond	-20,475	25.62	0	0.0	67.4		
Glass/Door Cond	0	0	0	Glass/Door Cond	0	0	0	Wall Cond	-22,036	27.57	0	0.0	0.0		
Wall Cond	0	0	0	Wall Cond	0	0	0	Partition/Door	-566	0.71	0	0.0	0.0		
Partition/Door	0	0	0	Partition/Door	0	0	0	Floor	-16,020	20.04	0	0.0	0.0		
Floor	0	0	0	Floor	0	0	0	Adjacent Floor	0	0	0	0.0	0.0		
Adjacent Floor	0	0	0	Adjacent Floor	0	0	0	Infiltration	-8,329	10.42	0	0.0	0.0		
Infiltration	0	0	0	Infiltration	0	0	0	Sub Total ==>	-57,577	95.49	0	0.0	0.0		
Sub Total ==>	0	0	0	Sub Total ==>	0	0	0	Internal Loads							
Internal Loads				Internal Loads				Lights	0	0.00	0	0.0	0		
Lights	0	0	0	Lights	0	0	0	People	0	0.00	0	0.0	1,362		
People	0	0	0	People	0	0	0	Misc	0	0.00	0	0.0	110		
Misc	0	0	0	Misc	0	0	0	Sub Total ==>	0	0.00	0	0.0	0		
Sub Total ==>	0	0	0	Sub Total ==>	0	0	0	Ceiling Load	-18,748	0	0	0.00	0		
Ceiling Load	0	0	0	Ceiling Load	0	0	0	Ventilation Load	0	0.00	0	0.00	0		
Ventilation Load	0	0	0	Ventilation Load	0	0	0	Adj Air Trans Heat	0	0.00	0	0.00	0		
Adj Air Trans Heat	0	0	0	Adj Air Trans Heat	0	0	0	Ov/Undr Sizing	0	0.00	0	0.00	0		
Ov/Undr Sizing	0	0	0	Ov/Undr Sizing	0	0	0	Exhaust Heat	0	0.00	0	0.00	0		
Exhaust Heat	0	0	0	Exhaust Heat	0	0	0	OA Preheat Diff.	0	0.00	0	0.00	0		
Sup. Fan Heat	0	0	0	OA Preheat Diff.	0	0	0	RA Preheat Diff.	0	0.00	0	0.00	0		
Ret. Fan Heat	0	0	0	RA Preheat Diff.	0	0	0	Additional Reheat	0	0.00	0	0.00	0		
Duct Heat PkUp	0	0	0	Additional Reheat	0	0	0	Underflr Sup Ht PkUp	0	0.00	0	0.00	0		
Underflr Sup Ht PkUp	0	0	0	Underflr Sup Ht PkUp	0	0	0	Supply Air Leakage	0	0.00	0	0.00	0		
Supply Air Leakage	0	0	0	Supply Air Leakage	0	0	0	Grand Total ==>	-76,324	-79,926	100.00				
Grand Total ==>	0	0	0	Grand Total ==>	0	0	0								

HEATING COIL SELECTION			
Capacity	Coil Airflow	Ent	Lvg
MBh	cfm	°F	°F
-79.9	1,285	67.4	125.0
Main Htg	0.0	0.0	0.0
Aux Htg	0.0	0.0	0.0
Preheat	0.0	0.0	0.0
Humidif	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0
<b>Total</b>	<b>-79.9</b>		

AREAS		
Gross Total	Glass	ft² (%)
3,085		
Floor	320	
Part	0	
Int Door	223	
ExFlr	3,085	0
Roof	2,793	340
Wall	0	0
Ext Door	0	0

COOLING COIL SELECTION			
Total Capacity	Sens Cap.	Coil Airflow	Enter DBWB/Hr
ton	MBh	cfm	°F
0.0	0.0	0	0.0
Main Clg	0.0	0	0.0
Aux Clg	0.0	0	0.0
Opt Vent	0.0	0	0.0
<b>Total</b>	<b>0.0</b>		

# New - System Checksums

By EAPC

F-1

Fan Coil

COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time: Outside Air:			Mo/Hr: 7 / 17			Mo/Hr: Heating Design			Cooling Heating			
OADBWB/HR: 89 / 68 / 72			OADB: Peaks			OADB: -30			SADB 55.0 106.9			
Space Sens. + Lat.	Plenum	Net Percent	Space Sensible	Space Percent	Space Peak	Coil Peak	Percent	Ra Plenum	Return	Fan MtrTD	Fan BldTD	Fan Frict
Btu/h	Btu/h	Total Of Total (%)	Btu/h	(%)	Sens	Sens	Of Total (%)	75.0	76.9	0.0	0.0	0.0
Envelope Loads												
SkyLite Solar	0	0	0	0	0	0	0.00					
SkyLite Cond	0	0	0	0	0	0	0.00					
Roof Cond	0	23	0	0	0	0	12.16					
Glass Solar	8,879	22	14,088	43	-1,776	2.15	9.99					
Glass/Door Cond	257	1	132	0	-8,244	0.00	0.00					
Wall Cond	732	3	438	1	-9,288	0.00	11.26					
Partition/Door	0	0	0	0	0	0	0					
Floor	0	0	0	0	0	0	0					
Adjacent Floor	0	0	0	0	-6,166	7.47	0					
Infiltration	1,272	3	636	2	-21,136	43.03	0					
Sub Total ==>	10,960	52	15,293	47	-60,501	100.00	100.00					
Internal Loads												
Lights	3,833	12	3,833	12	0	0.00	0					
People	4,338	11	2,524	8	0	0.00	0					
Misc	4,792	12	4,792	15	0	0.00	0					
Sub Total ==>	12,963	36	11,149	34	0	0.00	0					
Ceiling Load	9,580	0	6,382	19	-14,375	0.00	0					
Ventilation Load	0	12	0	0	0	0.00	26.68					
Adj Air Trans Heat	0	0	0	0	0	0.00	0					
Dehumid. Ov Sizing	0	0	0	0	-24,991	30.28	0					
Ov/Undr Sizing	0	0	0	0	0	0.00	0					
Exhaust Heat	0	0	0	0	0	0.00	0					
Sup. Fan Heat	0	0	0	0	0	0.00	0					
Ret. Fan Heat	0	0	0	0	0	0.00	0					
Duct Heat PkUp	0	0	0	0	0	0.00	0					
Underfir Sup Ht PkUp	0	0	0	0	0	0.00	0					
Supply Air Leakage	0	0	0	0	0	0.00	0					
Grand Total ==>	33,503	563	38,674	100.00	-60,501	100.00	100.00					

COOLING COIL SELECTION			HEATING COIL SELECTION		
Total Capacity	Sens Cap.	Coil Airflow	Capacity	Coil Airflow	Ent
ton	MBh	cfm	MBh	cfm	°F
Main Clg 3.2	38.7	1,520	Main Htg -82.5	1,520	56.6
Aux Clg 0.0	0.0	0	Aux Htg 0.0	0	0.0
Opt Vent 0.0	0.0	0	Preheat 0.0	0	0.0
Total 3.2	38.7	0	Humidif 0.0	0	0.0
			Opt Vent 0.0	0	0.0
			Total -82.5		

ENGINEERING CKS		
% OA	Cooling	Heating
cfm/ft²	13.4	13.4
cfm/ton	471.57	1.08
Btu/hr-ft²	435.64	-58.78
No. People	27.55	10

AIRFLOWS		
Diffuser	Cooling	Heating
Terminal	1,520	1,520
Main Fan	1,520	1,520
Sec Fan	0	0
Nom Vent	204	204
AHU Vent	204	204
Infil	57	57
MinStop/Rh	0	0
Return	1,577	1,577
Exhaust	261	261
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

AREAS		
Gross Total	Glass	(%)
Floor 1,404	ft²	
Part 0		
Int Door 0		
EXFlr 129		
Roof 1,404		
Wall 1,290		
Ext Door 0		

# System Checksums

By EAPC

F-2

Fan Coil

COOLING COIL PEAK			CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time: Outside Air: OADBWBHR: 89 / 68 / 72			Mo/Hr: Sum of OADB: Peaks			Mo/Hr: Heating Design OADB: -30			Cooling Heating					
Sens. + Lat. Btu/h	Plenum Btu/h	Net Percent Total Btu/h (%)	Space Sensible Btu/h (%)	Space Percent Sensible Of Total (%)	Envelope Loads Btu/h	Space Peak Btu/h	Coil Peak Btu/h	Percent Total (%)	SADB	Ra Plenum	Return	Fn MtrTD	Fn BidTD	Fn Frict
0	0	0	0	0	0	0	0	0.00	55.0	85.8	75.0	0.0	0.0	0.0
0	0	0	0	0	0	0	0	0.00	113.0	54.1	70.0	0.0	0.0	0.0
0	4,685	4,685	0	0	0	0	-5,247	3.58	0	0	76.1	0.0	0.0	0.0
31,199	0	31,199	48	58	33,149	0	0	0.00	0	0	0	0.0	0.0	0.0
2,835	0	2,835	4	4	2,201	0	-20,475	13.98	0	0	0	0.0	0.0	0.0
662	206	869	1	2	1,002	0	-7,776	5.31	0	0	0	0.0	0.0	0.0
0	0	0	0	0	0	0	-8,568	5.85	0	0	0	0.0	0.0	0.0
0	0	0	0	0	0	0	-4,719	3.22	0	0	0	0.0	0.0	0.0
1,081	0	1,081	2	1	535	0	-37,986	31.95	0	0	0	0.0	0.0	0.0
35,778	4,892	40,670	62	65	36,888	0	-46,786	100.00	0	0	0	0.0	0.0	0.0
<b>Sub Total ==&gt;</b>														
<b>Internal Loads</b>														
Lights	4,390	5,488	8	8	4,390	0	0	0.00	0	0	0	0	0	0
People	9,069	9,069	14	9	5,243	0	0	0.00	0	0	0	0	0	0
Misc	4,806	4,806	7	8	4,806	0	0	0.00	0	0	0	0	0	0
<b>Sub Total ==&gt;</b>	18,265	19,363	30	25	14,439	0	0	0.00	0	0	0	0	0	0
<b>Ceiling Load</b>	5,989	-5,989	0	10	5,782	-8,800	0	0.00	0	0	0	0	0	0
Ventilation Load	0	0	0	0	0	0	-23,550	16.08	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Dehumid. Ov Sizing	0	0	0	0	0	-76,109	-76,109	51.97	0	0	0	0	0	0
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Underfir Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0
<b>Grand Total ==&gt;</b>	60,032	0	65,428	100.00	57,109	-122,895	-146,445	100.00						

COOLING COIL SELECTION			HEATING COIL SELECTION		
Total Capacity ton	Sens Cap. MBh	Coil Airflow cfm	Capacity MBh	Coil Airflow cfm	Ent Lvg °F
5.5	65.4	2,644	-146.4	2,644	61.8
0.0	0.0	0	0.0	0	113.0
0.0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>65.4</b>	<b>2,644</b>	<b>-146.4</b>	<b>2,644</b>	<b>61.8</b>

AREAS		
Gross Total	Glass ft² (%)	
1,748	0	Floor
0	0	Part
0	0	Int Door
119	0	ExFir
1,748	0	Roof
1,190	340	Wall
0	0	Ext Door
<b>Total</b>	<b>29</b>	<b>Opt Vent</b>
		<b>Total</b>

AIRFLOWS		
Diffuser	Cooling	Heating
Terminal	2,644	2,644
Main Fan	2,644	2,644
Sec Fan	0	0
Norm Vent	218	218
AHU Vent	218	218
Infil	44	44
MinStop/Rh	0	0
Return	2,688	2,688
Exhaust	262	262
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
% OA	Cooling	Heating
cfm/ft²	8.2	8.2
cfm/ton	1.51	1.51
ft³/ton	484.97	320.60
Btu/hr-ft²	37.43	-83.78
No. People	21	

# System Checksums

By EAPC

F-3

Fan Coil

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES				
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: Sum of		Mo/Hr: Heating Design		Mo/Hr: Heating Design		Mo/Hr: Heating Design		Cooling		Heating		
Outside Air:		OADBWB/Hr: 91 / 70 / 80		OADB: Peaks		OADB: -30		OADB: -30		OADB: -30		55.0		125.0		
Space	Plenum	Net Percent	Space Percent	Space Percent	Space Percent	Space Sens	Coil Peak Percent	Space Sens	Coil Peak Percent	Space Sens	Coil Peak Percent	SADB	Ra Plenum	Return	Ret/OA	
Sens. + Lat.	Sens. + Lat	Total Of Total	Sensible Of Total	Sensible Of Total	Sensible Of Total	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Fn MtrTD	Fn BidTD	Fn Frict		
Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h							0.0	0.0	0.0	0.0	0.0
Envelope Loads																
SkyLite Solar	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
SkyLite Cond	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Glass Solar	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Wall Cond	124	85	1	1	139	0	0	-373	-706	0.63	0.00	0.0	0.0	0.0	0.0	0.0
Partition/Door	0	0	0	0	0	0	0	-360	0	0.32	0.00	0.0	0.0	0.0	0.0	0.0
Floor	0	0	0	0	0	0	0	-6,420	-6,420	5.73	14.20	0.0	0.0	0.0	0.0	0.0
Adjacent Floor	0	0	0	0	0	0	0	-7,153	-15,901	14.20		0.0	0.0	0.0	0.0	0.0
Infiltration	1,692	1,692	5	5	981	0	0					0.0	0.0	0.0	0.0	0.0
Sub Total ==>	1,817	6,954	24	24	1,120	5	5					0.0	0.0	0.0	0.0	0.0
Internal Loads																
Lights	7,083	1,771	24	24	7,083	33	33	0	0	0.00	0.00	1,000	1,000	1,000	1,000	1,000
People	1,108	0	3	3	615	3	3	0	0	0.00	0.00	1,060	1,060	1,060	1,060	1,060
Misc	451	0	1	1	451	2	2	0	0	0.00	0.00	547	547	547	547	547
Sub Total ==>	8,641	1,771	29	29	8,149	38	38	0	0	0.00	0.00	0	0	0	0	0
Ceiling Load	8,724	-8,724	0	0	9,060	42	42	-8,749	0	0.00	0.00	0	0	0	0	0
Ventilation Load	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Dehumid. Ov Sizing	3,272	0	9	9	3,272	15	15	-43,499	-43,499	38.84		0	0	0	0	0
Exhaust Heat	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Underfir Sup Ht Pkup	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0	0	0
Grand Total ==>	22,453	0	100.00	100.00	21,600	100.00	100.00	-59,401	-112,005	100.00						

AIRFLOWS			
	Cooling	Heating	
Diffuser	1,000	1,000	
Terminal	1,000	1,000	
Main Fan	1,000	1,000	
Sec Fan	0	0	
Nom Vent	487	487	
AHU Vent	487	487	
Infil	59	59	
MinStop/Rh	0	0	
Return	1,060	1,060	
Exhaust	547	547	
Rm Exh	0	0	
Auxiliary	0	0	
Leakage Dwn	0	0	
Leakage Ups	0	0	

ENGINEERING CKS			
	Cooling	Heating	
% OA	48.7	48.7	
cfm/ft²	0.38	0.38	
cfm/ton	328.95		
ft³/ton	866.34		
Btu/hr-ft²	13.85	-42.52	
No. People	2		

HEATING COIL SELECTION			
Capacity	Coil Airflow	Ent	Lvg
MBh	cfm	°F	°F
-112.0	1,000	21.3	125.0
0.0	0	0.0	0.0
-36.4	1,000	21.3	55.0
0.0	0	0.0	0.0
0.0	0	0.0	0.0
-112.0			

AREAS			
Gross Total	Glass		
ft²	(%)		
2,634			
0			
0			
5			
2,634			
75			
0			
0			

COOLING COIL SELECTION			
Total Capacity	Sens Cap.	Coil Airflow	Enter DBWB/Hr
ton	MBh	cfm	°F
3.0	29.7	1,000	82.8
0.0	0.0	0	0.0
0.0	0.0	0	0.0
3.0	36.5		
0.0	0.0		
0.0	0.0		
0.0	0.0		
3.0	36.5		

# System Checksums

By EAPC

F-4

Fan Coil

COOLING COIL PEAK		CLG SPACE PEAK		HEATING COIL PEAK		TEMPERATURES	
Peaked at Time: Outside Air:		Mo/Hr: 7 / 16		Mo/Hr: Heating Design		Cooling Heating	
OADBWB/HR: 90 / 69 / 76		OADB: Peaks		OADB: -30		SADB	
Sens. + Lat. Btu/h	Plenum Btu/h	Net Percent Total Btu/h	Sensible Of Total Btu/h	Space Peak Btu/h	Coil Peak Btu/h	Capacity MBh	Ent °F
Sens. + Lat. Btu/h	Sens. + Lat. Btu/h	Of Total (%)	Of Total (%)	Sens Btu/h	Of Total (%)	Coil Airflow cfm	Lvg °F
Envelope Loads	0	0	0	0	0	0	0
SkyLite Solar	0	0	0	0	0	0	0
SkyLite Cond	0	0	0	0	0	0	0
Roof Cond	0	21	0	0	-9,937	0	0
Glass Solar	0	0	0	0	0	0	0
Glass/Door Cond	0	0	0	0	0	0	0
Wall Cond	2,073	3,498	8	-6,446	-11,933	0	0
Partition/Door	1,133	1,133	3	-2,926	-2,926	0	0
Floor	0	0	0	-6,912	-6,912	0	0
Adjacent Floor	0	0	0	-8,831	-8,831	0	0
Infiltration	2,090	2,090	5	-25,115	-40,539	0	0
Sub Total ==>	5,295	15,536	38	-81,377	-118,219	13	-36.14
Internal Loads	6,365	7,956	19	0	0	0	0
Lights	6,441	6,441	16	0	0	0	0
People	1,686	1,686	4	0	0	0	0
Misc	14,492	16,083	39	0	0	0	0
Sub Total ==>	11,749	11,990	41	-15,424	-36,843	13	0
Ceiling Load	0	0	0	0	0	0	0
Ventilation Load	0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0
Dehumid. Ov Sizing	0	0	0	0	0	0	0
Ov/Undr Sizing	950	950	2	-40,838	-40,838	0	0
Exhaust Heat	0	0	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0
Underfir Sup Ht PkUp	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0
Grand Total ==>	32,486	41,392	100.00	-81,377	-118,219	100.00	100.00

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Coil Airflow cfm
Main Cig	3.5	-118.2	1,370
Aux Cig	0.0	0.0	0
Opt Vent	0.0	-14.7	1,370
Total	3.5	0.0	0

AREAS		GLASS	
Gross Total	Glass ft² (%)	Gross Total	Glass ft² (%)
Floor	3,271	0	0
Part	640	0	0
Int Door	0	0	0
ExFir	96	0	0
Roof	3,271	0	0
Wall	1,025	0	0
Ext Door	0	0	0

AIRFLOWS	
Cooling	Heating
Diffuser	1,370
Terminal	1,370
Main Fan	1,370
Sec Fan	0
Nom Vent	341
AHU Vent	341
Infil	82
MinStop/Rh	0
Return	1,452
Exhaust	423
Rm Exh	0
Auxiliary	0
Leakage Dwn	0
Leakage Ups	0

ENGINEERING CKS	
Cooling	Heating
% OA	24.9
cfm/ft²	0.42
cfm/ton	397.22
ft²/ton	948.29
Btu/hr-ft²	12.65
No. People	13

# System Checksums

By EAPC

UH-1

Unit Heaters

COOLING COIL PEAK		CLG SPACE PEAK		HEATING COIL PEAK		TEMPERATURES	
Peaked at Time: Outside Air: OADBWB/Hr: 0/0/0		Mo/Hr: 0/0 OADB: 0		Mo/Hr: Heating Design OADB: -30		SADB	
Space Sens. + Lat. Btu/h	Plenum Sens. + Lat. Btu/h	Net Total Btu/h	Space Sensible Btu/h	Space Peak Btu/h	Coil Peak Btu/h	Cooling	Heating
		Percent Total (%)	Percent Sensible (%)				
Envelope Loads							
SkyLite Solar	0	0	0	0	0	0.0	125.0
SkyLite Cond	0	0	0	0	0	0.0	52.6
Roof Cond	0	0	0	0	-3,396	0.0	70.0
Glass Solar	0	0	0	0	0	0.0	0.0
Glass/Door Cond	0	0	0	0	0	0.0	0.0
Wall Cond	0	0	0	0	-6,533	0.0	0.0
Partition/Door	0	0	0	0	0	0.0	0.0
Floor	0	0	0	0	-3,456	0.0	0.0
Adjacent Floor	0	0	0	0	0	0.0	0.0
Infiltration	0	0	0	0	-3,110	0.0	0.0
Sub Total ==>	0	0	0	-10,144	-16,495	0.0	0.0
Internal Loads							
Lights	0	0	0	0	0	0	278
People	0	0	0	0	0	0	278
Misc	0	0	0	0	0	0	0
Sub Total ==>	0	0	0	0	0	0	0
Ceiling Load	0	0	0	-6,351	0	0	0
Ventilation Load	0	0	0	0	0	0	29
Adj Air Trans Heat	0	0	0	0	0	0	307
Dehumid. Ov Sizing	0	0	0	0	0	0	29
Ov/Undr Sizing	0	0	0	0	0	0	0
Exhaust Heat	0	0	0	0	0	0	0
Sup. Fan Heat	0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0	0
Underfir Sup Ht PkUp	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0	0
<b>Grand Total ==&gt;</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-16,495</b>	<b>-16,495</b>	<b>0</b>	<b>0</b>

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Coil Airflow cfm
Main Cig	0.0	Main Htg	278
Aux Cig	0.0	Aux Htg	0
Opt Vent	0.0	Preheat	0
<b>Total</b>	<b>0.0</b>	<b>Humidif</b>	<b>0</b>
		<b>Opt Vent</b>	<b>0</b>
		<b>Total</b>	<b>-16.5</b>

AREAS		ENGINEERING CKS	
Gross Total	Glass ft² (%)	% OA	Cooling Heating
Floor	1,152	cfm/ft²	0.0 0.0
Part	0	cfm/ton	0.00 0.24
Int Door	0	ft²/ton	0.00 0.00
EXFir	48	Btu/hr-ft²	0.00 -14.32
Roof	1,152	No. People	0
Wall	720		
Ext Door	0		

# System Checksums

By EAPC

UH-3

Unit Heaters

COOLING COIL PEAK		CLG SPACE PEAK		HEATING COIL PEAK		TEMPERATURES	
Peaked at Time: Outside Air: Mo/Hr: 0/0 OADBWB/HR: 0/0/0		Mo/Hr: 0/0 OADB: 0		Mo/Hr: Heating Design OADB: -30			
Sens. + Lat. Btu/h	Plenum Btu/h	Net Total Btu/h	Space Sensible Btu/h	Space Peak Btu/h	Coil Peak Btu/h	Space Peak %	Coil Peak %
Sens. + Lat. Btu/h	Sens. + Lat. Btu/h	Total Btu/h	Percent (%)	Space Sens Btu/h	Tot Sens Btu/h	Of Total (%)	Of Total (%)
Envelope Loads	0	0	0	Envelope Loads	0	0	0.00
Skylite Solar	0	0	0	Skylite Solar	0	0	0.00
Skylite Cond	0	0	0	Skylite Cond	0	0	0.00
Roof Cond	0	0	0	Roof Cond	-1,528	23.66	23.66
Glass Solar	0	0	0	Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0	Glass/Door Cond	0	0	0.00
Wall Cond	0	0	0	Wall Cond	-2,331	36.08	36.08
Partition/Door	0	0	0	Partition/Door	0	0	0.00
Floor	0	0	0	Floor	-1,224	18.95	18.95
Adjacent Floor	0	0	0	Adjacent Floor	-1,377	21.31	21.31
Infiltration	0	0	0	Infiltration	-3,868	100.00	100.00
Sub Total ==>	0	0	0	Sub Total ==>	-6,460	100.00	100.00
Internal Loads	0	0	0	Internal Loads	0	0	0.00
Lights	0	0	0	Lights	0	0	0.00
People	0	0	0	People	0	0	0.00
Misc	0	0	0	Misc	0	0	0.00
Sub Total ==>	0	0	0	Sub Total ==>	0	0	0.00
Ceiling Load	0	0	0	Ceiling Load	-2,592	0	0.00
Ventilation Load	0	0	0	Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0	Adj Air Trans Heat	0	0	0.00
Dehumid. Ov Sizing	0	0	0	Ov/Undr Sizing	0	0	0.00
Ov/Undr Sizing	0	0	0	Exhaust Heat	0	0	0.00
Exhaust Heat	0	0	0	OA Preheat Diff.	0	0	0.00
Sup. Fan Heat	0	0	0	RA Preheat Diff.	0	0	0.00
Ret. Fan Heat	0	0	0	Additional Reheat	0	0	0.00
Duct Heat PkUp	0	0	0	Underfir Sup Ht PkUp	0	0	0.00
Underfir Sup Ht PkUp	0	0	0	Supply Air Leakage	0	0	0.00
Supply Air Leakage	0	0	0	Grand Total ==>	-6,460	100.00	100.00
Grand Total ==>	0	0	0	Grand Total ==>	-6,460	100.00	100.00

COOLING COIL SELECTION		HEATING COIL SELECTION	
Total Capacity ton	Sens Cap. MBh	Capacity MBh	Coil Airflow cfm
Main Clg	0.0	-6.5	109
Aux Clg	0.0	0.0	0
Opt Vent	0.0	0.0	0
Total	0.0	0.0	0

AREAS		HEATING COIL SELECTION	
Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm
Floor	510	-6.5	109
Part	0	0.0	0
Int Door	0	0.0	0
ExFir	17	0.0	0
Roof	510	0.0	0
Wall	255	0.0	0
Ext Door	0	0.0	0
Total	0	0.0	0

AIRFLOWS		ENGINEERING CKS	
Cooling	Heating	Cooling	Heating
Diffuser	0	% OA	0.0
Terminal	0	cfm/ft²	0.0
Main Fan	0	cfm/ton	0.00
Sec Fan	0	ft²/ton	0.00
Nom Vent	0	Btu/hr-ft²	0.00
AHU Vent	0	No. People	0
Infil	0		
MinStop/Rh	0		
Return	0		
Exhaust	0		
Rm Exh	0		
Auxiliary	0		
Leakage Dwn	0		
Leakage Ups	0		



**ATTACHMENT 3**

**ATTACHMENT 3**

Date: 5/24/2010  
 Project: EGF City Police Dept. Bldg.



**VENTILATION AIR  
 BIN DATA ENERGY ANALYSIS**

<b>OUTSIDE AIR FLOW</b>	<b>500</b>	<b>CFM</b>
<b>ENERGY COST</b>	<b>\$9.59</b>	<b>\$/MILLION BTU's</b>
<b>SPACE TEMPERATURE SETPOINT</b>	<b>72</b>	<b>F</b>

COST	AVERAGE BIN TEMP	BTU/H	BTU/TEMP	CFM	\$/MILLION BTU's	SPACE TEMP
\$0.78	97	13,500	81,000	500	9.59	72
\$4.04	92	10,800	421,200	500	9.59	72
\$7.61	87	8,100	793,800	500	9.59	72
\$10.20	82	5,400	1,063,800	500	9.59	72
\$8.39	77	2,700	874,800	500	9.59	72
\$0.00	72	0	0	500	9.59	72
\$13.98	67	2,700	1,458,000	500	9.59	72
\$32.78	62	5,400	3,418,200	500	9.59	72
\$48.32	57	8,100	5,038,200	500	9.59	72
\$59.04	52	10,800	6,156,000	500	9.59	72
\$69.13	47	13,500	7,209,000	500	9.59	72
\$77.37	42	16,200	8,067,600	500	9.59	72
\$101.68	37	18,900	10,602,900	500	9.59	72
\$131.12	32	21,600	13,672,800	500	9.59	72
\$119.08	27	24,300	12,417,300	500	9.59	72
\$109.27	22	27,000	11,394,000	500	9.59	72
\$101.68	17	29,700	10,602,900	500	9.59	72
\$105.33	12	32,400	10,983,600	500	9.59	72
\$112.76	7	35,100	11,758,500	500	9.59	72
\$106.58	2	37,800	11,113,200	500	9.59	72
\$104.09	-3	40,500	10,854,000	500	9.59	72
\$94.46	-8	43,200	9,849,600	500	9.59	72
\$66.91	-13	45,900	6,976,800	500	9.59	72
\$46.14	-18	48,600	4,811,400	500	9.59	72
\$20.17	-23	51,300	2,103,300	500	9.59	72
\$9.84	-28	54,000	1,026,000	500	9.59	72
\$3.26	-33	56,700	340,200	500	9.59	72
\$0.00	-38	59,400	0	500	9.59	72

<b>ANNUAL ENERGY COSTS</b>	<b>ANNUAL ENERGY CONSUMED</b>
<b>\$1,564.01</b>	<b>163,088,100</b>

Based on :

<b>Fuel Type:</b>	<b>Natural Gas 80%</b>	
<b>Unit:</b>	<b>Therm</b>	
<b>(INPUT) \$Cost/unit:</b>	\$0.96	
<b>Btuh/unit:</b>	100,000	
<b>Utility \$Cost/MMbtuh:</b>	\$9.59	
<b>System Efficiency, COP:</b>	0.80	
<b>System Use Factor, Percentage (%/100):</b>	1.00	
<b>Customer \$Cost/MMbtu at given system efficiency:</b>	<b>\$11.99</b>	

Usage Factor:	1	0
Cost x Usage Factor:	\$9.59	\$0.00

<b>Total Cost/MMbtu's:</b>	<b>\$9.59</b>
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<b>ERV Efficiency</b>	0.7
<b>ERV Energy Savings = ANNUAL ENERGY COSTS FOR VENTILATION AIR x ERV Efficiency:</b>	<b>\$1,095</b>

**ATTACHMENT 4**

Date: 5/24/2010  
 Project: EGF City Police Dept. Bldg.



**Description: Domestic Water Heater Calculations.**

<b>Given:</b>	80% Efficient Nat Gas Water Heater	
	Energy Use Factor for Domestic Water Heating:	14
	Annual Consumption of Energy (Therm/year):	11156 Therms/yr
<b>Find:</b>	<b>Annual Energy Cost for Electrical Domestic Water Heating:</b>	
	Annual Building Fuel Consumption in Therms:	11156 Therms
	Multiply Annual Consumption of Energy by Estimated Percentage Of Energy Use Factor (%):	14
	Gives Annual Fuel Consumption in Therms:	1561.84 Therms
	Multiply by Cost per Therm:	0.959
	<b>Gives the Annual Cost for existing 80% Efficient Water Heater:</b>	<b>\$1,498</b> 80% Effic.
	Existing Water Heater Efficiency to get Therms output into water heating: Equivalent to 100% Efficient Electric Heating of the Water.	1249.472 Therms
	Apply Hybrid Water Heater Coefficient of Performance COP=2.35, divide by:	2.35 COP
	Gives Annual Energy Consumed be Hybrid Electric Water Heater:	531.69 Therms
	Multiply be 100,000 btu/therm	100000
	Divide by 3412 to convert 1000 btu to kWh:	3412
	Gives Annual Electric Usage (kWh/yr):	15582 kWh
	Multiply by \$/kWh:	0.0818 \$/kWh
	<b>Gives Annual Cost for Electric Hybrid High Efficiency Water Heater:</b>	<b>\$1,275</b> COP=2.35
<b>Difference in Annual Cost for Water Heater</b>		<b>\$223</b>