City of Grand Junction

Energy Performance Contract

City of Grand Junction - Facilities

Submitted To:
City of Grand Junction
2549 River Road
Grand Junction, CO 81501

Submitted By:
Oscar Rangel
Johnson Controls, Inc.
10289 W. Centennial Road
Littleton, CO 80127

February 24, 2009

Johnson Controls

Johnson Controls

Energy Solutions
Request for Contract Modification

Jim Stavast
Facilities Manager
City of Grand Junction
2553 River Road
Grand Junction Colorado

Project:	Contract Modification No.	Subcontract No.
City of Grand Junction – Facilities PC	**CM 001**	**N/A**
Location	Date (mo/day/yr)	JCI Contract No.
Grand Junction, Colorado	September 8, 2010	8240-0124

Johnson Controls Inc. hereby submits a Request for Contract Modification to adjust the contract cost to above noted contract as described herein and/or as a specifically referenced attachment hereto. Unless specifically changed by this Contract Modification, all Terms, Conditions and Provisions of the above noted Contract Agreement remain unchanged and in full effect.

Reason for Request: **Reduction of contract price due to construction period cost savings.**

Based on the financial analysis of Subcontract and Material costs plus un-used contingency dollars derived from efficiencies during the construction phase of the above noted project, it is Johnson Controls Inc. pleasure to offer a substantial reduction in the overall contract cost to the City of Grand Junction. Based on that analysis, the final contract value will be as follows:

Original contract value as sold: **$2,046,342.00**

Contract Savings:

CM-001 Initial Subcontract Savings: **-$58,299.51**

New Contract Value at completion: **$1,988,042.49**

Please find the financial savings analysis attached.

Johnson Controls, Inc.

By: _____
(Signature)

Craig J. Plomondon
Installation Manager

9/28/10
(Date)

City of Grand Junction

By: _____
(Signature)

JayValentine
Purchasing Manager

9/22/10
(Date)

City of Grand Junction PC Project

PROJECT KICKOFF MEETING

Meeting Number: 1
Meeting Date: March 11, 2009

Meeting Location: Grand Junction, Colo.
Meeting Time: 8:00 AM

I. **Attendees** (see Participant Sign in Sheet)

II. **Action Items:**

A. **Introductions** – Oscar Rangel and Project Management Team

B. **Project Overview** – Scope of Services

C. **Work Site Conditions**

- Work Hours – See handout
- Drug Screening and Background Checks
- Are there buildings with alarm systems
- Badging
- Equipment Storage

D. **Access**

- Access Building Contact Handout
- Keys
- Access Cards

E. **Schedule** - (refer to Project Master Schedule)

F. **Project Meetings**

G. **Submittals/Permits/Inspections/O&M Manuals**

H. **Training**

I. **Safety**

City of Grand Junction PC Project

SCOPE OF WORK OVERVIEW

Provide performance based contract encompassing lighting and water fixture retrofits, mechanical system retrofits and new installations in 15 City facilities located in the City of Grand Junction, Colorado over a nine month period, summarized as follows:

- **Lighting Project** – Retrofit, re-lamp, or replace 2727 fixtures in 21 facilities
- **Water Conservation Project** – Upgrade Bathroom Fixtures/Faucets in 15 facilities
- **Envelope Sealing Improvements** – Seal and improve pressure boundaries in 18 facilities
- **Solar Photo-Voltaic Systems** – Install Solar PV systems on 2 facilities
- **Liquid Pool Covers** – Install liquid pool cover and equipment on 1 facility
- **Basic Programmable thermostats** – Replace Existing thermostats with new programmable thermostats in 4 facilities
- **Vending Misers** – Install vending miser equipment on vending machines and coolers in the City Hall
- **Mechanical Systems Projects** – Replace and/or Install New Mechanical Systems in 8 facilities

  Lincoln Park Pool / Fire Station #4 – Replace existing boilers with new high efficiency boilers

  Service Center – Replace existing Make up air units with new make up air units, replace 3 exiting RTU's with new high efficiency roof top units

  Lincoln Park Auditorium and Barn – Install New high efficiency furnaces

  City Hall (1) and Parks Admin (2) – Replace existing Roof Top Units with new high efficiency RTU's

  City Hall – Install Variable Frequency drives and premium efficiency motors on RTU-1. Optimize DDC Controls new VFD conversion and demand controlled ventilation.

  Tiara Rado Clubhouse – Install new control to improve boiler and pump efficiency.

Johnson Controls

Safety Rules

The following safety rules have been developed as a general guide to all Johnson Controls' (JC) employees and subcontractors. It should be made clear that these rules do not constitute all the safety requirements at a job site. All established safety rules and practices will be uniformly applied and enforced by all JC employees and subcontractors.

Safety rules have been established to protect you and your fellow workers. Failure to abide by the safety rules may place you and your fellow workers at risk. JC strictly enforces the disciplinary actions below with JC employees and subcontractor employees who work in an unsafe manner.

Note: Consideration will be given to work practices that may cause immediate danger to the life and health of both the employee and any others who may be involved. The disregard of safety in these situations may result in the immediate and permanent dismissal from the site.

Step 1: Written reminder
Step 2: Suspension
Step 3: Termination

A. JC STOP WORK POLICY

Whenever an imminent danger is present to any person including, but not limited to JC employees, subcontractor employees and third parties, the authorized JC employees and subcontractor's employees have the right to stop work so that all hazards are abated, or until safe work practices are incorporated. For the purposes of this policy, an imminent danger includes, but is not limited to:

- A situation for which the individual is not properly trained or experienced.
- A situation for which the individual is not equipped (i.e. safety or personal protective equipment).
- A hazard that is not typical to the individual's work activities or job.
- A worker unfit for work due to the influence of alcohol or illegal or mind-altering substances.
- A danger that would normally stop work in the affected area.

Subcontractor's employees are required to report all "stop work" actions immediately to their supervisor for investigation. During the investigation, the employee refusing to work will not leave the site or return to the work activity without authorization.

If the "stop work" action is used for legitimate safety reasons, the individual initiating the action (employee or subcontractor) is protected from discipline, retribution or discrimination by JC.

B. Incident Reporting

1. Immediately report all workplace incidents, injuries or illnesses, regardless of severity, to the Injury Reporting line: 866-343-8073.
2. Report all workplace incidents, injuries or illnesses, regardless of severity immediately to the JC Team Leader/Supervisor and Regional Safety Manager.
3. The employee injury statement must be completed within 8 hours of when the incident is reported.
4. Team leader's incident investigation must be completed within 24 hours of when the incident is reported.

C. General Safety Rules

1. Conduct work in a safe manner.
2. Follow all posted safety rules and those rules described in the general subcontractor or building owner's safety manual.
3. Team leaders will hold employees accountable for complying with safety rules and regulations.
4. Tasks will be pre-planned, organized and supervised to prevent injuries.
5. JC employees and subcontractors must report any unsafe condition, safety hazard or concern immediately to their supervisor or JC team leader.
6. All personal protective equipment (PPE) will be inspected prior to use.

7. All subcontractors have the "right-to-know" about the hazards associated with the materials/chemicals they are working with or around. Subcontractors are responsible for maintaining accessible material safety data sheets for products they bring on site.
8. JC employees and subcontractors have the right to take the necessary precautions to stop a process or job task that could cause bodily harm to themselves or other workers.
9. JC employees and subcontractors must not disturb or work with any type of asbestos.
10. JC employees and subcontractors must not work on chillers that contain R123 unless they have received the required training.
11. Loose or hanging clothing, jewelry or long hair is not permitted around moving machines and parts.
12. JC employees and subcontractors must not operate a company vehicle or their own vehicle in the course of company business without a valid driver's license.
13. All JC employees and subcontractors must be "fit for work." Anyone who is under the influence of alcohol or illegal drugs will be permanently removed from the site immediately.
14. Alcohol and illegal drugs are not allowed on the job site and inside company vehicles.
15. Firearms are not allowed on the job site and inside company vehicles.
16. Entry into an area that is barricaded with red "Danger Do Not Enter" tape is prohibited unless permission has been granted by the individual/subcontractor that barricaded the area.
17. Warning signs must be obeyed 100% of the time.
18. JC employees and subcontractors must have adequate fire extinguishers for the work that they are performing and should be visually checked each month to assure that the unit is fully charged.
19. Horseplay is prohibited.
20. Tampering with or altering safety devices is prohibited.
21. Smoking is prohibited in designated "No Smoking" areas.
22. Safety devices and guards installed on machines and equipment must be in place. Machines missing guards must not be operated and must be red tagged immediately and delivered to the JC team leader.
23. Never enter a confined space without the proper training, PPE and safety equipment.
24. Seat belts must be worn at all times.
25. Never use company vehicles for personal use. Company vehicles are only used for business purposes only.
26. Working within a crane's "swing area" is prohibited.
27. Riding or working under loads being lifted by a crane is prohibited.
28. Motors must be turned "off" while refueling.
29. Participation in all safety training is required.
30. Only trained and authorized operators will be permitted to operate a powered industrial equipment.
31. Informal Inspections of Company vehicles must be conducted daily by the operator to ensure that brakes, tires, lights, and all safety devices are in operating condition.
32. Only trained and authorized persons will operate machinery and material handling equipment such as forklifts, man lifts all terrain vehicles and zoom booms.

D. PERSONAL PROTECTIVE EQUIPMENT

1. A hard hat must be worn 100% of the time on all construction sites and other locations where overhead hazards exist.
2. Eye protection with side shields must be worn 100% of the time.
3. Work boots with leather uppers must be worn 100% of the time.
4. Shorts, tennis shoes or tank tops are prohibited on all job sites.
5. Full-face shield must be worn when grinding or where there is danger from flying particles.
6. Goggles must be worn when using power tools or machinery or when the danger of flying or falling particles exists. Examples include: removing ceiling tiles, helicopter lifts, rigging and hoisting, working around dust, chipping, insulation, grinding, etc.
7. Cut resistant gloves must be worn when working with sheet metal, sharp objects, rough or hot materials and while material handling.

8. Hearing protection must be worn in designated areas.
9. Prior to use, employees and their supervisors must be properly trained on the requirements for respirator use including medical fitness, testing, proper use, storage, selection and maintenance or respiratory protection.
10. JC employees must be medically qualified and fit tested prior to wearing respirators.
11. Respirators must be properly cleaned, stored and inspected.
12. Protective eye and face protection must be worn when welding.
13. Chemical resistant gloves will be worn when handling chemicals (cleaning agents, refrigerants, etc).

E. ELECTRICAL & LOCKOUT/TAGOUT

1. All equipment and systems must be de-energized using proper lockout/tagout procedures prior to performing any type of work on the equipment. The only two exceptions to this policy are when continuity of service is required such as when troubleshooting, diagnostic testing and when de-energizing would create additional hazards.
2. When things do not look right, or you question the integrity of the equipment that you are working on, STOP and contact someone that will be able to help you. NEVER continue to work if you are unsure of the equipment.
3. Wear rubber-insulated gloves with leather protectors when there is a possibility that your hands may come in contact with an energized conductor.
4. Never assume that a piece of equipment is de-energized. Always verify with a voltmeter. Test the voltmeter on a known source (wall outlet) before taking electrical readings.
5. Even after you verify that a piece of equipment is de-energized with a voltmeter, never grab a de-energized part. Always touch the de-energized part with the back of the hand first. This will eliminate your exposure to hold-on current.
6. Never wear jewelry of any kind while working on electrical equipment. This includes large metal belt buckles and tool belts.
7. When turning off a disconnect, stand to the side, face away from the disconnect, and pull the disconnect to the off position.
8. Ground fault circuit interrupters (GFCI) must be used on all temporary wiring.
9. Electric cords must be inspected frequently for wear and damage. Damaged cords must be replaced, not repaired with electrical tape.

F. FALL PROTECTION & LADDERS

1. A personal fall arrest system must be used when JC employees or subcontractors are exposed to a fall greater than six feet and fall protection devices (guard rails, nets, etc.) are unavailable.
2. Personal fall arrest systems must be secured to approved anchorage points.
3. All scaffolding that has a working surface greater than six feet must have guardrails. The guardrail must consist of a top rail (height between 36 and 42 inches), midrail and toe board (3.5 inch minimum height).
4. All ladders must be inspected daily and kept in good working condition.
5. All ladders must comply with all federal, state/provincial and local regulations.
6. All extension ladders must be tied off at the top, or a second person must hold and secure the ladder at the bottom.
7. Employees will face ladder and use both hands when ascending or descending using 3-point contact at all times. Employees must not use the top two rungs of a step ladder or step off of a step ladder to access work.
8. Tools must be raised and lowered by rope.
9. The base of each ladder must be set firmly and level on the floor or ground.
10. Straight ladders should be placed so that the base is a distance from the vertical no greater than one-quarter of the length of the ladder (a pitch of 1 to 4).
11. Straight ladders will project three feet above the platform or landing.
12. Ladders with broken and worn members must be discarded.
13. Stepladders will be used only in their fully opened position.

G. HAND/POWER TOOLS

1. All hand tools must be in safe working order. Hammers, chisels, etc., must never have mushroom heads and wooden handles must never be taped.
2. All employees and team leaders are responsible for the safe condition of tools and equipment.
3. All electric power operated tools must either be double insulated or properly grounded and have cords free from defects.
4. Electric powered tools and equipment showing worn deteriorated, or inadequate insulation or other parts must be removed from service and repaired or replaced.
5. Never use any tool or equipment unless you have been trained on its proper use.
6. Damaged tools and equipment must be tagged "DEFECTIVE" and removed from service.

H. HOUSEKEEPING

1. JC employees and subcontractors are responsible for keeping their work areas clean and immediately reporting to the JC team leader any potential hazards associated with housekeeping.
2. All trash and scrap material will be removed from the work area on a daily basis.
3. All flammable materials must be stored in approved containers.
4. All compressed gas cylinders must be stored upright, with protective caps in place, and secured so they cannot tip over.

I. COMPRESSED GAS CYLINDERS

1. Compressed gas cylinders will be kept away from excessive heat, stored in a secured area at least 20 feet away from highly combustible materials.
2. Cylinder caps must be in place except when the cylinder is in use.
3. Acetylene cylinders must be stored and used in an upright position only.
4. Oxygen cylinders in storage must be separated from fuel gas cylinders or combustible materials (especially oil and grease), a minimum distance of 20 feet or separated by a 5-foot wall having a fire-resistance rating of at least one-half hour when not in use.
5. All cylinders must be properly secured at all time to prevent movement.

J. ENVIRONMENTAL

1. All spill, regardless of size must be immediately reported to the JC team leader.
2. All waste materials on-site will be properly protected and contained to prevent contamination to soils and/or surfaces or ground water.
3. All hazardous and non-hazardous waste will be disposed in accordance with applicable Federal, State and local laws and regulations.
4. No substance or material will be discharged to any stream, river, lake or other body of water that may pollute the water or constitute substances or materials that may be or become harmful to fish or wildlife.

Jacklyn Lindberg
Insurance Assistant
Marsh USA Inc.
411 East Wisconsin Avenue
Suite 1600
Milwaukee, WI 53202
414 290 4985 Fax 414 290 4953
CPU_Milwaukee@marsh.com
www.marsh.com

April 1, 2009

Johnson Controls' Valued Customer

Subject: Johnson Controls, Inc.
Johnson Controls L.P.
Societe De Controle Johnson Ltee.
Cal-Air, Inc.

Certificate of Insurance
Coverage Period - October 1, 2008 to October 1, 2009

Dear Johnson Controls' Valued Customer:

Our client Johnson Controls has advised us that your company entered into a new contract with them during the month of March. As Johnson Controls' insurance broker, we are providing you a certificate of insurance evidencing their insurance coverages for 2008/2009 policy period as Johnson Controls' insurance program renewed on October 1, 2008.

The project name and your company's contract number or purchase order number are referenced on the front of the certificate in the <u>Description</u> section. In the <u>Other</u> section is important information about the insurance coverages, including additional insured coverage for you as required by contract.

If you have any questions or require additional information, please call, email or fax your inquiries to the address and number indicated above.

If your firm does not require a certificate of insurance, please disregard this letter and certificate.

Sincerely,

Jacklyn Lindberg

Enclosure

Jacklyn Lindberg
Insurance Assistant
Marsh USA Inc.
411 East Wisconsin Avenue
Suite 1600
Milwaukee, WI 53202
414 290 4985 Fax 414 290 4953
CPU_Milwaukee@marsh.com
www.marsh.com

March 3, 2009

Johnson Controls' Valued Customer

Subject: Johnson Controls, Inc.
Johnson Controls L.P.
Societe De Controle Johnson Ltee.
Cal-Air, Inc.

Certificate of Insurance
Coverage Period - October 1, 2008 to October 1, 2009

Dear Johnson Controls' Valued Customer:

Our client Johnson Controls has advised us that your company entered into a new contract with them during the month of February. As Johnson Controls' insurance broker, we are providing you a certificate of insurance evidencing their insurance coverages for 2008/2009 policy period as Johnson Controls' insurance program renewed on October 1, 2008.

The project name and your company's contract number or purchase order number are referenced on the front of the certificate in the* Description *section. In the* Other *section is important information about the insurance coverages, including additional insured coverage for you as required by contract.

If you have any questions or require additional information, please call, email or fax your inquiries to the address and number indicated above.

If your firm does not require a certificate of insurance, please disregard this letter and certificate.

Sincerely,

Jacklyn Lindberg

Enclosure

POLICY NUMBER: HDOG23746396 COMMERICAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE
Name of Additional Insured Person(s) Or Organization(s):
If required by contract, CITY OF GRAND JUNCTION
Location(s) Of Covered Operations
As required by contract, City of Grand Junction - PC Facilities
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Endorsement #A2

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

A. **Section II – Who is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused solely by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
1. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Endorsement #A2A

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused solely by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard."

MARSH USA INC.

CERTIFICATE OF INSURANCE

DATE 03/03/2009

PRODUCER

Marsh USA Inc.
411 East Wisconsin Avenue
Suite 1600
Milwaukee, Wisconsin 53202-4419
Attn: CPU, Phone (414) 290-4912 Fax: (414) 290-4953
CPU_Milwaukee@marsh.com

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER OTHER THAN THOSE PROVIDED IN THE POLICY. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES DESCRIBED HEREIN.

INSURED

Johnson Controls, Inc.
Johnson Controls Battery Group, Inc.
Johnson Controls Interiors, L.L.C.
Cal-Air, Inc.
GES America, L.L.C.
Optima Batteries, Inc.
USI Companies, Inc.
York International Corporation

Attn: Corp. Risk Mgmt. X-92
P.O. Box 591
Milwaukee, WI 53201

COMPANIES AFFORDING COVERAGE		AM Best Rating (As of 3/02/09) *See Below
Company A	ACE American Insurance Company P.O. Box 41484, Philadelphia, PA 19101	A+ XV
Company B	Sentry Insurance A Mutual Co. 1800 North Point Drive, Stevens Point, WI 54481	A+ XV
Company C	Indemnity Insurance Company of North America and for CA, WI and EX WC: ACE American Insurance Company PO Box 41484, Philadelphia, PA 19101	A+ XV
Company D	ACE Property & Casualty Insurance Company 436 Walnut Street, Philadelphia, PA 19106	A+ XV

COVERAGES This certificate supersedes and replaces any previously issued certificate.

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE DESCRIBED HEREIN HAVE BEEN ISSUED TO THE INSURED NAMED HEREIN FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THE CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, CONDITIONS AND EXCLUSIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY (1) (3) (4) X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR OWNER'S & CONTRACTOR'S PROT X Contractual X X,C,U (Explosion, Collapse, Underground) X Additional Insured (See Below)	HDOG23746396	10-1-2008	10-1-2009	GENERAL AGGREGATE PRODUCTS-COMP/OP AGG PERSONAL & ADV INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person)	$ 5,000,000 $ 5,000,000 $ 5,000,000 $ 5,000,000 $ 5,000,000 $ 50,000
B	AUTOMOBILE LIABILITY (2) (3) (4) X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	90-04606-01	10-1-2008	10-1-2009	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	$ 5,000,000
	GARAGE LIABILITY ANY AUTO				AUTO ONLY-EA ACCIDENT OTHER THAN AUTO ONLY: EACH ACCIDENT AGGREGATE	
D	EXCESS LIABILITY X UMBRELLA FORM OTHER THAN UMBRELLA FORM	XOO G23865014	10-1-2008	10-1-2009	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY (4) THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: X INCL / EXCL	WLRC42850585 – AOS WLRC42850573 – CA SCFC42850615 – WI WCUC42850627 – EX WC	10-1-2008	10-1-2009	X WC STATU-TORY LIMITS / OTH-ER EL EACH ACCIDENT EL DISEASE-POLICY LIMIT EL DISEASE-EACH EMPLOYEE	$ 1,000,000 $ 1,000,000 $ 1,000,000

OTHER
(1) ADDITIONAL INSURED: If required by contract, includes coverage for Additional Insureds per attached endorsement
(2) ADDITIONAL INSURED: If required by contract, includes coverage for Additional Insureds and Loss Payee as required by contract.
(3) PRIMARY COVERAGE: Where required by lease or contract, this coverage is primary and not excess of or contributing with other insurance or self-insurance.
(4) WAIVER OF SUBROGATION: Insured waives subrogation to the extent required by contract.

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS JC Contract No. 82400124
Project Name: City of Grand Junction - PC Facilities Ins
Customer PO Number: signed contract 2.40152E+11 CITY OF GRAND JUNCTION

CERTIFICATE HOLDER

CITY OF GRAND JUNCTION
Jay Valentine
ATTN LESLIE ANKRUM
333 WEST AVEL BUILDING B
GRAND JUNCTION, CO 81501

CANCELLATION

SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ~~ENDEAVOR TO~~ MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, ~~BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES.~~

MARSH USA INC. BY:

*A.M. Best ratings of insurers are provided for information purposes only and are based upon information with respect to such ratings available to Marsh USA Inc. on the date set forth herein with respect to such ratings. Marsh USA Inc. will not, and will have no responsibility or obligation to, inform the certificate holder or any person relying upon this certificate of any changes in such A.M. Best ratings occurring after such date. Marsh USA Inc. will have no liability with respect to the solvency or future ability to pay claims of any of the insurance companies which have issued the insurance policies referenced herein.

**The Auto Liability placement was made by Risk Management resources, Inc., 205 W. Wacker Dr., Suite 622, Chicago, IL. Marsh USA acts in the role of consultant to the Insured with respect to this placement, which is indicated for your convenience.

JCI Branch No/Location 9210 Solutions Northwest 240 Great Northern PC Branch

MARSH USA INC.

CERTIFICATE OF INSURANCE

DATE 04/02/2009

PRODUCER

Marsh USA Inc.
411 East Wisconsin Avenue
Suite 1600
Milwaukee, Wisconsin 53202-4419
Attn: CPU, Phone (414) 290-4912 Fax: (414) 290-4953
CPU_Milwaukee@marsh.com

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GES America, L.L.C.
Optima Batteries, Inc.
USI Companies, Inc.
York International Corporation

Attn: Corp. Risk Mgmt. X-92
P.O. Box 591
Milwaukee, WI 53201

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Company D	ACE Property & Casualty Insurance Company 436 Walnut Street, Philadelphia, PA 19106	A+ XV

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A	GENERAL LIABILITY (1) (3) (4) X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR OWNER'S & CONTRACTOR'S PROT X Contractual X X,C,U (Explosion, Collapse, Underground) X Additional Insured (See Below)	HDOG23746396	10-1-2008	10-1-2009	GENERAL AGGREGATE PRODUCTS-COMP/OP AGG PERSONAL & ADV INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person)	$ 5,000,000 $ 5,000,000 $ 5,000,000 $ 5,000,000 $ 5,000,000 $ 50,000
B	AUTOMOBILE LIABILITY (2) (3) (4) X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	90-04606-01	10-1-2008	10-1-2009	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	$ 5,000,000
	GARAGE LIABILITY ANY AUTO				AUTO ONLY-EA ACCIDENT OTHER THAN AUTO ONLY: EACH ACCIDENT AGGREGATE	
D	EXCESS LIABILITY X UMBRELLA FORM OTHER THAN UMBRELLA FORM	XOO G23865014	10-1-2008	10-1-2009	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY (4) THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: X INCL / EXCL	WLRC42850585 – AOS WLRC42850573 – CA SCFC42850615 – WI WCUC42850627 – EX WC	10-1-2008	10-1-2009	X WC STATU-TORY LIMITS / OTH-ER EL EACH ACCIDENT EL DISEASE-POLICY LIMIT EL DISEASE-EACH EMPLOYEE	$ 1,000,000 $ 1,000,000 $ 1,000,000

OTHER
(1) ADDITIONAL INSURED: If required by contract, includes coverage for Additional Insureds per attached endorsement
(2) ADDITIONAL INSURED: If required by contract, includes coverage for Additional Insureds and Loss Payee as required by contract.
(3) PRIMARY COVERAGE: Where required by lease or contract, this coverage is primary and not excess of or contributing with other insurance or self-insurance.
(4) WAIVER OF SUBROGATION: Insured waives subrogation to the extent required by contract.

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS JC Contract No. 2407181
Project Name: City of Grand Junction - M&V PSA Ser
Customer PO Number: Signed Contract 2.40152E+11 CITY OF GRAND JUNCTION

CERTIFICATE HOLDER

CITY OF GRAND JUNCTION
Jay Valentine
ATTN LESLIE ANKRUM
333 WEST AVEL BUILDING B
GRAND JUNCTION, CO 81501

CANCELLATION

SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ~~ENDEAVOR TO~~ MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, ~~BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES.~~

MARSH USA INC. BY:

*A.M. Best ratings of insurers are provided for information purposes only and are based upon information with respect to such ratings available to Marsh USA Inc. on the date set forth herein with respect to such ratings. Marsh USA Inc. will not, and will have no responsibility or obligation to, inform the certificate holder or any person relying upon this certificate of any changes in such A.M. Best ratings occurring after such date. Marsh USA Inc. will have no liability with respect to the solvency or future ability to pay claims of any of the insurance companies which have issued the insurance policies referenced herein.

**The Auto Liability placement was made by Risk Management resources, Inc., 205 W. Wacker Dr., Suite 622, Chicago, IL. Marsh USA acts in the role of consultant to the Insured with respect to this placement, which is indicated for your convenience.

POLICY NUMBER: HDOG23746396 **COMMERICAL GENERAL LIABILITY**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE
Name of Additional Insured Person(s) Or Organization(s):
If required by contract, CITY OF GRAND JUNCTION
Location(s) Of Covered Operations
As required by contract, City of Grand Junction - M&V PSA
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Endorsement #A2

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

A. **Section II – Who is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused solely by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
1. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Endorsement #A2A

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

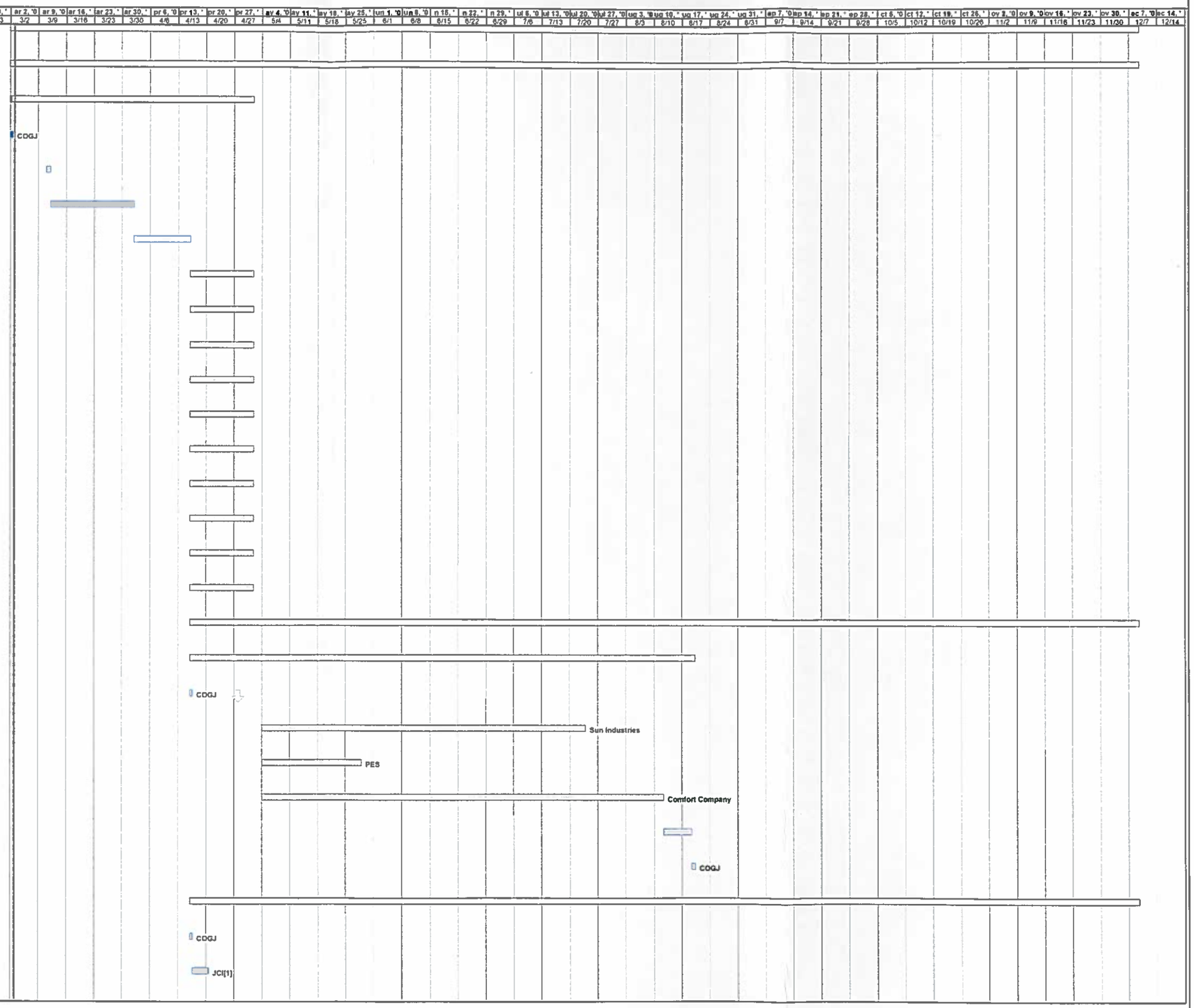
Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused solely by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard."

Johnson Controls

City of Grand Junction Schedule

Current Date: Mon 3/9/09
Status Date: Mon 3/2/09

ID	Task Name	Duration	Start	Finish	Predecessors
1	City of Grand Junction	202.75 days?	3/2/2009	12/9/2009	
2	Project Initiation	202.75 days?	3/2/2009	12/9/2009	
3	Mobilization	45 days	3/2/2009	5/1/2009	
4	Signed Contract	1 day	3/2/2009	3/2/2009	
5	Construction Kick-Off Meeting *	1 day	3/11/2009	3/11/2009	
6	Produce and Finalize Submittals	15 days	3/12/2009	4/1/2009	5
7	City Submittal Review	10 days	4/2/2009	4/15/2009	6
8	Proceed with Equipment Procurement for ECMs	12 days	4/16/2009	5/1/2009	7
9	Prepare/Award Installation Subcontracts	12 days	4/16/2009	5/1/2009	
10	Building Controls - Trane	12 days	4/16/2009	5/1/2009	5
11	Electrical - Quality Electrical	12 days	4/16/2009	5/1/2009	5
12	Mechanical - Falcon Plumbing	12 days	4/16/2009	5/1/2009	5
13	Lighting - Sun Industries	12 days	4/16/2009	5/1/2009	5
14	Water Conservation - PES	12 days	4/16/2009	5/1/2009	5
15	Solar - Sunsense	12 days	4/16/2009	5/1/2009	5
16	Envelope - Comfort Company	12 days	4/16/2009	5/1/2009	5
17	Insulation - Alpine Mechanical	12 days	4/16/2009	5/1/2009	5
18	Installation	169.75 days	4/16/2009	12/9/2009	
19	City wide - ECM	90.06 days	4/16/2009	8/20/2009	
20	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
21	Lighting - Sun Industries	60 days	5/4/2009	7/23/2009	13,7
22	Water Conservation - PES	20 days	5/4/2009	5/28/2009	14,7
23	Envelope - Comfort Company	73 days	5/4/2009	8/12/2009	16,7
24	Punchlist Activities	5 days	8/12/2009	8/19/2009	21,22,23
25	Owner Acceptance	1 day	8/19/2009	8/20/2009	24
26	Canyon View	169.75 days	4/16/2009	12/9/2009	
27	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
28	Receipt of Material	2 days	4/16/2009	4/20/2009	27

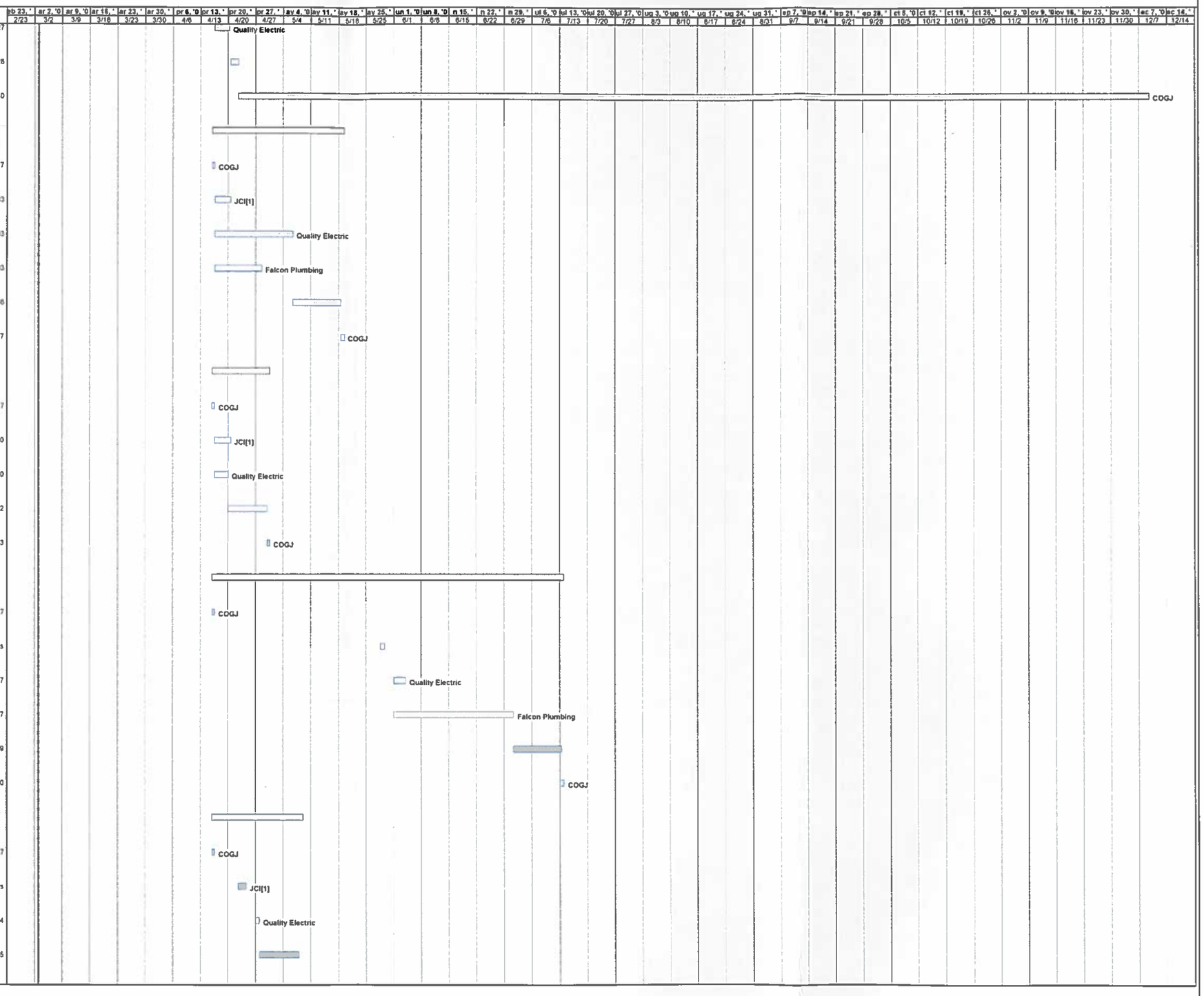


Johnson Controls

City of Grand Junction Schedule

Current Date: Mon 3/9/09
Status Date: Mon 3/2/09

ID	Task Name	Duration	Start	Finish	Predecessors
29	Electrical Installation	0.48 days	4/16/2009	4/20/2009	27
30	Punchlist Activities	2 days	4/20/2009	4/22/2009	29,28
31	Owner Acceptance	165 days	4/22/2009	12/9/2009	30
32	**City Hall**	**23.15 days**	**4/16/2009**	**5/19/2009**	
33	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
34	Receipt of Material	2 days	4/16/2009	4/20/2009	33
35	Electrical Installation	13.33 days	4/16/2009	5/6/2009	33
36	Mechanical Installation	7.31 days	4/16/2009	4/28/2009	33
37	Punchlist Activities	8 days	5/6/2009	5/18/2009	34,35,36
38	Owner Acceptance	1 day	5/18/2009	5/19/2009	37
39	**Field Engineering**	**10.75 days**	**4/16/2009**	**4/30/2009**	
40	1	1 day	4/16/2009	4/16/2009	7
41	Receipt of Material	2 days	4/16/2009	4/20/2009	40
42	Electrical Installation	0.29 days	4/16/2009	4/20/2009	40
43	Punchlist Activities	8 days	4/20/2009	4/29/2009	42
44	Owner Acceptance	1 day	4/30/2009	4/30/2009	43
45	**Fire Station #4**	**63 days**	**4/16/2009**	**7/14/2009**	
46	Notice to proceed	1 day	4/16/2009	4/16/2009	7
47	Receipt of Material	1 day	5/28/2009	5/29/2009	46FS+6 wks
48	Electrical Installation	3.85 days	6/1/2009	6/4/2009	47
49	Mechanical Installation	22.86 days	6/1/2009	7/1/2009	47
50	Punchlist Activities	8 days	7/1/2009	7/13/2009	49
51	Owner Acceptance	1 day	7/13/2009	7/14/2009	50
52	**Fire Training Center**	**17 days**	**4/16/2009**	**5/8/2009**	
53	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
54	Receipt of Material	2 days	4/22/2009	4/24/2009	53FS+4 days
55	Electrical Installation	1.36 days	4/27/2009	4/28/2009	54
56	Punchlist Activities	8 days	4/28/2009	5/7/2009	55

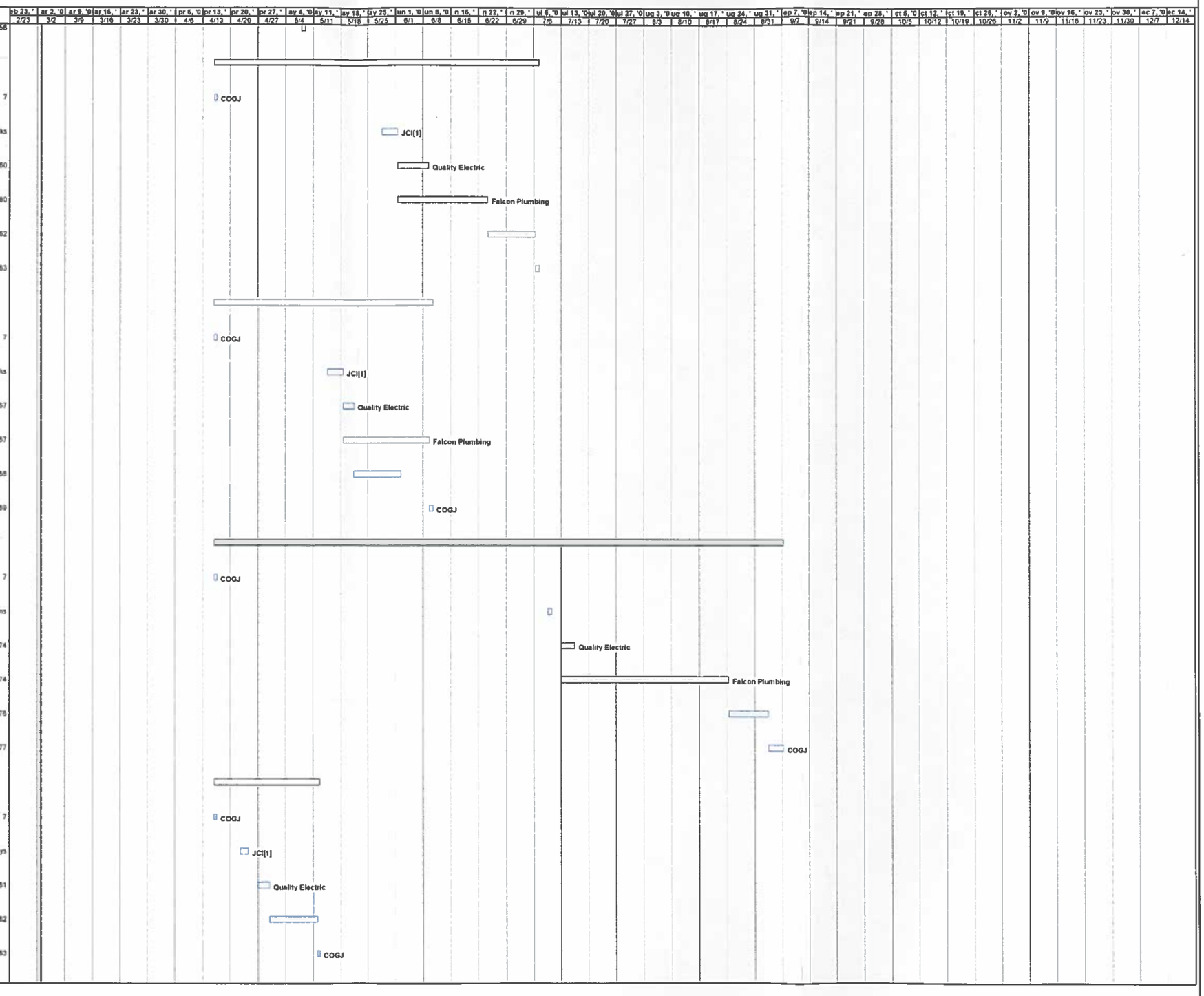


Johnson Controls

City of Grand Junction Schedule

Current Date: Mon 3/9/09
Status Date: Mon 3/2/09

ID	Task Name	Duration	Start	Finish	Predecessors
57	Owner Acceptance	1 day	5/8/2009	5/8/2009	56
58	**Lincoln Park Moyer Pool**	**58.14 days**	**4/16/2009**	**7/7/2009**	
59	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
60	Receipt of Material	2 days	5/28/2009	6/1/2009	59FS+6 wks
61	Electrical Installation	5.77 days	6/1/2009	6/9/2009	60
62	Mechanical Installation	16.83 days	6/1/2009	6/24/2009	60
63	Punchlist Activities	8 days	6/24/2009	7/6/2009	62
64	Owner Acceptance	1 day	7/6/2009	7/7/2009	63
65	**Lincoln Park Auditorium / Barn**	**39.5 days**	**4/16/2009**	**6/10/2009**	
66	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
67	Receipt of Material	2 days	5/14/2009	5/18/2009	66FS+4 wks
68	Electrical Installation	3.27 days	5/18/2009	5/21/2009	67
69	Mechanical Installation	16.22 days	5/18/2009	6/9/2009	67
70	Punchlist Activities	8 days	5/21/2009	6/2/2009	68
71	Owner Acceptance	1 day	6/9/2009	6/10/2009	69
72	**Service Center**	**102.07 days**	**4/16/2009**	**9/7/2009**	
73	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
74	Receipt of Material	1 day	7/9/2009	7/10/2009	73FS+3 mons
75	Electrical Installation	4.31 days	7/13/2009	7/16/2009	74
76	Mechanical Installation / Material	30.5 days	7/13/2009	8/24/2009	74
77	Punchlist Activities	8 days	8/24/2009	9/3/2009	76
78	Owner Acceptance	1 day	9/3/2009	9/7/2009	77
79	**Tiara Rado Clubhouse**	**18.75 days**	**4/16/2009**	**5/12/2009**	
80	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
81	Receipt of Material	2 days	4/22/2009	4/24/2009	80FS+4 days
82	Electrical Installation	3.85 days	4/27/2009	4/30/2009	81
83	Punchlist Activities	8 days	4/30/2009	5/11/2009	82
84	Owner Acceptance	1 day	5/12/2009	5/12/2009	83

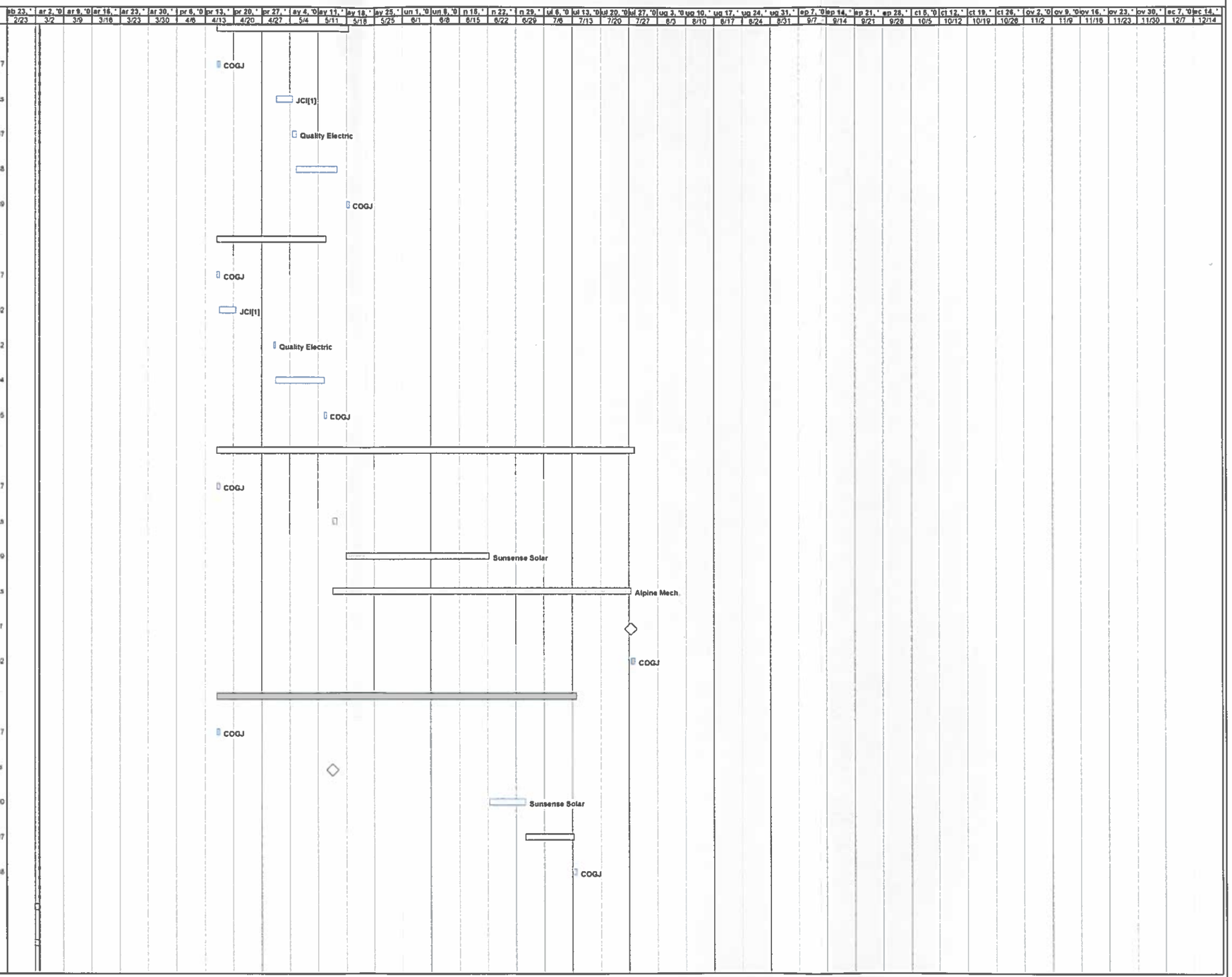


Johnson Controls

City of Grand Junction Schedule

Current Date: Mon 3/9/09
Status Date: Mon 3/2/09

ID	Task Name	Duration	Start	Finish	Predecessors
85	**Tiara Rado Maintenance**	**22.75 days**	**4/16/2009**	**5/18/2009**	
86	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
87	Receipt of Material	2 days	4/30/2009	5/4/2009	86FS+2 wks
88	Electrical Installation	1.13 days	5/4/2009	5/5/2009	87
89	Punchlist Activities	8 days	5/5/2009	5/15/2009	88
90	Owner Acceptance	1 day	5/18/2009	5/18/2009	89
91	**Transportation**	**19 days**	**4/16/2009**	**5/13/2009**	
92	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
93	Receipt of Material	2 days	4/16/2009	4/20/2009	92
94	Electrical Installation	0.3 days	4/30/2009	4/30/2009	62
95	Punchlist Activities	8 days	4/30/2009	5/12/2009	94
96	Owner Acceptance	1 day	5/12/2009	5/13/2009	95
97	**Two Rivers Convention Center**	**73.25 days**	**4/16/2009**	**7/28/2009**	
98	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
99	Receipt of Material	1 day	5/14/2009	5/15/2009	98FS+4 wks
100	Solar Installation / Material	25.48 days	5/18/2009	6/22/2009	99
101	Insulation Installation	50.94 days	5/14/2009	7/27/2009	98FS+4 wks
102	*Punchlist Activities*	*0 days*	7/27/2009	7/27/2009	101
103	Owner Acceptance	1 day	7/27/2009	7/28/2009	102
104	**Visitors & Convention Center**	**63 days**	**4/16/2009**	**7/14/2009**	
105	Notice to Proceed	1 day	4/16/2009	4/16/2009	7
106	*Receipt of Material*	*0 days*	5/14/2009	5/14/2009	105FS+4 wks
107	Solar Installation	7.38 days	6/22/2009	7/1/2009	100
108	Punchlist Activities	8 days	7/1/2009	7/13/2009	107
109	Owner Acceptance	1 day	7/13/2009	7/14/2009	108
110	**MISC.**	**1 day?**	**3/2/2009**	**3/2/2009**	
111	SEEC Reserve	1 day?	3/2/2009	3/2/2009	



Energy Performance Contract

City of Grand Junction, CO

and

Johnson Controls Inc.

February 24th, 2009

STATE OF COLORADO
ENERGY PERFORMANCE CONTRACT

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ARTICLE XXIV: STATE OF COLORADO SPECIAL PROVISIONS

SCHEDULES

Schedule A	Equipment to be Installed by Contractor
Schedule B	Description of Premises; Pre-Existing Equipment Inventory
Schedule C	Energy and Cost Savings Guarantee
Schedule D	Contractor Monitoring, Maintenance and Service Contract
Schedule E	Baseline Energy Consumption
Schedule F	Savings Measurement & Calculation Formulae; Methodology to Adjust Baseline; Monitoring and Verification Plan
Schedule G	Construction and Installation Schedule
Schedule H	Systems Start-Up and Commissioning; Operating Parameters of Installed Equipment
Schedule I	Standards of Comfort
Schedule J	Contractor's Maintenance Responsibilities
Schedule K	City's Maintenance Responsibilities
Schedule L	Facility Maintenance Checklist
Schedule M	Contractor's Training Responsibilities
Schedule N	General Conditions
Schedule O	Payment Schedule and Schedule of Values
Schedule P	Pre-Existing Service Agreements
Schedule Q	Current and Known Capital Projects at Facility
Schedule R	Projected Financial Performance
Schedule S	Certificate of Insurance

EXHIBITS

Exhibit I	Performance Bond
Exhibit II	Labor and Material Payment Bond
Exhibit III (i)	Notice of Acceptance—Technical Energy Audit and Monitoring and Verification Plan
Exhibit III (ii)	Notice of Substantial Completion
Exhibit IV	Equipment Warranties
Exhibit V	Minority and Women-Owned Business Enterprises
Exhibit VI	Certification that Lifetime of Equipment Exceeds Financing Term

APPENDICES

Appendix A	Lease Agreement and Documents
Appendix B	RFP for Contractor Solicitation
Appendix C	Contractor Proposal

ENERGY PERFORMANCE CONTRACT

This Energy Performance Contract (the "Contract") is made and entered into as of this Sixteenth day of February. 2009, by and between City of Grand Junction, ("City") and Johnson Controls Inc ("Contractor"), 10289 W. Centennial Rd., Littleton CO 80127, a Wisconsin corporation doing business in Colorado (the "State").

WITNESSETH:

WHEREAS, City is a political subdivision of the State of Colorado, and is authorized and empowered under the laws of the State, particularly Colorado Revised Statute §29-12.5 to enter into this Contract for the purpose of the sale and installation of certain energy and water saving equipment, and provision of other services designed to save energy and reduce related costs as per the guarantee described herein for certain property and buildings owned by the City; and

WHEREAS, authority exists in the Colorado law and sufficient funds have been budgeted, appropriated and otherwise made available and a sufficient unencumbered balance thereof remains available for encumbering and subsequent payment of this Contract; and

WHEREAS, City has been authorized to enter into a lease-purchase agreement for all professional services, construction/improvements, project contingencies, reimbursable expenses and miscellaneous expenses for the purchase and installation of energy and water conservation measures, collectively referred to as the Work(as herein after defined); and

WHEREAS, required approval, clearance, and coordination has been accomplished from and with appropriate agencies; and

WHEREAS, Contractor has developed or become knowledgeable about certain procedures for controlling energy and water consumption through services provided and equipment installed and maintained at facilities similar in scope and scale of City; and

WHEREAS, Contractor was selected after a determination that its proposal was the most advantageous to City pursuant to a Request for Proposal and contract for the Technical Energy Audit Contract(as hereinafter defined); and

WHEREAS, Contractor has made an assessment of the utility consumption characteristics of facilities, which was delivered to City as a Technical Energy Audit which City has approved; and

WHEREAS, City owns and operates the Premises (as hereinafter defined); and

WHEREAS, City desires to retain Contractor to sell to it, install and service certain energy efficiency equipment of the type or class described herein and to provide other services for the purpose of achieving utility cost reductions within Premises; and

WHEREAS, Contractor has selected the Equipment (as hereinafter defined) on the basis of competitive quality, compliance with Contractor's specifications, and price;

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and intending to be legally bound hereby, City and Contractor hereto covenant and agree that the following Schedules, Exhibits and Appendices are attached hereto (or will be, as provided in this Contract) and are made a part of this Contract by reference.

ARTICLE I: DEFINITIONS, SCHEDULES, EXHIBITS AND APPENDICES

Section 1.1. Definitions.

Certificate of Acceptance: The certificate substantially in the form provided in **Appendix A**.

Contract: This Energy Performance Contract and all Schedules and Exhibits attached hereto.

Contractor Monitoring Agreement: The Measurement & Verification Plan as provided in Schedule F.

Contract Sum: The sum of all materials, labor, auditing, design, engineering, project construction management fees, overhead, profit, contingency, outside services, and bidding and construction contingencies related to the project.

Contract Year: The calendar year in which the contract is fully executed.

Energy and Water Cost Savings: The savings as provided in **Schedule C.**

Energy and Cost Savings Guarantee: The guarantee that is achieved as a result of the installation and operation of the Equipment and provision of services provided for in this Contract as specified in **Schedule D** and in accordance with the Savings Calculation Formula as set forth in **Schedule F**.

Equipment: The goods enumerated on **Schedule A** that is now or hereafter from time to time become attached hereto and incorporated herein by reference, together and with any and all additions, modifications, attachments, replacements and parts thereof.

Event of Default: Those events described in **Section 17.1** and **Section 17.2** hereof.

Interim Period: The period from contract execution until the Performance Commencement Date.

Monitoring Fee: An annual fee according to **Schedule D** for monitoring the Energy and Cost Savings

Notice of Contractor's Settlement: Final Payment of the Contract by the City for materials, labor and other supplies or services used by the said Contractor under and in connection with the said Contract.

Performance Commencement Date: The date described in **Section 4.2.**

Premises: The facilities of the City, and is in need of energy and water saving equipment and services designed to reduce consumption and associated costs at said Premises

Professional Services: Architecture, engineering, project/construction management related to the Contract.

Work: Collectively, the Equipment, Professional Services and project construction related to the project.

Section 1.2. Schedules.

Schedule A	Equipment to be Installed by Contractor
Schedule B	Description of Premises; Pre-Existing Equipment Inventory
Schedule C	Energy and Cost Savings Guarantee
Schedule D	Contractor Monitoring, Maintenance and Service Agreement
Schedule E	Baseline Energy Consumption
Schedule F	Savings Measurement & Calculation Formulae; Methodology to Adjust Baseline; Monitoring and Verification Plan
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Schedule 1.3 Exhibits

Exhibit I	Form of Performance Bond
Exhibit II	Form of Labor and Material Payment Bond
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Exhibit III (ii)	Form of Notice of Substantial Completion
Exhibit IV	Form of Equipment Warranties
Exhibit V	Form of Minority and Women-Owned Business Enterprises
Exhibit VI	Form of Certification that Lifetime of Equipment Exceeds Financing Term

Section 1.4. Appendices

Appendix A	Lease Agreement and Documents

Appendix B RFP for Contractor Solicitation
Appendix C Contractor Proposal

Article II: PAYMENTS

Section 2.01: Purchase and Sale

Contractor agrees to provide the Equipment, together with installation, maintenance and other services as provided herein, as in **Schedule A**, based upon the terms and conditions set forth in **Appendix A**.

The agreed to Contract Sum for the Work is a Guaranteed Maximum Price of **$2,046,342** as set forth in **Schedule R**. Payment terms are described in **Schedule O**.

Contractor will provide the Work and all related services identified on **Schedule A** and the services detailed on **Schedule D**. Contractor shall supervise and direct the Work and shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under this Contract. Contractor shall be responsible to pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation and other facilities and services necessary for the proper execution and completion of the Work.

Section 2.2. Contractor Compensation – Interim Period.
City shall pay Contractor the Contract Sum in accordance with **Schedule O** and **Appendix A**. Payments will be made on a progress basis in accordance with **CRS 24-91-103** and **Article 31** of the **Schedule N,** for Work completed and authorized by City during the Interim Period. The Progress Payments outlined in **Appendix A** will not be applicable to this Contract. Retainage will be withheld from each payment until the construction installation is completed as set forth in **Section 4.2**. Professional Services shall not be subject to retainage.

Section 2.3. Energy and Cost Savings Guarantee.
Subsequent to the Performance Commencement Date and throughout the term of this Contract, Contractor hereby guarantees the level of Energy and Cost Savings as detailed in **Schedule C**. Contractor shall provide the guarantee and monitoring as defined in **Schedule D**, for every year of the contract term as legislated by C.R.S.29-12.5-101(3)(c), or until such time that City issues a notice to terminate the guarantee and monitoring service. City may terminate the Energy and Cost Savings Guarantee and related Monitoring Fee, as set forth in **Section 2.9** and defined in **Schedule R,** after the first three years of the performance period as legislated by **C.R.S.29-12.5-101(3)(c)** and this Contract shall terminate and Contractor shall have no further obligations hereunder.

This Energy and Cost Savings Guarantee is achieved as a result of the installation and operation of the Equipment and provision of services provided for in this Contract as specified in **Schedule D** and in accordance with the Savings Calculation Formula as set forth in **Schedule F**. The Annual Energy and Cost Savings Guarantee per **Schedule C** shall not be reduced even in the event of a Material Change per **Section 14.1**, except as the parties may mutually agree to such a reduction and act in good faith in determining such an agreement. In the event this Contract is terminated due to an uncured Event of Default, as defined in **Section 17.1**, by City, the Energy and Cost Savings Guarantee shall be cancelled and Contractor shall have no further obligations hereunder, except to guarantee City the prorated portion of the annual Energy and Cost Savings Guarantee. The prorated portion shall include all

Guaranteed Savings incurred prior to the termination date except that such portion should only go up until the Event of Default if the Event is related to the non-payment or other violations impacting the Energy and Cost Savings including but not limited to providing utility bills and access to the Equipment.

Contractor has structured the Energy and Cost Savings Guarantee to be sufficient to exceed any and all annual payments required by the City in connection with the acquisition of Equipment to be installed by Contractor under this Contract and the City's lease financing obligations. Actual energy and operations savings achieved by Contractor through the operation of Equipment and performance of services by Contractor, including the annual Energy and Cost Savings Guarantee, shall be sufficient to cover any and all annual fees to be paid by City to Contractor for the provision of services as set forth and in accordance with the provisions of **Schedule D** all payments to the third party lessor under the terms of the lease documents contained in **Appendix A**.

Section 2.4. Allowable Payment Sources. City has pre-determined allowable payment sources to be applied to annual payments, may include: Energy and water cost savings; material/commodity savings (including avoided cost from replacement lamps, ballasts, etc.), including scheduled replacement of parts; and other cost savings including maintenance contracts.

Section 2.5. Capital Contribution from City.
In addition to the funds provided by the equipment lease described in **Appendix A,** City elects to make an initial capital contribution of $ t.b.d. by City. to pay for part of the initial cost as described in **Schedule O**.

Section 2.6. Independent Monitoring
City will hire, with consultation of Contractor and paid for with guaranteed savings, an independent third party monitor to review the Contractor's monitoring and verification reports and advise City of compliance in monitoring and verifying savings. The independent monitor's responsibilities could also include verifying the prorated share of Guaranteed Savings in the Event of Contract Termination. Compliance checks will relate to the established baseline (**Schedule E**), baseline adjustments monitoring and verification plan and savings calculations of (**Schedule F**).

Section 2.7. Annual Review and Reimbursement/Reconciliation.
Energy-related cost savings shall be measured and/or calculated as specified in **Schedule E** and **Schedule F** and a report provided within ninety (90) days of receipt of all Needed Data (as defined in **Schedule D** hereof) for the previous year for each anniversary of the Performance Commencement Date. Contractor has developed the measurement and verification procedures specified in **Schedule F** which is based on the *International Performance Measurement and Verification Protocol 2002.*

In the event the Energy and Cost Savings achieved during such Contract Year is less than the Guaranteed Energy and Cost Savings (as defined in **Schedule C** hereof), set forth for such year during the years the guarantee is in effect, Contractor shall pay the City an amount equal to the deficiency.

If during the Contract Year the Energy and Cost Savings achieved are greater than the Guaranteed Energy and Cost Savings, such excess Energy and Cost Savings shall be retained by the City.

Section 2.8. Monitoring Information Procedure.
Energy and Cost Savings shall be calculated annually in the following manner:

(i) Each month, by the 10th day after receipt, City shall provide Contractor with copies of all relevant energy bills received for the preceding month;
(ii) Reporting to City is outlined in **Schedule D.**

Section 2.9. Monitoring Fee.
Throughout the Term of this Contract, or until the Contractor Monitoring Agreement is cancelled by City, City shall pay Contractor an annual fee according to **Schedule D** for monitoring the Energy and Cost Savings. Annual guaranteed energy and cost savings achieved shall be sufficient to cover any and all fees to be paid to Contractor pursuant to the provisions of **Schedule D**. Notwithstanding the above provisions in **Section(s) 4.1, 4.2 and 4.3** hereof,, City shall not be required to begin any Monitoring Fee payments to Contractor under this Contract unless and until all equipment installation is completed by Contractor in accordance with the provisions of **Article VI** and **Article IX, Schedule H** and **Schedule L**, and accepted by City as evidenced by the signed Notice of Substantial Completion as set forth in **Exhibit III (ii)**, and unless and until said equipment is fully and properly functioning in accordance with **Schedule A** and related details and specifications.

Section 2.10. Late Payment.
Payment during construction will be in accordance with **Schedule N**. Payment due during the Performance Period shall be due and payable within forty-five (45) days of the invoice date. Interest shall accrue on Guaranteed Savings not in dispute and rightfully owned for past due balance, owed to City hereunder at the rate of one percent (1%) per month (or the highest rate not prohibited by law, whichever is lower).

Section 3. UTILITY AWARD PAYMENTS

Section 3.1. Utility Award Payments
All utility award payments go to the City. Contractor has estimated utility award payments. Contractor will apply for all Utility Award Payments.

ARTICLE IV: TIME FOR COMPLETION; COMMENCEMENT DATE; TERM OF CONTRACT

Section 4.1. Construction Commencement Date and Time for Completion of Work.
Work must commence within thirty (30) days of execution of this Contract and shall be completed as set forth in **Schedule G**. The Time for Completion of Work is of the essence of this Contract. By executing this Contract, the parties hereto confirm the Time of Completion of Work is a reasonable period for performing the Work. Except for obligation to make payments of money, Contractor shall not be responsible for any failure to fulfill, or any delay in fulfilling, its obligations hereunder, if such failure or delay is beyond the reasonable ability of such party to control, avoid or mitigate and is due to storm, flood, or other Act of God, or to fire, war, rebellion, scarcity of water, insurrection, riots, strikes (other than strikes directed at subcontractor), or is the result of some order, rule or regulation of any federal, state, municipal, or other governmental City that could not have been reasonably anticipated or that was not scheduled to take effect. Time for Completion of the Work and the costs related thereto shall be extended and modified by Change Order, for such reasonable time and amount as the parties

hereto may determine. Change Orders in excess of contingency funds and/or completion date shall not be allowed unless mutually re-negotiated by both parties.

Section 4.2. Performance Commencement Date.
The Performance Commencement Date shall be the first day of the month after the month in which all schedules are in final form and accepted by City and when Contractor shall have delivered a Notice to City that it has installed and commenced operating all of the Equipment specified in **Schedule A** and in accordance with the provisions of **Article VI** and **Schedule H**, City has inspected and accepted said installation and operation as evidenced by the Notice of Substantial Completion as set forth in **Exhibit III (ii)** . Notwithstanding anything to the contrary in **Article II** and **Article IV** the Performance Commencement Date shall not occur and the City shall not be required to accept the work under this Contract unless and until: all Equipment installation for the subject Premises is completed by Contractor in accordance with the terms and conditions of this Contract. City shall have fifteen (15) days after notification by the Contractor to inspect and accept the Equipment. City reserves the right to reject the Equipment if installation fails to meet reasonable standards of workmanship, does not comply with applicable building codes, or is otherwise not in compliance with this Contract. Contractor shall not be paid in full, including retainage, until the Notice of Acceptance and Notice of Contractor's Settlement have been issued after the punch list is worked down to less than ten items. The retainage will be released after punch list is completed and Contractor has satisfied any and all claims for labor and materials.

Section 4.3. Performance Term of Contract.
Unless otherwise terminated pursuant to the terms of this Contract, the Performance Term of this Contract shall begin with the Performance Commencement Date and continue up to a maximum of three years, or for a maximum of 25 years if the cost-weighted average lifetime of the equipment exceeds the lease financing term, as legislated by **C.R.S.29-12.5-101(3)(d).** This Contract shall be effective and binding upon the parties immediately upon its execution. All energy savings achieved during the Interim Period shall not be applicable to the Guaranteed Savings after the Performance Commencement Date.

ARTICLE V: ENERGY USAGE RECORDS AND DATA

Section 5.1 Energy Usage Records and Data
City has furnished and shall continue to furnish (or authorize its energy suppliers to furnish) during the Term of this Contract to Contractor or its designee, upon its request, all of its records and complete data concerning energy and water usage and related maintenance for the Premises.

ARTICLE VI: CONSTRUCTION AND INSTALLATION BY CONTRACTOR

Section 6.1. Permits and Approvals.
City shall use its best efforts to assist Contractor in obtaining all necessary permits and approvals for installation of the Equipment. In no event shall City, however, be responsible for direct payment of any permit or license fee or the delay of any such permit or license fee.

As directed by City, design documentation will be submitted to City for review. As deemed necessary by City, design documentation will be forwarded by City to the appropriate code review Contractor for

review. City agrees that the City's review process at each phase will not be longer than 14 calendar days, not including code review. All costs of code review will be borne by City.

Section 6.2. Contractor's Duty of Proper Installation.
All services called for by this Contract which constitute the "practice of architecture" or the "practice of engineering", as those terms are defined in Title 12, Colorado Revised Statutes, as amended (C.R.S.), shall be performed by properly qualified and licensed professionals employed by Contractor and shall be performed in accordance with applicable law. Contractor shall perform all tasks/phases under this Contract, including construction, and shall install the Equipment in such a manner so as not to harm the structural integrity of the buildings or their operating systems and so as to conform to the standards set forth in **Schedule I** and **Schedule G.**

Section 6.3. Use of Stated Markups.
In establishing the Contract Sum the Contractor has used the markups for overhead and profit as disclosed in the Contractor Proposal (**Appendix C**), as negotiated in the Contract for Technical Energy Audit and applied to the labor and material costs as shown in **Schedule O**. It has also provided a contingency equal to a percentage of the labor, material and direct cost budget. The Contract Sum shall be adjusted based on the actual costs of labor and materials to the Contractor multiplied by the markups agreed to by the Contractor, but in no event shall the Contract Sum be increased. In the event it is possible to reduce the Contract Sum because the actual labor and material costs are less than budgeted, the City can, at its sole option, increase the Work to include additional equipment such that the original Contract Sum is reached. If the City declines to increase the Work, at its sole option, the Contract Sum shall be reduced to an amount consistent with the pricing using the stated markups and the balance shall be applied to the lease financing amount.

Section 6.4. Open Book Pricing.
Open book pricing will be required, such that the Contractor will fully disclose all costs. Contractor will maintain cost accounting records on authorized work performed under actual costs for labor and material, or other basis requiring accounting records. Contractor will afford City access to these records and preserve them for a period of three (3) years after final payment. Costs will be evaluated through price analysis to compare costs with reasonable criteria such as established catalog and market prices or historical prices. The pricing methodology and individual cost markups disclosed during preliminary contract negotiations will be expected to be applied, providing the scope and size of the project remain the same as assumed when markups were disclosed.

Section 6.5. Administration. The Contractor's contact person (Project Manager) shall forward all communications in writing and all documents to the Principal Representative's contact person and the Program Manager's contact person simultaneously as listed below:

For the Principal Representative:

For the Program Manager:

For the Contractor Project Manager:
Craig Plomondon
10289 W. Centennial Rd

For the Contractor Superintendent:
Same as Contractor Project Manager

Littleton, CO 80317

ARTICLE VII: ENVIRONMENTAL REQUIREMENTS

Section 7.1. Excluded Material and Activities.
City recognizes that in connection with the installation and/or service or maintenance of Equipment at City's Premises, Contractor may encounter, but is not responsible for, any work relating to (i) asbestos, materials containing asbestos, or the existence, use, detection, removal, containment or treatment thereof, or (ii) pollutants, hazardous wastes, hazardous materials, contaminants other than those described in this Section below (collectively "Hazardous Materials"), or the storage, handling, use, transportation, treatment, or the disposal, discharge, leakage, detection, removal, or containment thereof. The materials and activities listed in the foregoing sentence are referred to as "Excluded Materials and Activities". City agrees that if performance of work involves any Excluded Materials and Activities, City will perform or arrange for the performance of such work and shall bear the sole risk and responsibility therefore. In the event Contractor discovers Hazardous or Excluded Materials, Contractor shall immediately cease work, remove all Contractor personnel or subcontractors from the site, and notify the City. The City shall be responsible to handle such Materials at its expense. Contractor shall undertake no further work on the Premises except as authorized by the City in writing. Notwithstanding anything in this Contract to the contrary, any such event of discovery or remediation by the City shall not constitute a default by the City. In the event of such stoppage of work by Contractor, the Time for Completion of Work will be automatically extended by the amount of time of the work stoppage and any additional costs incurred by Contractor as a result will be added by Change Order.

Contractor shall be responsible for any hazardous or other materials, including, without limitation, those listed in this **Section 7.1** that it may bring to the Premises.

Section 7.2. Polychlorinated Biphenyl (PCB) Ballasts; Mercury Lamps.
Contractor will enter into an agreement with an approved PCB ballast disposal Contractor who will provide an informational packet, packing receptacles and instructions, labels and shipping materials, transportation, and recycling or incineration services for PCB ballasts. All capacitors and asphalt potting compound materials removed from City's PCB ballasts will be incinerated in a federally approved facility. After proper disposal, a Certificate of Destruction will be provided by the approved facility to City. Contractor's responsibility shall be for the proper and legal management of any of City's PCB ballasts removed as a result of the installation of the Equipment and shall be limited only until said PCB ballasts are loaded onto an approved PCB ballast disposal Contractor's vehicle for transportation.

Contractor will enter into an agreement with an approved lamp disposal contractor who will provide approved containers, materials required to label, transportation, recycling or incineration in accordance with EPA requirements, and a copy of the manifest.

City agrees to sign manifests of ownership for all PCB ballasts and mercury lamps removed from the Premises.

ARTICLE VIII: ACCEPTANCE TESTING

Section8.1. Modification of Schedules.
To ensure this Contract properly accounts for as-installed conditions, which conditions may vary from the pre-installation analyses, the Contractor shall re-validate or modify **Schedule A** and **Schedule H** prior to System Start-Up.

Section 8.2. Systems Startup and Equipment Commissioning.
The Contractor shall conduct a thorough and systematic performance test of each element and total system of the installed Equipment in accordance with the procedures specified in **Schedule H** and prior to acceptance of the project by City as specified in **Exhibit III (ii).** Testing shall be designed to determine if the Equipment is functioning in accordance with both its published specifications and the Schedules to this Contract, and to determine if modified building systems, subsystems or components are functioning properly within the new integrated environment. The Contractor shall provide notice to the City of the scheduled test(s) and the City and/or its designees shall have the right to be present at any or all such tests conducted by Contractor and/or manufacturers of the Equipment. The Contractor shall be responsible for correcting and/or adjusting all deficiencies in the Equipment operation that may be observed during system commissioning procedures of **Schedule H**. The Contractor shall be responsible for correcting and/or adjusting all deficiencies in Equipment operation that may be observed during system testing procedures. Prior to City acceptance Contractor shall also provide City with reasonably satisfactory documentary evidence that the Equipment installed is the Equipment specified in **Schedule A**.

ARTICLE IX: MAINTENANCE/MONITORING

Section 9.1. Ownership of Certain Proprietary Property Rights.
City shall not, by virtue of this Contract, acquire any ownership interest in any formulas, patterns, devices, secret inventions or processes, copyrights, patents, other intellectual or proprietary rights, or similar items of property which are or may be used in connection with the Equipment. City shall, however, have a nonexclusive license to utilize all such intellectual or proprietary rights obtained by Contractor related to Equipment in connection with its use of the Equipment under this Contract. The Contractor hereby grants to the City a perpetual, irrevocable, royalty-free license to any and all software or other intellectual property or proprietary rights it obtains from Equipment manufacturers necessary for the City to continue to operate, maintain, and repair the Equipment in a manner that will yield maximal energy consumption reductions. This license shall continue subsequent to any termination or expiration of this Contract other than termination due to breach by City.

Section 9.2. Ownership of Documents.
(a) Instruments of Service Drawings, specifications and other documents, including those in electronic form, prepared by the Architect/Engineer and the Architect/Engineer's consultants are Instruments of Service for use solely with respect to this Project. The Architect/Engineer and the Architect/Engineer's consultants shall be deemed the authors and owners of their respective instruments of service and shall retain all common law, statutory and other reserved rights, including copyrights.

Upon execution of this Contract, the Architect/Engineer hereby grants to the State a perpetual nonexclusive license to reproduce and use, and permit others to reproduce and use for the City, the Architect/Engineer's Instruments of Service solely for purposes of constructing, using and maintaining the Project or for future alterations, or additions to the Project. The Architect/Engineer shall obtain similar

nonexclusive licenses from the Architect/Engineer's consultants consistent with this Contract. If, and upon the date the Architect/Engineer is adjudged in default of this Contract, the foregoing license shall be deemed terminated and replaced by a second, nonexclusive license permitting the City to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the Instruments of Service solely for purposes of completing, using and maintaining the Project, or for future alterations, or additions to the Project.

Any unilateral use by the State of the Instruments of Service for completing, using, maintaining, adding to or altering the Project or facilities shall be at the State's sole risk and without liability to the Architect/Engineer and the Architect/Engineer's consultants; provided, however, that if the State's unilateral use occurs for completing, using or maintaining the Project as a result of the Architect/Engineer's breach of this Contract, nothing in this Article shall be deemed to relieve the Architect/Engineer of liability for its own acts or omissions or breach of this Contract.

(b) **As-Built Drawings/Record Drawings** The Architect/Engineer and its consultants shall, upon completion of the Construction Phase receive redline As-Built Drawings from the Contractor. These redline changes shall describe the built condition of the Project. This information and all of the incorporated changes directed by Bidding Addenda, Change Order/Amendment or Architect/Engineer's Supplementary Instructions shall be incorporated by the Architect/Engineer and its consultants into a Record Drawings document provided to the Principal Representative in the form of an electro-media format and a reproducible format as agreed between the parties. The Architect/Engineer shall also provide the Principal Representative with the As-built Drawings received from the Contractor.

Section 9.3. Ownership of Existing Equipment.
Ownership of the equipment and materials existing at the Premises at the time of execution of this Contract shall remain the property of City even if it is replaced or its operation made unnecessary by work performed by Contractor pursuant to this Contract. If applicable, Contractor shall advise the City in writing of all equipment and materials to be replaced at the Premises and the City shall within fifteen (15) days designate in writing to the Contractor which equipment and materials should not be disposed of off-site by the Contractor. It is understood and agreed to by both Parties that the City shall be responsible for and designate the location and storage for any equipment and materials that should not be disposed of off-site. Except as may be otherwise provided in this Contract, the Contractor shall be responsible for the disposal of all equipment and materials designated by the City as disposable off-site in accordance with all applicable laws and regulations regarding such disposal. Except as indicated in **Section 7.1** and **Section 7.2,**, under no circumstance shall Contractor be obligated to dispose of or take responsibility for any materials identified in **Section 7.1** or **Section 7.2** of this Contract.

Section 9.4. Ownership of Measurement and Verification Equipment.
City agrees to own the equipment required to provide the ongoing measurement of energy and water savings (the "Metering Equipment"). If required, City shall provide and maintain a non-dedicated telephone line to facilitate remote monitoring of the Equipment.

ARTICLE X: STANDARDS OF COMFORT

Section 10.1 Standards of Comfort. Contractor will design and install the Equipment so that it is able to provide the standards of heating, cooling, ventilation, hot water supply, lighting quality and

levels described in **Schedule I.** During the term of this Contract, Contractor and City will maintain, according to **Schedule D**, **Schedule J** and **Schedule K,** and operate the Equipment in a manner that will provide the standards of comfort and levels of operation as described in **Schedule I.**

ARTICLE XI: EQUIPMENT WARRANTIES

Section 11.1 Equipment Warranties.
Contractor warrants that all equipment sold and installed as part of this Contract is new, unless otherwise agreed, will be materially free from defects in materials or workmanship, will be installed properly in a good and workmanlike manner, and will function properly for a period of one (1) year from the date of the Substantial Completion for the particular energy conservation measure if operated and maintained in accordance with the procedures established per building. Substantial Completion shall be defined as the stage in the progress of the Work where the Work is sufficiently complete in accordance with the Contract Documents so that the City can utilize and take beneficial use of the Work for its intended use or purpose. Substantial Completion does not occur until the Equipment or system has been commissioned, accepted, and the "Substantial Completion" form fully executed.

After the warranty period, Contractor shall have no responsibility for performing maintenance, repairs, or making manufacturer warranty claims relating to the Equipment, except as provided in **Schedule D** and **Schedule J**.

Contractor further agrees to assign to City all available manufacturer's warranties relating to the Equipment and to deliver such written warranties and which shall be attached and set forth as **Exhibit IV**; pursue rights and remedies against the manufacturers under the warranties in the event of Equipment malfunction or improper or defective function, and defects in parts, workmanship and performance. Contractor shall, during the warranty period, notify the City whenever defects in Equipment parts or performance occurs which give rise to such rights and remedies and those rights and remedies are exercised by Contractor. During this period, the cost of any risk of damage or damage to the Equipment and its performance, including damage to property and equipment of the City or the Premises, due to Contractor's failure to exercise its warranty rights shall be borne solely by Contractor.

All warranties, to the extent transferable, shall be transferable and extend to the City. The warranties shall specify that only new, not reconditioned, parts may be used and installed when repair is necessitated by malfunction.

Notwithstanding the above, nothing in this Section shall be construed to alleviate/relieve the Contractor from complying with its obligations to perform under all terms and conditions of this Contract and as set forth in all attached Schedules.

Section 11.2 Actions by Contractor.
Incorporated herein by reference **Schedule D, Schedule J,** and **Schedule N.**

Section 11.3. Malfunctions and Emergencies.
City shall use its best efforts to notify the Contractor or its designated subcontractor within twenty-four (24) hours after the City's actual knowledge and occurrence of: (i) any malfunction in the operation of the Equipment or any preexisting energy related equipment that might materially impact upon the

Energy Savings or Energy Savings Guarantee, (ii) any interruption or alteration to the energy supply to the Premises, or (iii) any alteration or modification in any energy-related equipment or its operation.

Where City exercises due diligence in attempting to assess the existence of a malfunction, interruption, or alteration it shall be deemed not at fault in failing to correctly identify any such conditions as having a material impact upon the savings. City shall notify Contractor within twenty-four (24) hours upon its having actual knowledge of any emergency condition affecting the Equipment. If such malfunction, interruption, or alteration occurs during the Warranty Period, Contractor shall respond to any such notice within twenty-four (24) hours for non-critical equipment, and eight (8) hours for critical equipment, and shall promptly thereafter proceed with corrective measures. Any telephonic notice of such conditions by City shall be followed within three business days by written notice to Contractor from City. If City unreasonably delays in so notifying Contractor of a malfunction or emergency, and the malfunction or emergency is not otherwise corrected or remedied, Contractor may charge City for its loss, due to the delay, associated with the guaranteed savings under this Contract for the particular time period, provided that Contractor is able to show the direct causal connection between the delay and the loss.

The Contractor will provide a written record of all service work performed. This record will indicate the reason for the service, description of the problem and the corrective action performed.

Section 11.4 Actions by City.
During the term of this Contract, City shall not move, remove, modify, alter, or change in any way the Equipment or any part thereof without the prior written approval of Contractor except as set forth in **Schedule K**. Notwithstanding the foregoing, City may take reasonable steps to protect the Equipment if, due to an emergency, it is not possible or reasonable to notify Contractor before taking any such actions. In the event of such an emergency, City shall take reasonable steps to protect the Equipment from damage or injury. City agrees to maintain the Premises in good repair and to protect and preserve all portions thereof, which may in any way affect the operation or maintenance of the Equipment, all in accordance with the same standard of care the City applies to the Premises generally, that of a reasonably prudent government owner.

ARTICLE XII: MODIFICATION, UPGRADE OR ALTERATION OF EQUIPMENT

Section 12.1. Modification of Equipment. During the Term of this Contract, City will not, without the prior written consent of Contractor, affix or install any accessory Equipment or device on any of the Equipment if such addition will change or impair the originally intended functions, value or use of the Equipment without Contractor's prior written approval, which shall not be unreasonably withheld.

Section 12.2. Upgrade or Alteration of Equipment.
Contractor shall at all times have the right, subject to City's prior written approval, which approval shall not be unreasonably withheld, to change the Equipment, revise any procedures for the operation of the Equipment or implement other energy saving actions in the Premises, provided that: (i) the Contractor complies with the standards of comfort and services set forth in **Schedule I** herein; (ii) such modifications or additions to, or replacement of the Equipment, and any operational changes, or new procedures are necessary to enable the Contractor to achieve greater energy and cost savings at the Premises and; (iii) any cost incurred relative to such modifications, additions or replacement of the Equipment, or operational changes or new procedures shall be the responsibility of the Contractor.

All modifications, additions or replacements of the Equipment or revisions to operating or other procedures shall be described in a supplemental Schedule(s) to be provided to the City for approval, which shall not be unreasonably withheld, provided that any replacement of the Equipment shall, unless otherwise agreed, be new and have equal or better potential to reduce energy consumption at the Premises than the Equipment being replaced. The Contractor shall update any and all software necessary for the operation of the Equipment in accordance with the provisions of **Section 9.1** of **Schedule J**. All replacements of and alterations or additions to the Equipment shall become part the Equipment described in **Schedule A** and shall be covered by the provisions and terms of **Article VI** and **Article VIII**.

ARTICLE XIII: LOCATION AND ACCESS

Section 13.1. Contractor Access.
Contractor acknowledges that there exists sufficient space on the Premises for the installation and operation of the Equipment. City shall take reasonable steps to protect such Equipment from harm, theft and misuse during the term of this Contract. City shall provide access to the Premises for Contractor to perform any function related to this Contract during regular business hours, or such other reasonable hours as may be requested by Contractor and acceptable to the City. Contractor shall be granted immediate access to make emergency repairs or corrections as it may, in its discretion, determine are needed. Contractor's access to the Premises to make emergency repairs or corrections as it may determine are needed shall not be unreasonably restricted by City. Contractor shall immediately notify the City when emergency action is taken and follow up with written notice with three (3) business days specifying the action taken, the reasons therefore, and the impact upon the Premises, if any.

Section 13.2. Utility Access.
If a Utility Award Payment is made as described in **Section 3 (Utility Award Payments)**, the following applies. Upon request by the Utility (or its agent) and with prior consent of the City which consent shall not be unreasonably withheld, the City shall agree to allow Utility to interview the City and to enter the Premises at reasonable times throughout the life of the installed equipment to install metering equipment, perform energy audits or inspect the facilities and any equipment installed. The City also agrees to cooperate with the Utility or its agent upon request and with prior consent of the City, in conducting such activities and/or in analyzing energy savings. At all times a representative of the City (or its agent) shall be present during such inspections.

ARTICLE XIV: MATERIAL CHANGES

Section 14.1. Material Change Defined.
A Material Change shall include any change or cumulative changes in or to the Premises, whether structural, operational or otherwise in nature which reasonably could be expected, in the judgment of the City, to increase or decrease annual energy consumption in accordance with the provisions and procedures set forth in **Schedule E** (and **Schedule F** after adjustments for climatic variations and provided a correlation exists between usage and Material Change.

Actions by the City that may result in a Material Change include but are not limited to the following: (i) manner of use of the Premises by the City; or (ii) hours of operation for the Premises or for any equipment or energy using systems operating at the Premises; or (iii) permanent changes in the comfort and service parameters set forth in **Schedule I**; or (iv) occupancy of the Premises; or (v) structure of the Premises; or (vi) types and quantities of equipment used at the Premises or (vii) modification, renovation or construction at the Premises; or (viii) the City's failure to provide maintenance of and repairs to the Equipment in accordance with **Schedule K**; or (ix) casualty or condemnation of the Premises or Equipment, or (x) changes in utility provider or utility rate classification, or (xi) any other conditions other than climate affecting energy or water use at the Premises.

Section 14.2. Reported Material Changes; Notice by City
The City shall use its best efforts to deliver to the Contractor a written notice describing all actual or proposed Material Changes in the Premises or in the operations of the Premises at least 14 days before any actual or proposed Material Change is implemented or as soon as is practicable after an emergency or other unplanned event. Notice to the Contractor of Material Changes which result because of a bona fide emergency or other situation which precludes advance notification shall be deemed sufficient if given by the City within five (5) business days after having actual knowledge that the event constituting the Material Change occurred or was discovered by the City to have occurred.

Section 14.3. Other Adjustments.
As agreed in Section 16.1 City will alert Contractor of materials changes as known. Both parties have a vested interest in meeting the guaranteed savings of the Contract. As such, the Contractor will work with City to investigate, identify and correct any changes that prevent the guaranteed savings from being realized. As a result of such investigation, Contractor and City shall determine what, if any, adjustments to the baseline will be made in accordance with the provisions set forth in **Schedule F** and **Schedule E**.

ARTICLE XV: TRAINING AND FOLLOW-UP ACTIVITIES BY CONTRACTOR

Section 15.1. Training.
The Contractor shall conduct the training program described in **Schedule M**. Appropriate training must be completed prior to acceptance of the Equipment installation. The Contractor shall provide ongoing training whenever needed with respect to updated or altered Equipment, including upgraded software. Such training shall be provided at no charge to the City.

Section 15.2. Application for Energy Star or LEED.
Contractor will conduct an initial LEED evaluation at five facilities as directed by the City.

Section 15.3 Emissions Reductions Documentation and Reporting.
The Contractor shall include emissions reductions quantities in each annual report and advise the City on opportunities to achieve monetary benefit from such credits.

ARTICLE XVI: GENERAL CONTRACTUAL PROVISIONS

Section 16.1 Additional Insurance Requirements- Professional Liability Insurance.
Contractor promises and agrees to maintain in full force and effect an Errors and Omissions Professional Liability Insurance Policy in the amounts indicated in the following table as minimum coverage. The policy, including claims made forms, shall remain in effect for the duration of the Interim Period and for at least three years beyond the completion and acceptance of the Equipment. The Contractor shall be responsible for all claims, damages, losses or expenses, including attorney fees, arising out of or resulting from the performance of professional services contemplated in this Contract, provided that any such claim, damage, loss or expense is caused by any negligent act, error or omission of the Contractor, any consultant or associate thereof, or anyone directly or indirectly employed by the Contractor. The Contractor shall submit a Certificate of Insurance verifying said coverage at the signing of this Contract and also any notices of renewals of Renewals of the said policy as they occur.

The City will be named as an additional insured, with Marsh USA Inc. being the company producing the insurance.

For a Fixed Limit of Construction Cost	Minimum Coverage per Claim	Minimum Coverage in the Aggregate
$999,999 and under	$250,000	$500,000
$1,000,000 to $4,999,999	$500,000	$1,000,000
$5,000,000 to $19,999,999	$1,000,000	$2,000,000
$20,000,000 and Above	$2,000,000	$2,000,000

ARTICLE XVII: EVENTS OF DEFAULT

Section 17.1. Events of Default by City.
Each of the following events or conditions shall constitute an "Event of Default" by City:

(i) any failure by City to pay Contractor any sum due that is not in dispute, hereunder for a service and maintenance period of more than thirty (30) days after written notification by Contractor that City is delinquent in making payment;

(ii) any other mutually determined material failure by City to perform or comply with the terms and conditions of this Contract, including breach of any covenant contained herein, provided that such failure continues for thirty (30) days after notice to City demanding that such mutually determined failures to perform be cured or if such cure cannot be effected in such forty-five (45) days, City shall be deemed to have cured default upon the commencement of a cure within such forty-five (45) days and diligent subsequent completion thereof;

(iii) any representation or warranty furnished by City in this Contract that was false or misleading in any material respect when made.

Section 17.2. Events of Default by Contractor.
Each of the following events or conditions shall constitute an "Event of Default" by Contractor:

(i) the standards of comfort and service set forth in **Schedule I** are not provided due to failure of Contractor to properly design, install, maintain, repair or adjust the Equipment except that such failure, if corrected or cured within twenty-one (21) days after written notice by City to Contractor demanding that such failure be cured, shall be deemed cured for purposes of this Contract.

(ii) any representation or warranty furnished by Contractor in this Contract is false or misleading in any material respect when made;

(iii) provided that the operation of the facility is not adversely affected and provided that the Standards of Comfort in **Schedule I** are maintained, any failure by Contractor to perform or comply with the terms and conditions of this Contract, including breach of any covenant contained herein except that such failure, if corrected or cured within thirty (30) days after written notice to Contractor demanding that such failure to perform be cured, shall be deemed cured for purposes of this Contract;

(iv) any lien or encumbrance upon the equipment by any subcontractor, laborer or materialman of Contractor which is not released in thirty days after notice of said filing;

(v) the filing of a bankruptcy petition whether by Contractor or its creditors against Contractor which proceeding shall not have been dismissed within 90 days of its filing, or an involuntary assignment for the benefit of all creditors or the liquidation of Contractor.

(vi) failure by the Contractor to pay any amount due that is not in dispute, or perform any material obligation under the terms of this Contract, unless such amount due or failure to perform is excused pursuant to the provisions of this Contract.

ARTICLE XVIII: ASSIGNMENT

Section 18.1. Assignment by Contractor. The Contractor acknowledges that the City is induced to enter into this Contract by, among other things, the professional qualifications of the Contractor. The Contractor agrees that except as set forth below, neither this Contract nor any right or obligations hereunder may be assigned in whole or in part to another firm, without the prior written approval of the City.

(i) The Contractor agrees that except as provided below, neither this Contract nor any right of obligations hereunder may be assigned in whole or in part to another firm, without the prior written approval of the City.

(ii) The assignment of this Contract, in whole or in part, within the Enterprise of which Contractor is a part does not require the consent of the other party.

Section 18.2. Assignment by City.
City may transfer or assign this Contract and its rights and obligations herein to a successor or purchaser of the Premises or an interest therein with the consent of Contractor, which shall not be unreasonably withheld. The lack of financial qualification of the new owner shall be grounds for withholding such consent.

ARTICLE XIX: REPRESENTATIONS AND WARRANTIES

Section 19.1. Representations and Warranties. Each party warrants and represents to the other that:

(i) it has all requisite power, authority, licenses, permits, and franchises, corporate or otherwise, to execute and deliver this Contract and perform its obligations hereunder;

(ii) its execution, delivery, and performance of this Contract will not result in a breach or violation of, or constitute a default under any Contract, lease or instrument to which it is a party or by which it or its properties may be bound or affected; or

ARTICLE XX. ADDITIONAL REPRESENTATIONS OF THE PARTIES.

Section 20.1. By City.
City hereby warrants, represents and promises that:

(i) City is authorized under the Constitution and laws of the State of Colorado to enter into this Contract, each transaction contemplated hereby, and to perform all of its obligations under this Contract.

(ii) Subject to the provisions contained herein, City has provided or shall provide timely to Contractor, all records relating to energy and water usage and energy-related maintenance of Premises requested by Contractor and the information set forth therein is, and all information in other records to be subsequently provided pursuant to this Contract will be true and accurate in all material respects and Contractor shall be entitled to rely thereon; and

(iii) City has not entered into any prior leases, contracts or agreements with other persons or entities regarding the leasing or acquisition of water or energy efficiency equipment or the provision of energy management services for the Premises or with regard to servicing any of the Equipment located in the Premises that would encroach upon the scope of this Contract. City shall provide Contractor with copies of any successor or additional leases of energy efficiency equipment and contracts for management or servicing of preexisting equipment at Premises that may be executed from time to time hereafter within seven days after execution thereof.

Section 20.2. By Contractor.
Contractor hereby warrants, represents and promises that:

(i) before commencing performance of this Contract:

(a) Contractor shall have become licensed or otherwise permitted to do business in the State of Colorado

(b) Contractor shall have provided proof and documentation of all required insurance and bonds pursuant to this Contract.

(i) Contractor shall make available, upon reasonable request, documents relating to its performance under this Contract, including contracts and subcontracts it shall enter into;

(ii) Contractor shall use subcontractors who are qualified, licensed and bonded in this State to perform the work so subcontracted pursuant to the terms hereof;

(iii) Contractor has all requisite authority to license the use of proprietary property, both tangible and intangible, contemplated by this Contract;

(iv) The Equipment will meet or exceed the Acceptance Testing Standards set forth in this Contract.

(v) The Equipment is or will be compatible with all other Premises mechanical and electrical systems, subsystems, or components with which the Equipment interacts, and that, as installed, neither the Equipment nor such other systems, subsystems, or components will materially adversely affect each other as a direct or indirect result of Equipment installation or operation;

(v) That Contractor is financially solvent, able to pay its debts as they mature and possessed of sufficient working capital to complete the Installation and perform its obligations under this Contract.

ARTICLE XXI: MISCELLANEOUS DOCUMENTATION PROVISIONS.

Section 21.1. Waiver of Liens, Performance Bonds, Labor and Material Payment Bonds. Such executed bonds are incorporated herein by reference as **Exhibit I (Performance Bond)** and **Exhibit II (Labor and Material Payment Bond)** per **Schedule N (General Conditions; Article 26)**.

Section 21.2. Further Documents
The parties shall execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Contract.

Section 21.3 City's Responsibilities.

(a) Methods of Operation by City
The parties acknowledge and agree that said Energy and Cost Savings would not likely be obtained unless certain procedures and methods of operation designed for energy and water conservation shall be implemented, and followed by City on a regular and continuous basis.

(b) City Maintenance Responsibilities
City agrees that it shall adhere to, follow and implement the energy conservation procedures and methods of operation to be set forth on **Schedule K**, to be attached hereto and made a part hereof after City's approval, such approval not to be unreasonably withheld, conditioned or delayed.

(c) Inspection of Premises

City agrees that Contractor shall have the right once a month, with prior notice, to inspect Premises to determine if City is complying, and shall have complied with its obligations as set forth in **Section 21.3(b).** For the purpose of determining City's said compliance, the checklist to be set forth at **Schedule L** as completed and recorded by Contractor during its monthly inspections, shall be used to measure and record City's said compliance. City shall make the Premises available to Contractor for and during each monthly inspection, and shall have the right to witness each inspection and Contractor's recordation on the checklist. City may complete its own checklist at the same time. Contractor agrees to not interfere with the City operations during any monthly inspection.

ARTICLE XXII: CONFLICTS OF INTEREST

Section 22.1 Conflicts of Interest. Conflicts of interest relating to this Contract are strictly prohibited. Except as otherwise expressly provided herein, neither party hereto nor any director, employee or agent of any party hereto shall give to or receive from any director, employee or agent of any other party hereto any gift, entertainment or other favor of significant value, or any commission, fee or rebate in connection with this Contract. Likewise, neither party hereto nor any director, employee or agent of either party hereto, shall without prior notification thereof to the other party enter into any business relationship with any director, employee or agent of the other party or of any affiliate of the other party, unless such person is acting for and on behalf of the other party or any such affiliate. A party shall promptly notify the other party of any violation of this section and any consideration received as a result of such violation shall be paid over or credited to the party against whom it was charged. Any representative of any party, authorized by that party, may audit the records of the other party related to this Contract, upon reasonable notice and during regular business hours including the expense records of the party's employees involved in this Contract, upon reasonable notice and during regular business hours, for the sole purpose of determining whether there has been compliance with this section.

ARTICLE XXIII: CONTRACT DOCUMENTS

Section 23.1. Plan Details.
Contractor prepared a complete Technical Energy Audit which has been approved and accepted by City as set forth in **Exhibit III** (i) (Notice of Acceptance – Technical Energy Audit and Monitoring and Verification Plan.

Section 23.2. General Conditions. The State of Colorado General Conditions Articles summarized below and attached hereto as **Schedule N** shall be incorporated and made a part hereof as follows. .

(a) Contract or SC6.21: shall be defined to be this Energy Performance Contract and all related Schedules, Exhibits and Appendices.

(b) Architect/Engineer: shall be defined to be the Contractor where services are required to be performed by this Contract.

(c) Overhead/Profit/Commission: amounts shall be as specified in Contractor's proposal and **Schedule R**.

*The **Schedule N** (General Conditions) were prepared by the State of Colorado's Department of Personnel and Administration's State Buildings Programs and are required for state building projects. These are recommended for use by non-state governments as well since they are based on sound industry practices. If this schedule is desired, specify your own General Conditions and the articles and paragraphs apply to this contract or refer to the State of Colorado's General Conditions for information.>*

Section 23.3. Order of Precedence.

Notwithstanding, the provisions of this Contract and the attached Schedules, Exhibits and Appendices shall govern in the event of any inconsistencies between the Technical Energy Audit and the provisions of this Contract.

In the event of conflicts or inconsistencies between this Contract and its Schedules, Exhibits or Appendices, such conflicts or inconsistencies shall be resolved by reference to the documents in the following order of priority: a) Colorado Special Provisions, **Section 42**, b) Contract body, c) Schedule, d) Schedules/Exhibits/Appendices, e) City RFP #2636-08-SDH, f) Contractor Proposal.

In the event of any conflicts between **Schedule C** and other parts of this Contract regarding Energy and Water Cost Savings calculations or measurement of the guarantee, **Schedule C** shall govern.

Section 23.4. **Facsimile Signatures.** Parties agree that facsimile signatures shall be accepted as originals.

Section 23.5 **Venue Clause**: Any contract agreement shall be deemed to have been made in, and shall be construed and interpreted in accordance with the laws of the City of Grand Junction, Mesa County, Colorado.

SCHEDULE A.
EQUIPMENT TO BE INSTALLED BY CONTRACTOR

SCHEDULE B.
DESCRIPTION OF PREMISES; PRE-EXISTING EQUIPMENT INVENTORY

SCHEDULE C:
ENERGY AND COST SAVINGS GUARANTEE

SCHEDULE D:
MONITORING, MAINTENANCE AND SERVICE AGREEMENT

SCHEDULE E:
BASELINE ENERGY CONSUMPTION

SCHEDULE F:
SAVINGS MEASUREMENT AND CALCULATION FORMULAE; METHODOLOGY TO ADJUST BASELINE; MONITORING AND VERIFICATION PLAN

SCHEDULE G:
CONSTRUCTION AND INSTALLATION SCHEDULE

SCHEDULE H:
SYSTEMS START-UP AND COMMISSIONING; OPERATING PARAMETERS OF INSTALLED EQUIPMENT

SCHEDULE I:
STANDARDS OF COMFORT

SCHEDULE J:
CONTRACTOR'S MAINTENANCE RESPONSIBILITIES

SCHEDULE K:
CITY'S MAINTENANCE RESPONSIBILITIES

SCHEDULE L:
FACILITY MAINTENANCE CHECKLIST

SCHEDULE M:
CONTRACTOR'S TRAINING RESPONSIBILITIES

SCHEDULE N:
GENERAL CONDITIONS

SCHEDULE O:

PAYMENT SCHEDULE AND SCHEDULE OF VALUES

SCHEDULE P:
PRE-EXISTING SERVICE AGREEMENTS

SCHEDULE Q:
CURRENT AND KNOWN CAPITAL PROJECTS AT FACILITY

SCHEDULE R:
PROJECTED FINANCIAL PERFORMANCE

SCHEDULE S
CERTIFICATE OF INSURANCE

EXHIBITS

EXHIBIT I
PERFORMANCE BOND

EXHIBIT II
LABOR AND MATERIAL PAYMENT BOND

EXHIBIT III (i)
NOTICE OF ACCEPTANCE—TECHNICAL ENERGY AUDIT AND MONITORING AND VERIFICATION PLAN

EXHIBIT III (ii)
Notice of Substantial Completion

Notice of Substantial Completion

Date of Notice _____

Notice is hereby given that ***Customer*** accepts the installed equipment and establishes a performance period start date of _____.

City of Grand Junction

By _____

Date

When completely executed, this form is to be sent by certified mail to the Contractor by City of Grand Junction.

EXHIBIT IV
EQUIPMENT WARRANTIES

EXHIBIT V
MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES

EXHIBIT VI
CERTIFICATION THAT LIFETIME OF EQUIPMENT EXCEEDS FINANCING TERM

APPENDICES

APPENDIX A:
LEASE AGREEMENTS AND DOCUMENTS

APPENDIX B:
RFP FOR CONTRACTOR SOLICITATION

APPENDIX C:
CONTRACTOR PROPOSAL

CITY OF GRAND JUNCTION

Signature: _____

Printed Name: Jay Valentine

Title: Purchasing Manager

Date: 2/25/09

JOHNSON CONTROLS, INC.

Signature: _____

Printed Name: Carl R. Hurst

Title: Regional Solutions Manager

Date: 2/26/09

SCHEDULE A.
EQUIPMENT TO BE INSTALLED BY CONTRACTOR

PLEASE REFERENCE SECTION 3 FROM THE TECHNICAL ENERGY AUDIT DATED 2/4/09 (ATTACHED)

3) FACILITY IMPROVEMENT MEASURES SCOPE OF WORK DESCRIPTIONS

1 EXISTING CONDITIONS

1.1 SITE SUMMARY

Please see the Following page for a table of the buildings and locations included in the City of Grand Junction Facilities Energy Efficiency Project.

CITY OF Grand Junction COLORADO

Technical Energy Audit

Building/Facility	Address	Year Built/Remodeled	Square Footage
Avalon Theatre	645 Main Street	1922/ ?	10,000
Canyon View Maintenance Bldg	730 24 Road	1997	2,400
Cemetery Shop/Office	269 26-1/4 Road	1963	830
City Hall	250 N. 5th Street	2000	46,000
Concession Stand & Restrooms	1340 Gunnison Ave	1970	2,431
Engineering Lab	2549 River Road	1948	460
Facilities Office	2553 River Road	1949/2007	1,750
Field Engineering Lab/Office	2549 River Road	1948/2003	2,205
Fire Station #2	2827 Patterson Road	1992	6,280
Fire Station #3	582 25 1/2 Road	1963	5,477
Fire Station #4	251 27th Road	1982	4,386
Fire Station #5	2155 Broadway	2004/2008	7,291
Fire Training Building	2155 Broadway	1975	1,916
Locker Rooms	1340 Gunnison Ave	1994	4,254
LP Auditorium/Barn	1340 Gunnison Ave	1924/2006	9,610
LP Golf Clubhouse	1340 Gunnison Ave	1946	4,776
LP/Moyer Pool Restrooms, Filter & Equip.	1340 Gunnison Ave	1986	1,898
LP/Moyer Pool Restrooms/Shower/equip.	1340 Gunnison Ave	1986	4,044
Older American Center	6th street / Ouray Avenue	1976/2006	5,770
Operations Center (offices & shops)	2553 River Road	1956/1991 (offices only)	23,345
Orchard Mesa Indoor Pool	?? 2736 C Road	1975	20,204
Parks Admin Office	1340 Gunnison Ave	1936	2,942
Parks Maintenance Shop(s)	1400 Gunnison Ave	1936	4,998
Parkway Office	2529 High Country Ct	1995	5,045
Recycling Center Building	2549 River Road	1948	2,677
Rood Parking Garage	435 Rood Road	2007	
Service Center (Fleet & Warehouse)	2549 River Road	1982/2008 (office area)	31,985
Stadium Restrooms	1340 Gunnison Ave	2001	873
Stocker Stadium (Football Stadium)	1340 Gunnison Ave	1960	-
Suplizio Field / East Stadium (Baseball Stadium)	1340 Gunnison Ave	1961	-
Tiara Rado Clubhouse (2 mtrs - one for proshop, other for rest. & cha	2063 South Broadway	1977	13,438
Tiara Rado Golf Maintenance Bldg	2063 South Broadway	1982	1,785
Ticket Booth	1340 Gunnison Ave	1980	39
Ticket Booth & Concession	1340 Gunnison Ave	2001	80
Transportation Engineering	2553 River Road	2000	3,600
Two Rivers Convention Center	159 Main Street	2002	28,060
Visitor & Convention Center	740 Horizon Drive	1993/2006	3,290
W. Stadium/N. Restroom	1340 Gunnison Ave	1961	616
W. Stadium/S. Restoom & Ticket Booth	1340 Gunnison Ave	1990	1,300

1.2 INDIVIDUAL BUILDING DESCRIPTIONS

Avalon Theatre
The Avalon Theatre is a 10,000 sq ft theatre and performing arts space that was built in 1922. There are daily movies shown in the Avalon and speakers and performances are also intermittently scheduled. It is approximately three stories with a basement and it has been renovated multiple times since its original construction. There are still comfort issues with the space, especially in the colder months. Two abandoned boilers are located in the basement and the heating and cooling load are managed by four roof top units which serve the concessions and lobby area and the theatre space.

Canyon View Maintenance Building
The Canyon View Maintenance Building is a 2,400 sq ft space that was built in 1997. It's a one story building located in the Canyon View Park complex. It is primarily comprised of garage and equipment storage space with a small office area. There is no gas service to the building and there is electric baseboard heat in the offices, an electric unit heater in the garage and a direct evaporative cooler unit on the roof. Occupancy

Cemetery Shop
The Cemetery Shop/Office is a one story, 830 sq ft space that was built in 1963. It has a basic programmable thermostat, a natural gas furnace for heating and a direct evaporative cooler on the roof. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

City Hall
Grand Junction City Hall is 2-stories, 46,000 sq ft and primarily office space. It was built in 2000 and the City requested that it be investigated for the possibility of having it LEED certified. Control systems are in place and are being used efficiently. There is a roof top unit dedicated to the server room that is direct fire, DX and operates 24 hours a day, seven days a week. The lobby also has a single zone, direct fire, DX roof top unit that is set for a 6AM to 12AM occupancy. The training room a split DX and the other roof top unit is VAV and DX.

Concession Stand and Restrooms
The Concession Stand and Restroom is a one-story building that is located inside of the Stocker Stadium/Suplizio Field complex. It was built in 1970 and is 2,431 sq ft. There are two direct evaporative coolers on the roof. The space is used seasonally and there is no heating equipment.

Engineering Lab
The Engineering lab is a small two room, 460 sq ft building located behind the Field Engineering Services building. It was built in 1948 and has little equipment besides engineering lab materials. There is a window A/C unit and a gas fired unit heater. The space is occupied at most from 7:00AM to 6:00PM, Monday through Friday.

Facilities Office

The Facilities Office is 1,750 sq ft and was built in 1940. It was recently renovated in 2007-8 and a new rooftop unit was installed. The building is part office space and is connected to the evidence storage building. That facility is equipped with its own separate building systems and controls. It is occupied generally between 7 AM to 5 PM, Monday through Friday.

Field Engineering and Services Office

The Field Engineering and Services Office was built in 1948 and is 2,205 sq ft. The building is one story and is used as office space. It has been renovated in and is included on the list for potential LEED certification. There are two roof top units handling the heating and cooling for the building. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

Fire Station #2

Fire Station #2 is 6,280 sq ft and was built in 1992. The roof has five direct evaporative coolers and a roof top unit. There is also an existing natural gas boiler. The garage bay is heated by two radiant heaters and one natural gas unit heater. There is also an existing natural gas boiler. Fire Station #2 has a 24 hours a day, seven days a week occupancy schedule.

Fire Station #3

Fire Station #3 was built in 1963 and is 5,477 sq ft. It's currently being cooled by four direct evaporative coolers on the roof ranging from nine to 19 years old. Also, there is a boiler providing baseboard heating around the station. The garage is being served by three natural gas unit heaters. This location is occupied 24 hours a day, seven days a week.

Fire Station #4

Fire Station #4 was built in 1982 and is 4386 sq ft. There are four unit heaters being used in the garage area and four direct evaporative coolers located on the roof. The heating load for station is handled by a natural gas boiler in poor condition. Fire Station #4 is always occupied.

Fire Station #5

Fire Station #5 is the newest of the four Fire Stations involved in this project and like the other fire stations, is occupied 24 hours a day. It was built in 2005 and is 7,291 sq ft. There are two roof top units as well as three direct evaporative coolers located on the roof handling the heating and the cooling loads. The garage area has both radiant and unit heaters. It was requested that this building be evaluated for potential LEED certification.

Fire Station #5 Training Building

The Fire Station #5 Training building is next door to Fire Station #5. It was built in 1975 and is 1,916 sq ft. The space has variable use, unlike the stations, and has a gym and kitchen area. Heating and cooling are served by two direct evaporative coolers as well as a forced air furnace.

Lincoln Park - Administration Office

The Lincoln Park Administration building is used as office space and is 2,942 sq ft. It is a one story building and is occupied from 7 AM to 5 PM, Monday through Friday. There are two twelve year old roof top units that provide the facility with heating and cooling.

Lincoln Park - Auditorium/Barn
The Lincoln Park Auditorium/Barn was built in 1924 and is 9,610 sq ft. The main space is a high ceiling, hardwood gymnasium accompanied by a stage and a storage area for track and field equipment and other miscellaneous items. The space is used for events and performances as well as fitness classes varying throughout the year. The roof is equipped with two direct evaporative coolers and there are four forced air gas furnaces located above the ceiling.

Lincoln Park - Golf Clubhouse
The LP Golf Clubhouse is open the majority of the year during daylight hours. It was built in 1946 and is 4,776 sq ft. There is a small kitchen and dining area along with a pro shop. Existing equipment at this location includes direct evaporative coolers on the roof, a natural gas fired boiler and a non-programmable thermostat. The irrigation system at the golf course is also a candidate for replacing direct evaporative existing pump motors with premium high efficiency motors.

Lincoln Park - Maintenance Shops
The Lincoln Parks Maintenance Shops are comprised of work shops and office space. The buildings are Quonset hut-style with natural gas unit heaters and direct evaporative coolers. The office area has a new natural gas furnace for heating and direct evaporative coolers. This location is occupied primarily between 7:00AM to 6:00PM, Monday through Friday.

Lincoln Park - Moyer Pool
Moyer Pool is located in the Lincoln Park complex and is an outdoor facility. There are two pools and a water slide and the facility is open Memorial Day to Labor Day. During operating months of year, the pool is heated to 77 degrees and the pool is not covered overnight. There is a building that houses the pump equipment and two boilers, only one of which is functioning to handle the heating load for the pool. Another building houses the locker room/bathhouses, concession stand and cashier area. It was noted that refrigerators and freezers were still on in the concession stand after the pool had closed for the season. In the off season, the pool stays partially filled and it is covered but not heated.

Locker Room
The Locker Room is a one story facility located in Lincoln Park and serves Suplizio Field and Stocker Stadium. It was built in 1994 and is 4,254 sq ft. There are two 14 year old direct evaporative coolers on the roof and the space is controlled by a non-programmable thermostat. The locker room is not in use the entire year and equipment could be manually turned off in months of disuse. Heating is provided by 2 gas fired make-up air units.

Older American Center

The Older American Center, or Senior Center, was built in 1976 and was recently remodeled in 2006. It is 5,770 sq ft and one story. There are currently four direct evaporative coolers located on the roof but the City is interested in returning to DX cooling. Also, there are three abandoned condensing units outside the facility that could be removed. There are two furnaces.

Operations Center
The Operations Center is 23,345 sq ft and has garage bays, equipment storage space and an office area. It was built in 1956 and the building is in poor shape. There are five direct evaporative coolers on the roof and one rooftop unit as well as 10 natural gas unit heaters serving the garage bays. This facility is occupied 24 hours a day, seven days a week.

Orchard Mesa Indoor Pool
The Orchard Mesa Indoor Pool was built 1975 and is 20,004 sq ft. The pool is open all year round and a varying schedule, but is generally open most of the day. Solar system and panels on the roof were installed on the roof in Novan Energy, Inc. and Solar Dronics, Inc.. Currently, the pool is left uncovered while it is not in use.

Parkway Office
The Parkway Office was built in 1995 but was purchased by the City to serve as a construction office for a specific project. There are four direct evaporative coolers on the roof as well as a window A/C unit in a small conference room. The front portion of the building is an office area and the back is a garage space roughly divided into work spaces. The site has a furnace and the garage space has two natural gas unit heaters.

Recycling Center
The Recycling Center is a garage and equipment storage space. It was built in 1948 and is 2,677 sq ft. The shop area houses recycling equipment and the garage doors on the building generally remain open. There is no heating or cooling equipment for the space. There is a trailer adjacent to the building that is used as an office. It has a mechanical cooler attached to its exterior in very poor condition.

Rood Parking Garage
Rood Parking Garage was built in 2007.

Service Center
The Service Center is 31,985 sq ft of both office space and garage bays. It was built in 1982 but the office area was updated in 2008. The City installed two Daikin units to serve the offices heating and cooling demands. The garage space has radiant heaters. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

Stocker Stadium

Suplizio Field

Tiara Rado Clubhouse
The Tiara Rado Clubhouse was built in 1977 and is 13,438 sq ft. The space includes a pro shop and a restaurant. There is an interest in improving comfort in the space to increase interest in receptions and events at the Clubhouse. The direct evaporative coolers are unable to cool the space properly. Golf Cart plug loads? Tiara Rado Golf Course is open all year except when there is snow on the ground, during daylight hours.

Tiara Rado Maintenance Shop
The Tiara Rado Maintenance Shop is a one story garage and storage space with a small office area. It was built in 1982 and is 1,785 sq ft. Natural gas unit heaters service the facility. Premium high efficiency irrigation pump motors are also being considered. This building is typically occupied 7AM to 5 PM M-F.

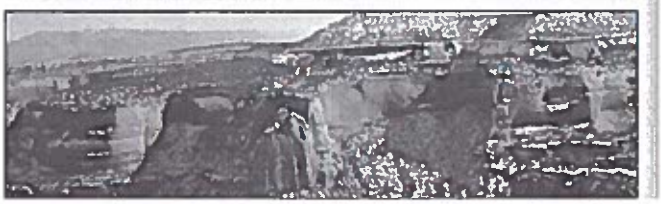
Transportation Engineering
The Transportation Engineering Office was built in 2000 and is 3,600 sq ft. The City of Grand Junction included the space on its list to investigate for LEED certification. It is a one story building primarily used for office space with a small garage/storage/work area. There are two eight year old roof top units managing heating and cooling for the facility. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

Two Rivers Convention Center
Two Rivers Convention Center was built in 2002 and is 28, 060 sq ft. It is being investigated for possible LEED certification. The convention center used daily for meetings and events. Meals are often served at the events and the kitchen is used frequently.

Visitors and Conference Center
The Visitors and Conference Center is on the City's list to be investigated for LEED certification. It was built in 1993 and was remodeled in 2006. The space is one story and 3,290 sq ft. There is a small conference area, an exhibit area and office space and the building is usually occupied from 7 AM to 7 PM. Heating and cooling loads at the VCC are served by a high efficiency furnace and a roof top units.

West Stadium Restrooms
The West Stadium restrooms are located in Stocker/Suplizio Complex. There are no existing controls at this location and it is proposed that a basic controllable thermostat be installed.

1.3 BUILDING SCHEDULES



The general occupied and unoccupied operating schedules for various building area descriptions are detailed in the table below.

Use Group Description	M_F Hours _ Day	Days _ Week	Week Day Total Hours	Sat _ Sun Hours _ Day	_Days _ Week	Weekend Total Hours	Weeks _ Year	Hours
Hallways, lobby, stairwells, (usually 24/7)	24	5	120	24	2	48	52.14	8760
Hallways, lobby, stairwells - Propose Sensor	24	5	120	24	2	48	52.14	8760
Classrooms, Open Offices, labs, conference, library, (8/5)	8	5	40	0	2	0	52.14	2086
Classrooms, Open Offices, labs, conference, library - Propose Sensor	8	5	40	0	2	0	52.14	2086
24 x 7	24	5	120	24	2	48	52.14	8760
Storage, closets, janitors, mechanical, (2/5)	2	5	10	0	2	0	52.14	521
Storage, closets, janitors, mechanical - Propose Sensor	2	5	10	0	2	0	52.14	521
Private offices, study rooms, Bedrooms, (8/5)	8	5	40	0	2	0	52.14	2086
Private offices, study rooms, Bedrooms - Propose Sensor	8	5	40	0	2	0	52.14	2086
Rest rooms, locker rooms, (6/5)	6	5	30	0	2	0	52.14	1564
Rest rooms, locker rooms - Propose Sensor	6	5	30	0	2	0	52.14	1564
Garages, Gyms, Auditoriums, Stages, (8/5)	8	5	40	0	2	0	52.14	2086
Garages, Gyms, Auditoriums, Stages - Propose Sensor	8	5	40	0	2	0	52.14	2086
Appliances-stove hoods and fridge lights, (1hr per week)	0.2	5	1	0	2	0	52.14	52
exterior, (12/7)	12	5	60	12	2	24	52.14	4380
Restrooms on 24/7	24	5	120	24	2	48	52.14	8760
Meeting Rooms	8	5	40	0	2	0	52.14	2086

For more detail on the specific usage group applied to individual areas within each building, please see the Appendix in the Lighting FIM's Details section.

For various FIM's, more detailed building schedules where developed, or modifications to the bldg schedules deviating from the above general schedule where developed. These are detailed in individual building level tables as follows:

Season	Occupied / Unoccupied	Time	Temperatures
January- May & September - December	Occupied	6 am –7 pm, Mon. – Wed. 6 am – 12 am, Thurs – Friday	Heat: 72° F Cool: 75° F
All Year	Unoccupied	All hours not indicated and Holidays	Heat: 65° F Cool: 82° F

2 FACILITY IMPROVEMENT MATRIX

See the following page for a complete list of the facility improvement measures (FIM's) included in this project.

City of Grand Junction, CO - Facilities

Johnson Controls

FIM Matrix for TEA

FIM Number	FIM Type	FIM Description	City Wide	Canyon View Maintenance Bldg	City Hall	Engineering Lab	Facilities Office	Field Engineering Lab/Office	Fire Station #3	Fire Station #4	Fire Station #5	Fire Fitness Training Building	LP Auditorium/Barn	LP/Moyer Pool (Bir Room & RR/Concessions)	Parks Admin Office	Recycling Center Building	Service Center (Fleet & Warehouse) NEWER BLDG	Tiara Rado Clubhouse	Tiara Rado Golf Maintenance Bldg	Transportation Engineering	Two Rivers Convention Center	Visitor & Convention Center	Notes
1.	Lighting	Interior Retrofit (T12,Incand,Exits,etc)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2.	Lighting	Exterior retrofit																						Listed under FIM-1 in JC Facts
3.	Lighting	Occupancy Control																						Listed under FIM-1 in JC Facts
8.	Controls	Basic Programmable Thermostat (NSB)		✓			✓	✓				✓	✓		✓		✓	✓	✓	✓		✓	✓	Bin Calc
10.	Controls	Boiler OA Lockout/Reset															✓							svgs method per JRM
16.	Electrical	Variable Frequency Drives (VFDs)			✓																	✓		verify if any VAV RTU @ TRCC has IGV
17.	Electrical	Vending Miser			✓																			
18.	Mechanical	High efficiency boilers							✓				✓											
20.	Mechanical	MAU replacement or retro CX														✓								
21.	Mechanical	High efficiency furnaces									✓												✓	
24.	Electrical	Elect. Water Cooler Timer			✓			✓													✓			
25.	Mechanical	High SEER RTU Replacement			✓									✓										bin calcs
28.	Mechanical	Ice Machine HTX															✓					✓		
33.	Envelope	Bldg Infiltration Upgrade		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	
34.	Envelope	Added Insulation																				✓		
37.	Solar	Photo Voltaic (PV) Elec																				✓	✓	
39.	Pool	Liquid Chemical Pool Cover											✓											
40.	Water	Low flow fixtures / control		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
41.	Training	SEEC - Educational Funding	✓																					

✓ = Option, Alternative or Potential, ✓ = existing

Note: green background = bldg scheduled for preliminary LEED assessment

3 SCOPE OF WORK – LIGHTING FIM'S.

Johnson Controls conducted a room-by-room audit in each of the facilities to assess the existing lighting system and to evaluate potential improvements to lighting quality and to reduce the electrical usage. The lighting at the city facilities consists of a mixture of standard T12-energy saving fluorescent lamps with magnetic ballast, incandescent lamps, compact fluorescents, metal halides, LED and incandescent exit signs, and some T8/T12 fluorescent lamps with electronic ballast. Please refer to the Appendix for a detailed description of the existing lighting conditions. Note the lighting detailed scope tables reflect the complete audit results of the facility indicated. A lighting code indicated as "NORETRO" indicates a fixture that is not to be retrofitted.

3.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

This facility improvement measure (FIM) will upgrade existing lighting systems throughout the Grand Junction Facilities as detailed in the FIM Matrix, using a combination of energy-efficient lamps, high-efficiency electronic ballasts, reflectors, and in some cases, fixture replacements. Fluorescent fixtures will be upgraded using third-generation T8 lamps and electronic ballasts. Incandescent fixtures will be replaced with compact fluorescent lamps or new fluorescent fixtures. High intensity (HID) fixtures will use pulse-start technology lamps or be replaced by compact fluorescent or high output fluorescent fixtures. Metal halide fixtures will be replaced with new fluorescent T5 high-output fixtures or pulse-start lamps and ballasts where feasible. Exit signs using incandescent lamps will be replaced with LED exit signs.

A high level summary of the lighting retrofits proposed follows:

Technical Energy Audit

Site Name	Fixt Exist	Fixt Retro or Replace	Sensor Qty
Barn/Auditorium	48	45	
Canyon View Complex	438	223	2
CGJ Visitors Center	125	105	7
City Hall	889	604	60
Fire House #4	56	53	
Fire Station #3	77	75	
FireHouse #5	157	92	
Fire House #5 Training Center	43	42	
Fleet Complex - Engineering Lab	10	10	
Fleet Complex - Facilities Office	45	33	3
Fleet Complex - Field Engineering	58	50	
Fleet Complex - Recycling Center	34	34	
Fleet Complex - Service Center	330	316	19
Fleet Complex - Transportation Engineering	51	51	8
Moyer Pool Bathroom/Equip.	33	33	
Moyer Pool Shower/Equip.	101	81	
Parks	401	307	
Parks Administration Office	51	50	8
Tierra Golf Course - Maintenance Building	33	27	2
Tierra Golf Course - Clubhouse	220	191	5
Two Rivers Convention Center	808	305	12

The FIM scope includes removal and disposal or recycling of fluorescent lamps and ballasts. These materials will be handled in accordance with all applicable, State, Federal, OSHA, and EPA guidelines. Certificates of Disposal and/or Recycling will be provided at project completion.

Benefits of the lighting upgrade include:

- Reduction in energy use and cost.
- Improved lighting consistency and quality
- Elimination of ballast flicker and hum
- Elimination of hazardous materials (PCB containing ballasts)
- Reduced lighting maintenance requirements through the reduction of total lamp counts and the use of long-life lamps.
- Reduced lamp and ballast inventory through the standardization of lamps and ballast throughout the facility.

Detailed scope of work tables for the lighting FIM's are contained in the Appendix

3.2 Discussion of Facility Operations and Maintenance Procedures That Will Be Affected by Installation/Implementation:

Lighting material purchases are reduced due to the replacement of aging equipment with new equipment, the reduction of material counts by the reduction in lamps and ballast through the use of reflectors, improved lamp life and the warranty on materials installed. Material savings are further detailed in the Appendix.

3.3 Assumptions & Clarifications:

1. The operational hours used for the savings calculations are detailed in 1.3 as well as the lighting section in the Appendix.

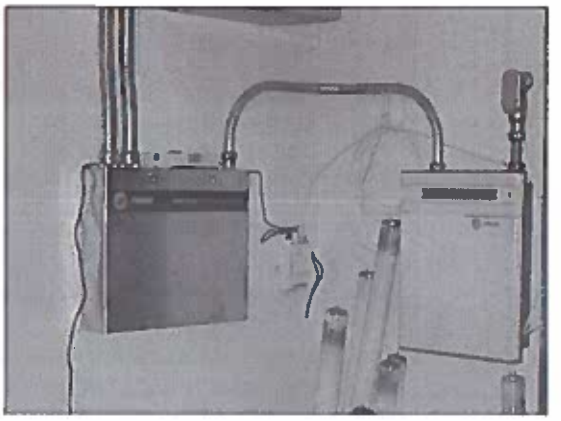
4 SCOPE OF WORK – CONTROLS & ELECTRICAL FIM'S.

4.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

FIM-6 DDC Retro CX

LOCATIONS & EXISTING CONDITIONS:

1. **City Hall**: existing Trane Tracer BMS w/ CO2 demand controlled ventilation and nighttime temperature set-back.



SCOPE OF WORK:

1. **City Hall**: Provide Trane factory programming to accommodate IGV to VAV retrofit:
   a. Replace inlet guide veins with VFD drive on 90 ton RTU-1. See FIM-16 for additional info.

CLARIFICATIONS: The following clarifications, inclusions or exclusions are made part of the Scope of work.

- Asbestos abatement excluded.
- Include facility staff training on BMS upgrades/expansions

SAVINGS SOURCE:

- Energy savings from reduced fan energy at the City Hall
- Improved occupant comfort at the Ops. Center
- Improved operator monitoring capability through added remote access at the Ops. Center

FIM-8 BASIC PROGRAMMABLE THERMOSTATS (NSB)

SCOPE OF WORK:

JCI to provide and EC to install programmable thermostats in the following locations (programmable JCI model T600HCP-3 or equivalent). Equipment shall allow for local scheduling of daily runtimes for HVAC equipment via typical display. Installation shall be complete and fully commissioned, with initial schedules provided by JCI as noted below.

1. **Canyon View Maintenance Building:**
   Provide and install programmable T'stats for 2 ea. elect unit heaters and 2 ea. zones with elect. baseboard heaters.
   a. Occupied Schedule & Set point (tent.)
      i. Mon – Fri 6:00 am -4:00 pm (Verify)
      i. Heating: 65 F (Model at 68)
      ii. Cooling: 78 F (Model at 76)
   b. Unoccupied Schedule
      ii. All hours outside occupied schedule
      iii. Heating: 55 F
      iv. Cooling 84 F

2. **Fire Station #5 Training Building**
   Provide and install programmable T'stats for 1 ea. gas furnace. Use same T'stat to control 2 ea. swamp coolers.
   a. Occupied Schedule & Set point (tent.)
      i. 7-Days a week (5:00 am – 8:00 pm)
      i. Heating: 65 F (Model at 68)
   b. Unoccupied Schedule (tent.)
      i. All hours outside occupied schedule
      ii. Heating: 55 F

3. **Tiara Rado Clubhouse:**
   Provide and install programmable T'stats for approx. 5 ea. zones served by hydronic baseboards
   a. Occupied Schedule & Set point
      i. Mon – Sun (Seasonal)6:00 am -7:00 pm (6am to 5 pm in winter)
      ii. Heating: 65 F (Model at 65)
   b. Unoccupied Schedule
      i. All hours outside occupied schedule
      ii. Heating: 55 F (modeled at 60F)

4. **Tiara Rado Maintenance Building**
   Provide and install programmable T'stats for 2 ea. gas unit heaters
   a. Occupied Schedule & Set point (tent.)
      i. Variable, Seasonal 5:00 am -4:00 pm (5 days/wk)
      ii. Heating: 65 F (Model at 68)
   b. Unoccupied Schedule (tent.)
      i. All hours outside occupied schedule

ii. Heating: 55 F

CLARIFICATIONS: The following clarifications, inclusions or exclusions are made part of the Scope of work.

- Asbestos abatement excluded.
- Patch & paint as needed
- Provide new stat wire as needed

SAVINGS SOURCE:

- Reduced heating and cooling energy

FIM-10 BOILER and Circ Pump OA LOCKOUT & RESET

LOCATIONS & EXISTING CONDITIONS:

1. **Tiara Rado Clubhouse**
   a. Existing boiler is a Burnham model 809B-WI, S/N 7724719

SCOPE OF WORK:

1. **Tiara Rado Clubhouse:**
   a. JCI to provide and install new JCI UNT unitary controller to provide OA lockout on existing boiler and associated circulation pumps above 65 °F outdoor air temperature.

b. Using new controller above, program boiler reset schedule for 180F outlet temperature at 10 F OAT to 120F outlet at 60F OAT

CLARIFICATIONS: The following clarifications, inclusions or exclusions are made part of the Scope of work.

1. Asbestos abatement excluded.
2. Provide and install new OA temperature sensor.

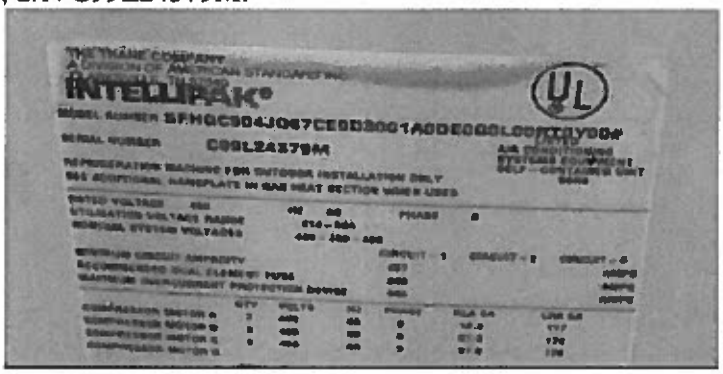
SAVINGS SOURCE:

1. Eliminate unneeded boiler & pump operations via. OA lockout.
2. Reduce distribution losses and improved boiler efficiency via. OA reset

FIM-16 VARIABLE FREQUENCY DRIVES

LOCATIONS AND EXISTING CONDITIONS

1. **City Hall**: 90-ton VAV RTU-1 w/ inlet guide vanes on supply fan. Unit is a Trane model SFHGC90, S/N C99L24379M.



SCOPE OF WORK. The Scope of work for this project includes:

1. **City Hall RTU-1**
   - 1.1. Lock existing inlet vane in the open position, abandon vanes in place.
   - 1.2. Provide and install new VFD's on supply air fans (2 fans, 2 VFDs operating from the same signal) and inverter rated 480V 25 Hp motors
     - 1.2.1. VFD Brand will be JCI Cutler Hammer or equivalent.
   - 1.3. Provide and install VFD speed control using new duct static pressure sensors provided and installed in existing Trane Tracer BMS.

1.4. Replace existing starter with new VFD with integral 480V 3 pole disconnect and a network connection compatible with the exiting Trane Tracer BMS system. Provide new boxes and wiring where required.
1.5. Restore fan safeties to VFD circuit.
1.6. Provide start up and commission of AHU VFD. Examples include rotation, min and max speed, and set motor overload projection settings for each motor.
1.7. Provide startup and training for new VFDs'

ASSUMPTIONS & CLARIFICATIONS: The scope of work is clarified by the following items:

1. Asbestos abatement excluded.
2. Inlet vanes will be locked or screwed in the "open" position, they will not be removed.
3. Existing Duct Detectors are assumed to be in working condition and they will be wired into the VFD safety circuit. Replacement or repair of Duct detectors or Fire alarm work is excluded.
4. Building is currently served by inlet vanes and therefore assumed to be a functioning VAV system. It is assumed that installation of VFDs to replace inlet vanes will not disrupt the building static pressure and therefore any additional work required to correct building static pressure problems as a result of VFD installation is not included in this scope of work.

SAVINGS SOURCE:

1. Reduced fan energy from replacing inlet vanes with VFD and new premium efficiency motors.
2. Decreased need for maintenance by replacing vanes with VFD.

FIM-17 VENDING MISERS

SCOPE OF WORK:

JCI to provide and install new:

1. Vending Misers on existing Soda pop machines
2. Snack Misers on existing Snack machines
3. Cooler Misers on existing cold drink coolers

LOCATIONS & QUANITIES

- City hall: 3 cold drink and 1 snack machine

ASSUMPTIONS & CLARIFICATIONS: The scope of work is clarified by the following items:

1. Asbestos abatement excluded.
2. Route occupancy sensor included w/ vend/snack/cooler Miser to high wall or ceiling. Route sensor wire inside wall or wire-mold.

SAVINGS SOURCE:

- Energy savings from reduced compressor and electrical energy runtime.

FIM-24 Elect. Water Cooler Timers

SCOPE OF WORK:

JCI to provide and install new timers on the existing electric water coolers (EWCs) with the following installation types:

1. Type A installation for EWCs plugged into duplex. Example timer spec. is Granger Item No. 2E274.
2. Type B installation for EWCs hardwired to branch circuit. Example timer spec. is Granger Item No. 2E021.
3. Type C: EC to disconnect electrical service to EWC hardwired to branch circuit. Cooling to remain disabled.

LOCATIONS & QUANITIES

- TBD locations for type A & B installations.
- Type C installation.

ASSUMPTIONS & CLARIFICATIONS: The scope of work is clarified by the following items:

1. Asbestos abatement excluded.

SAVINGS SOURCE:

- Energy savings from reduced compressor runtime. ~$8/yr for typ. office occupied10 hrs/day.

4.2 Discussion of Facility Operations and Maintenance Procedures that will be Affected by Installation/Implementation:

Detailed in each FIM

4.3 Assumptions & Clarifications:

Detailed in each individual FIM.

5 SCOPE OF WORK –MECHANICAL FIM'S.

5.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

FIM-18 HIGH EFFICIENCY NATURAL GAS HOT WATER BOILERS

EXISTING CONDITIONS: Existing hot water boilers with the following specifications are located at:

1. **Lincoln Park Moyer Pool**: 2 ea 1430 MBH input, 1158.3 MBH output, power burners, (1 unit is not functioning, only this unit will be replaced w/ new boiler, existing working boiler to remain)
2. **Fire Station 4:** (E) 80% 396 MBH input boiler

LOCATIONS AND NEW EQUIPMENT SPECIFICATIONS:

1. **Lincoln Park Moyer Pool**: 1 ea. RBI Futera by Fusion boiler model CB/CW 1500 MBH input, 1440 MBH output, 4:1 turn down. (replace failed unit, sequence new unit as lead unit)
2. **Fire Station 4:** w/ new Aerco MLX-454, 454 MBH input, 87% AFUE unit.

SCOPE OF WORK: Remove and replace existing boilers with high efficiency gas hot water boilers:

1. Shutoff, isolate, drain and temporarily cap connecting systems to the existing HW Boilers
   A) Natural gas line will be intercepted and reused
   B) Makeup water will remain as existing
   C) Breaching to be disconnected
   D) Expansion tank to remain
   E) Reuse existing electrical connection
   F) Hot water supply and return lines will be reused.
2. Shutoff and isolate (E) hot water pump connection from the boiler and retain pump
3. Demo existing boiler and immediate piping
4. Provide and install new hot water boiler (see new equipment specs. above)
5. Provide, and install HW boiler(s) installation components as needed such as:
   A) Natural gas line & associated code require gas train
   B) Boiler pad as needed
   C) Make up water reconnection
   D) Existing water treatment system will remain as is
   E) Use existing electrical service to boiler for new boiler electrical
   F) Provide new isolation valves to boiler
   G) Electrical connections as required
   H) Provide and install remote kill switch for the boiler as required by code

I) Boiler PRV and drain piping to the floor drain
J) Pumps will remain as is
K) Reuse existing expansion tank
L) Provide new insulation on piping to and from the boiler
M) Provide sealed combustion air supply ducting to the boilers
N) Provide new flue venting to the side wall or to the roof

6. Provide factory start up and commission of the new boilers
7. Provide Staff operational training for new steam boiler

ENGINEERING:

1. Mechanical and electrical professional design services shall be included
2. Verify existing combustion air is sufficient or in excess
3. Combustion must be sealed as existing DHW will remain atmospheric

SCHEDULING:

1. Installation at the outdoor pool to occur outside of operating season, Memorial Day to Labor Day weekends.
2. Coordinate installation with facility staff in minimize interruption in pool schedule.

OPERATION PARAMETERS:

1. Operational pattern will remain unchanged.
2. At LP Moyer Pool, new boiler to be set up as lead unit, (E) boiler to remain to be set up as lag unit.

CLARIFICATIONS: The following clarifications, inclusions or exclusions are made part of the Scope of work

1. Asbestos abatement is excluded
2. Existing Pumps & Pump Motors to remain and be reused. Scope excludes resolution of existing pump issues

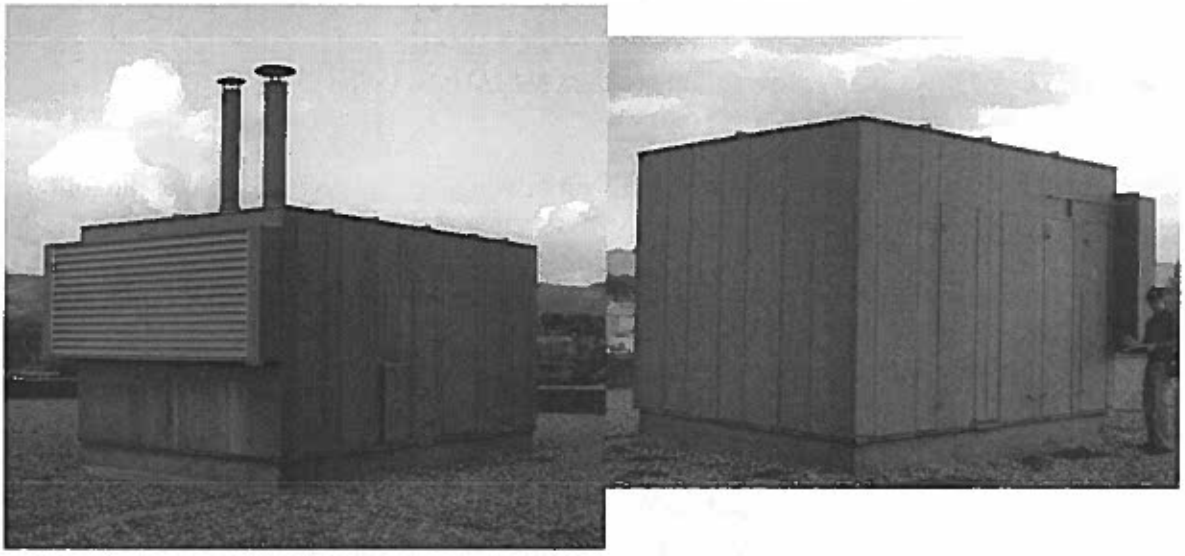
SAVINGS SOURCE:

1. Combustion efficiency improvement.

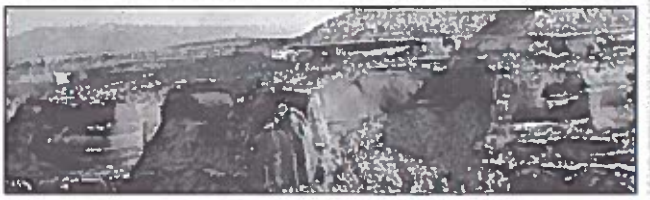
FIM-20 MAU Replacement

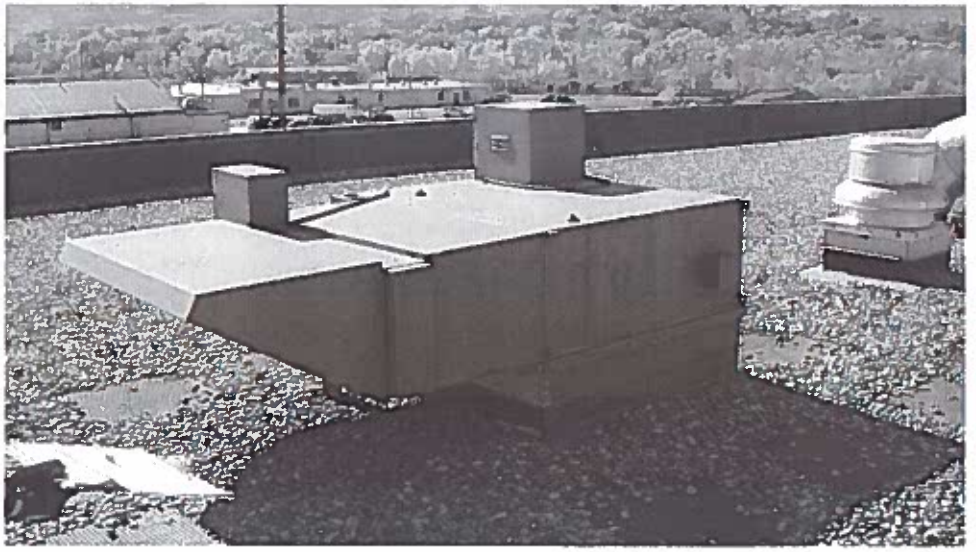
LOCATIONS & EXISTING CONDITIONS:

1. Service Center:
   - MAU-1: Weather Maker model PHI30 Outdoor, 30000 cfm @ 2" ESP, 25 hp supply fan motor, 480V/3ph, two ea. indirect fired NG Hastings model SD700 furnace sections (700 MBH input each), direct evap. cooling, down discharge w/ return air drop, 100% OA in cooling mode, TBD fraction of air is returned to unit in heating mode. Serves storage warehouse
   - MAU-2: Weather Maker model PHD30 Outdoor, 2-speed 15000/30000 CFM @ 2" ESP, 25 hp supply fan, 480V/3ph, failed direct fired NG furnace, direct evap. cooling, down discharge, 100% outdoor air, (unverified 528 Mbh input). Serves vehicle service bay.



   - MAU-3: Weather Maker model TOT-212, 5230 CFM @ 2" ESP, 5 hp supply fan, 480V/3ph fan, 120V/1ph controls, direct fired NG furnace capable of 300 MBH output, no cooling, down discharge, 100% OA. Serves welding shop and wash bay.





:SCOPE OF WORK: JCI to provide and install new MAUs as follows:

1. Service Center:
   - MAU-1:
     Replace (E) indirect fired unit with new indirect fired unit capable of the following:
     - 28,000 cfm SA with premium efficiency 25 HP motor (93.8%)
     - Direct evap. section
     - 2-position OA/RA dampers with spring return. 100% OA in cooing mode, 5% OA in heating mode
     - 70 deg. F temperature rise at 50% OA (910 Mbh output)
   - MAU-2:
     - Replace (E) direct fired unit with new direct fired MAU capable of the following:
       - 2-speed SA fan (1/3 speed reduction) capable of 15,000 (heating) and 22,500 CFM (cooling), 100% OA (no return section)
       - Direct Evap Section
       - Furnace output capacity capable of 70 deg. F temperature rise at 15,000 CFM OA (975 Mbh output)
   - MAU-3:
     - Replace (E) direct fired unit with new direct fired MAU capable of the following:
       - 3960 CFM supply fan with 5 HP premium efficiency motor, 100% OA (no return), down discharge
       - Direct Evap Section, provide and install new fill and drain kit

- Furnace output capacity capable of 70 deg. F temperature rise at 100% OA (260 Mbh output)

CLARIFICATIONS: The following clarifications, inclusions or exclusions are made part of the Scope of work.

- Asbestos abatement excluded.
- Any structural upgrades that may be required are excluded
- Reconnect MAUs to existing supply ductwork
- Reconnect MAUs to existing return ductwork where applicable
- Include structural and mechanical engineering and permitting
- Reuse existing roof penetrations. Provide and install new curbs. Transition as required.

SAVINGS SOURCE and Benefits:

- Energy savings from premium efficiency motors and reduced supply air CFM..
- Avoided capital expenditures

FIM-21 HVAC UPGRADE-HIGH EFFICIENCY FURNACES

EXISTING CONDITIONS: Existing furnaces with the following specifications are located at:

1. **Lincoln Park Barn/Auditorium**: 4 ea. Dayton Furnaces, 160 MBH horizontal flow units are located inside the attic trusses.

LOCATIONS AND NEW EQUIPMENT SPECIFICATIONS:

1. **Lincoln Park Barn/Auditorium**: JCI to provide and install 4 ea. 5-ton York TG9S series or equivalent furnaces (90% AFUE). Match input and cfm to existing units. Provide with condensate pumps.

SCOPE OF WORK. The scope of work for this FIM includes:

1. Remove existing furnace units
   - 1.1. Demo and cap abandoned furnace B-vents. Maintain venting for existing common vented appliances if applicable.
   - 1.2. Reuse existing gas and electrical connections

2. Install new high efficiency natural gas fired furnace units
   - 2.1. Reconnect to existing SA and RA ducts
   - 2.2. Reconnect to existing gas service
   - 2.3. Reconnect to existing electrical service
   - 2.4. Provide new venting per mfr's instructions.
   - 2.5. Reuse existing outside ventilation air intakes. Verify operation of existing OA dampers where applicable.
   - 2.6. Connect condensate piping and route to drain.
   - 2.7. Reuse existing programmable thermostat which controls all four units
3. Provide start up and functional testing.

BENEFIT: As a result of the proposed solution, the benefits include:

1. Improved reliability with newer equipment
2. Improved combustion efficiency.

ASSUMPTIONS & CLARIFICATIONS. The scope of work is clarified by the following items:

1. Asbestos abatement excluded
2. Existing OA damper system remains unchanged
3. Exclude new duct smoke detectors
4. Include drip pans with lockout sensors

FIM-25 HIGH SEER RTU/DX SPIT SYSTEM REPLACEMENT

EXISTING CONDITIONS: Existing RTUs with the following specifications are located at:

1. **City Hall:**
    a. 7.5 ton unit serving IT room, Trane, Model: YFD090D41BBE, 408V/3ph

2. **Parks Admin (LP Area near outdoor pool):**
    a. RTU-1: Trane Model: YCH048C1HBBE, S/N L3602033D, 208V/1ph
    b. RTU-2: Trane Model: YCD036C1HBBE, S/N L36101969, 208V/1ph

LOCATIONS AND NEW EQUIPMENT SPECIFICATIONS:

1. **City Hall**
    a. Provide new 10 ton York RTU model number ZH120N, R410A, 11.5 EER w/ economizer, hail guard, high eff. filters, low ambient kit, crankcase heater and transition curb.
2. **Parks Admin**
    a. Provide new 4 ton York RTU model number DH048N, 11.5 EER w/ economizer, 80.9% AFUE, hail guard, high eff. Electrical requirements to match existing conditions.
    b. Provide new 3 ton York RTU model number DF036N, 11.5 EER w/ economizer, 80.9% AFUE, hail guard, medium eff. Electrical requirements to match existing conditions.

SCOPE OF WORK:

City Hall scope of work for this project includes:

1. Remove existing 7.5 Ton RTU and existing roof curb from roof
    1.1. Reclaim and recycle refrigerant.
    1.2. Remove existing electrical connections

2. Install new RTU
   2.1. Provide and install new roof curb
   2.2. Provide and install new electrical connections (confirm electrical capacity for new RTU)
   2.3. Connect to existing ductwork, transition as required. Provide adaptor curb if required
   2.4. Include mechanical and structural engineering
3. Provide start up and commissioning

BENEFIT: As a result of the proposed solution, the benefits include:
1. Improved reliability with newer equipment
2. Reduced Cooling Energy savings

ASSUMPTIONS & CLARIFICATIONS: The scope of work is clarified by the following items:

1. Asbestos abatement excluded
2. Assume existing ductwork to remain.
3. Exclude new duct smoke detectors
4. Include mechanical and structural engineering & permitting.

Parks Admin scope of work for this project includes:
1. Remove existing RTU and existing roof curb from roof
   1.1. Reclaim and recycle refrigerant.
   1.2. Remove existing electrical connections
2. Install new RTU
   2.1. Provide and install new roof curb. Supply and return openings do not match existing and therefore an adapt-a-curb will be required
   2.2. Connect new electrical connections to existing
   2.3. Connect existing gas line to new
   2.4. Provide and install new 7-day programmable thermostat
   2.5. Connect to existing ductwork, transition as required.
3. Provide start up

BENEFIT: As a result of the proposed solution, the benefits include:
1. Improved reliability with newer equipment
2. Improved Cooling Energy savings

ASSUMPTIONS & CLARIFICATIONS: The scope of work is clarified by the following items:

1. Asbestos abatement excluded

5.2 Discussion of facility operations and maintenance procedures that will be affected by installation/implementation:

Noted in the individual FIM Details.

5.3 Assumptions & Clarifications:

The scope of work is clarified by the following items:

1. It is assumed that duct detectors and fire alarm codes are met with the existing equipment, any additional Fire/Life safety equipment or wiring is specifically excluded from this scope of work. If it is determined any of these units do not meet current fire codes, JCI will provide a proposal for those required upgrades.
2. It is assumed the existing electrical circuits serving the existing RTU's are code compliant and any additional electrical work outside that specifically stated in the scope of work is excluded.
3. Existing programmable thermostats will be reused.
4. Any ductwork scope below the roof line is excluded.
5. Test and balance of the HVAC system is excluded.

6 SCOPE OF WORK –BUILDING ENVELOPE FIM'S.

6.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

The primary focus of Building Envelope work is to create an impervious pressure boundary which will contain the conditioned air inside of the envelope. The two driving forces that Building Envelope focuses on are Stack Effect or Chimney effect and Wind Effect. Stack effect is built into all structures and begins with unconditioned air being drawn at the bottom of the structure, conditioned, and then exhausted at the upper most point of the structure. Wind effect is driven by Nature and the prevailing source and affects all surfaces and classifies them as either intake or exhaust for that given moment.

Doors, either single entries or garages, provide a primary point of entry. It is absolutely necessary for doors to function and seal properly. These openings often times are provided with different materials such as door weather-strips and door sweeps or a felt material with a fin strip and lower threshold gaskets. Time and usage will deteriorate the best material as will some chemicals used to clear the access points.

Roof wall seam is the point at which the roof and wall meet and is in contact with either a masonry or frame material. This point normally represents the highest point in the structure and also the highest leakage rate of the structure. Suspended ceilings provide access points to seal this penetration in the pressure boundary. Drywall or hard ceilings negate the opportunity to seal this critical juncture and other avenues have to be evaluated for a plausible cost effective retrofit.

Interior doors in multiple story buildings allow stack effect to move between the spaces to the exhaust point. By weatherstripping these doors we are able to decouple the individual floors so that the zoning controls for these levels may work properly. This also pertains to areas with more than a five degree temperature differential.

Boiler Rooms or Mechanical Rooms with outside air provided for combustion have to be separated from the conditioned space. This includes all penetrations through walls and ceilings to the conditioned area. These areas are outside of the envelope for safety purposes and it is imperative that they remain so.

Door weatherstripping material is a heavy duty commercial grade known as Zero Draft DX 1000 or DX; the door sweep and center bands used to seal the threshold and centers of doors is also a Zero Draft product known as DS. These materials are provided only in mill finish for the projects. Fin-seal products are a felt gasket material containing a nylon barrier in the center to create a double seal. Fin-seal products may be substituted by the installer to provide more adequate seals as deemed necessary.

Foam products are classified as either single component which is air cured or two components (2 part) which is chemically cured; both products are Class 1 materials and are polyurethane based.

The scope of work for each Envelope FIM is listed below:

Canyon View Maintenance

Doors

3—Single commercial—DX and DS

72 LF—Slide on weatherstrip—Roll up doors

Attic Entrance

1—Attic Guardian—Rectangular

City Hall

Doors

3 sets—Double commercial—Adjust center section—5th Street

1 set—Double commercial—DX, DS and Center bands—Parking lot

1—Roof access—Foam tape and adhesive

Engineers Lab behind Field Office

Doors

1—Double commercial—DX, DS and Center V

1—Single commercial—Rear door—Replace; bad condition plus ventilated in conditioned space

Roof Wall Seam—2 sections to Lab area

52 LF—Rear Lab area—Height change

68 LF—Front Lab area

Facilities Building—Building B

Doors

1—Double commercial—DX, DS and Center V

Engineers Office Building E

Doors

4—Single commercial—DX or 270 F/S and DS

Roof Wall Seam

300 LF—Two different roof structures plus addition wall—P & B and 11 7/8 wood—Heavy two part foam application—Seal steel beams to building—Secondary entrances have open soffitts or penetrations less than 15 sq. ft.

24 LF by 2.5 ft—Isolate front soffit from building

400—Seal all Plastic seams together to create wall—attach to upper and lower sections

Fire Station # 3

Doors

4—Single commercial—DX and DS
2—Double commercial—DX, DS and Center bands
6—Garage doors—12 ft. by 14 ft—3 sides

Attic Entrances

2—Attic Guardians—Square

Fire Station #4

Doors

3—Single commercial—DX and DS
3—Garage door—14 ft. by 14 ft.—3 sides

Penetrations

1—1 sq. ft. Hole behind duct system
Note* check area for combustion air for generator

Attic Entrances

4—Attic Guardians—Square

Fire Station # 5

Doors

1—Single commercial—DX and DS—Rear door at crews quarters
1—Single commercial—DX and DS—Boiler room—Exterior door
3—Single commercial—DX and DS—Separation doors
2—Single commercial—DX and DS—Bay Areas
1—Roof Hatch—2 ft. by 3 ft.—2 Strips foam tape and adhesive
1—Roll up Garage door—Seal edges of steel track—Close top 1 inch wide by 8 ft. long

Roof wall seam

105 LF—Crews quarters—Two component foam
Kitchen area has more than 2/3rds drywall and can not be sealed
Bay area—no evidence of leakage

LP Barn / Auditorium

Doors

2 sets—Double commercial—DX, DS and Center bands
1 set—Double Commercial—Oversized—DX, DS and Center bands
2—Garage door—8 ft. by 9 ft.—4 sides

LP Restrooms at Administration Pool area

Doors

2—Single commercial—DX and DS

Parks & Recreation Administration Offices

Doors

1—Single Arch—DX and DS—Main door
1—Single commercial—DX and DS—Side door—Limestone caulking needed
1—Single commercial—DX and DS—Basement
1—Single commercial—DX and DS—Addition section

Code Enforcement—Purchasing—Warehousing—Fleet Services—Building C

Doors
Stores Warehouse
2—Single commercial—DX and DS
Code Enforcement
1—Single commercial—DX an DS
Purchasing
1—Single commercial—270 F/S and DS—Main door
1—Single commercial—DX and DS—Warehouse door
Doors
Purchasing
1—Single commercial—DX and DS—Shop door
2—Double commercial—DX, DS and Center bands—Automotive Parts and Service
Fleet Services
8—Single commercial—DX and DS
18—Garage doors—3 sides—Clip material present
Roof Wall Seam
1100 LF—Exposed areas and concealed areas—Throughout structure—very leaky

Tiara Rado Clubhouse

Doors
2—Single commercial—DX and DS—Pro Shop—Closure adjustments
1—Single commercial—DX and DS—Cart Storage
6—Single commercial—DX and DS—Pinon Grill—Front building
1—Garage door—6 ft. by 7 ft.—3 sides with steel frame—Cart storage

Tiara Maintenance Shop

Doors
2—Single commercial—DX and DS
1—Garage door—16 ft. by 12 ft.—3 sides
Roof Wall Seam

90 LF—Seal end walls and divider wall to office area

Transportation Engineering

Doors

2—Single commercial—DX and DS

Attic Entrance

1—Rectangular Attic Guardian

Two Rivers Conference Center

Creek side

Doors

2—Single commercial—Sweeps only

1 set—Double commercial—Sweeps and Center bands—Main Entrance

1 set—Double commercial—Sweeps and Center bands—Parking Lot side

2 sets—Double commercial---Sweeps and Center bands—Creek side

1 set—Double commercial—Oversized—DX, DS and Center bands—Green doors

1 set—Double commercial—Oversized—DX, DS and Center bands—Kitchen

2 sets—Double commercial—Oversized—DX, DS and Center bands—Creek side brown

Roof Wall Seam

More than half of Creek side is blocked by drywall and HVAC systems

River side

Doors

4 sets—Double commercial—Oversized—DX, DS and Center bands

3—Single commercial—DX and DS—Lower Level—Includes Maintenance

Exterior Roof and Columns

600 LF—Exterior work at glass/soffit juncture—Columns have 6 by 6 inch hole present—block and seal—Arm Lift required and tall ladders

Visitors Center

Doors

1 set—Double commercial—270 F/S, DS and Center bands

1—Single commercial—DX and DS—Rear door

1—Single commercial—DX and DS—Crawlspace door

Attic Entrances

1—Rectangular Attic Guardian—Rear area

1—Kneewall door Attic Guardian—Lobby area

Penetrations

2 sq. ft. direct penetration—Old combustion air grill—Lobby area—Seal shut

6.2 Discussion of facility operations and maintenance procedures that will be affected by installation/implementation:

There are no anticipated impacts on the facility O&M procedures related to the building envelope improvement FIMs.

6.3 Assumptions & Clarifications:

The following items are included in the scope of this FIM:

- Caulking, Weather-stripping as applicable
- Door, window and hole seals

The following items are excluded from the scope of the envelope FIMs:

- For hazardous material encountered during the implementation phase (including asbestos), the City of Grand Junction will be notified immediately, work will be stopped and a plan for proceeding further will be determined with the city environmental department.
- Painting
- Roof replacement or roofing materials
- Louvers or vent caps

7 SCOPE OF WORK –SOLAR PV FIM'S.

7.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

1. **Two Rivers Convention Center:** Located at the West end of Main Street in downtown Grand Junction. Project involves the installation of two PV arrays, totaling approx. 15 kW. Includes a kiosk for use inside bldg which has the ability to show the **solar production** at the site.

   Array 1
   To be a bldg integrated PV system in the form of window shading installed above the South facing windows along the Southern most bldg section (see picture below).

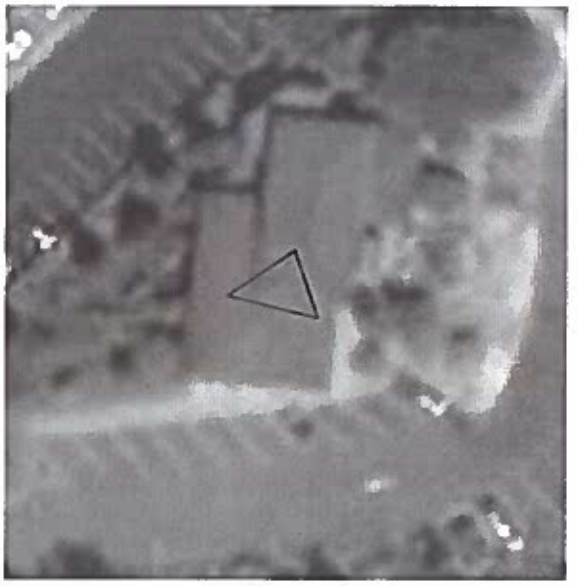
Total length of window shade array is apr. 90' consisting of a continuous row of panels (either single row in hung long ways or double row if hung "sideways" along the length of this edge of the bldg). Panel mounts must be visually consistent with the design of the bldg. Panels shall be mounted at an apr. 30 deg angle to provide the maximum shading benefit. Structural analysis is by JCI.

Balance of 15 kW total system size to be mounted on the roof of the southern bldg. Self ballasted mounting system with minimal roof penetrations. Tilted mounting system to optimize kWh production.

Array 2
Approximate roof area is 5,000 sf. Existing roof drains are only visible obstruction.

2. **Visitor & Convention Center:** single ~ 5 kW roof mounted array. Include kiosk for use inside bldg which has the ability to show the **solar production** at the site.

   Utilize the South facing triangular roof section (shown apr. below) on the Southern end of the VCC for a roof mounted PV system. Panels to be mounted flat utilizing the natural slope of the bldg (~30 deg). System size can vary +/- in order to best utilize the available space – JCI is estimating apr. 5.25 kW DC for a system size. The exact final system size to be determined after the design is complete.



SCOPE OF WORK:

1. Provide and install turn key roof/bldg mounted, grid-tied only PV system at the locations indicated above.
2. Extended warranties will be provided for the inverters
3. Structural evaluation of both roofs is to be included.
4. Structural evaluation & mounting design of the window shading structure at TRCC to be included.
5. System shall comply w/ the NEC and local code requirements.
6. Include necessary structural and electrical engineering wet-stamped design drawings.
7. Obtain utility approval and functional testing for net-metering interconnection
8. (TRCC Only) Single inverter for the output of both arrays at this site is preferred, however two inverters is acceptable.
9. JCI will be responsible for managing all warranty claims and performance issues with system.

7.2 DISCUSSION OF FACILITY OPERATIONS AND MAINTENANCE PROCEDURES THAT WILL BE AFFECTED BY INSTALLATION/IMPLEMENTATION:

The operation and maintenance procedures to be utilized by the City of Grand Junction to properly maintain the new equipment will be provided during installation and system start up. Typically, regular cleaning of the PV panels by City staff is recommended to minimize dirt buildup on the panels which will decrease electrical output.

7.3 ASSUMPTIONS & CLARIFICATIONS:

The scope of work is clarified by the following items:

1. Asbestos abatement excluded.
2. Inverter shall be listed in compliance with UL 1741 and IEEE 1547.
3. Modules shall be listed in compliance with UL 1703 and IEEE 1262.
4. Xcel rebate activities will be managed by JCI
5. Electrical output is diminished depending upon the angle of the sun and obstructions resulting in shading of the array.
6. The solar PV systems will be connected to the pertinent building electrical systems.
7. The Solar PV systems will only operate in "grid connected" fashion, i.e. if the local electrical grid is down, the PV systems will not operate.
8. Relocation of roof penetrations is not included

8 SCOPE OF WORK –POOL FIM'S.

8.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

1. **LP/Moyer Pools**
    a. Large Pool, ~70' x 160'
    a. Wading Pool, ~42' x 70'

SCOPE OF WORK: Provide the following scope of work.

Provide Heatsavr liquid pool cover from the manufacturer, Flexible Solutions. Heatsavr liquid pool cover dosage = 1 oz/400 sq ft/day.

1. JCI to provide Heatsavr appropriate quantities of liquid pool cover for each pool (1 yr supply):
    a. LP Moyer Large Pool: 30 oz/day (tent.)
    b. LP Moyer Wading Pool: 8 oz/day (tent.)
2. JCI to provide and install Automatic Metering Systems as follows
    a. 1 ea. LP/Moyer,
    b. Metering to include dosing pumps and day tank
    c. Locate dosing unit on firm surface per manufacturers recommendations
    d. JCI to provide electrical
    e. JCI to provide piping for pumps to pool main supply line and chemical reservoir to pumps
    f. JCI to provide liquid pool chemicals for 1 year

EQUIPMENT DESCRIPTION

A biodegradable liquid pool cover (HeatSavr) would provide all of the benefits of a standard pool blanket without the hassle of covering and uncovering the pool each day. HeatSavr is a transparent liquid solar blanket that greatly reduces heat loss. The liquid forms a barrier on the surface of the pool, inhibiting evaporation. HeatSavr has been thoroughly tested and is completely safe and biodegradable. Dosage is just one ounce per day for every 400 square feet of surface area. Heatsavr™ is a mixture of carefully chosen ingredients which are lighter than water so that they automatically float to the surface. They are attracted to each other so that they try always to form a very thin layer over the whole pool surface. After a swimmer stops disturbing the water they rush to reform a complete layer because they are molecularly organized and happiest that way.

BENEFIT: As a result of the proposed solution, the benefits include:

1. Reduced boiler load from pool water evaporation (NG Energy Savings)

8.2 Discussion of facility operations and maintenance procedures that will be affected by installation/implementation:

The primary objective of these measures is to allow the City of Grand Junction to more efficiently operate the Pool facilities.

The operation and maintenance procedures to be utilized by the City of Grand Junction Pool staffs for the liquid cover injections system will be detailed to staff during the commissioning phase of the project.

8.3 Assumptions & Clarifications:

The scope of work is clarified by the following items:

1. The staff will apply the liquid chemical pool cover as required by manufacturer.
2. City staff will be required to purchase the chemical pool cover starting after the first year's supply has been exhausted. Project economics are based on buying the material in bulk quantities.

9 SCOPE OF WORK –WATER CONSERVATION FIM'S.

9.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

SEE THE FOLLOWING TABLE FOR A SUMMARY OF MEASURES TO BE INSTALLED.

Summary: City of Grand Junction Water Conservation Analysis

Facility:	LP Auditorium	LP Moyer Pool	Parks & Recreation Office	Fire Station 3	Fire Station 4	Fire Station 5	Two Rivers Convention Center	Tiara Rado GC	Field Engineering Office	Recycling Center	Service Center	Transportation Engineering	Canyon View Maintenance Bldg	Visitor & Convention Center	Totals
Restroom Water Conservation															
Toilet retrofit gallons saved	-	55,278	15,750	12,167	54,750	-	-	136,255	5,506	-	55,056	-	-	-	601,552
Faucet retrofit gallons saved	26,000	21,165	6,120	5,840	4,137	5,319	34,255	29,325	4,960	8,700	31,000	6,200	4,650	8,700	348,629
Urinal retrofit gallons saved	-	4,938	900	-	-	-	-	12,750	618	-	3,875	-	-	2,025	61,703
Showerhead retrofit gallons saved	-	101,250	-	-	-	41,063	-	-	-	-	5,813	-	-	-	171,365
Total gallons saved	26,000	182,631	22,770	18,007	58,887	46,381	34,255	178,330	11,084	8,700	95,744	6,200	4,650	10,725	1,183,249

DETAILED SCOPE DESCRIPTIONS AS FOLLOWS:

A) Water Closets:

- Subcontractor shall retrofit existing 3.5 gallon per flush toilets with water efficient 1.28 gallon per flush toilets. Subcontractor will supply and install 1.28 water closet china, 1.28 Piston flush valve, new angle stop and plastic elongated seat. The water closet installation will be free of defects or leaks. Tank style toilets will be replaced with new HET 1.0 GPF toilets.

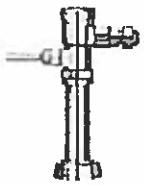
    1. Subcontractor shall retrofit existing water closet with following:
        - (17) Wall Mount Water Closets 1.28 GPF
        - (10) Floor Mount Water Closets ADA 1.28 GPF
        - (41) Floor Mount Water Closets 1.28 GPF
        - (0) Floor Mount Concealed Top Spud Water Closet 1.6 GPF
        - (5) Mansfield 1.0 Pressure Assisted Tank Type ADA Water Closets
        - (13) Mansfield 1.0 Pressure Assisted Tank Type Water Closets

Material Type:
China: Zurn Commercial
Tank Style China: Mansfield Tank Type
Seat: Bemis or equivalent

B) Water Closet Valves:

- Subcontractor shall retrofit existing 3.5 gallon per flush water flush valves with water efficient 1.28 gallon per flush water closet Piston flush valves. Subcontractor will supply and install 1.28 flush valve and new angle stop. The installation will be free of defects or leaks.

    1. Subcontractor shall retrofit the following valves:
        - (68) Piston 1.28 GPF Water Closet Valve
        - (0) Zurn Flush Valve Diaphragm 1.6 GPF Kits
        - All existing flush sensors shall be re-installed on new valve.

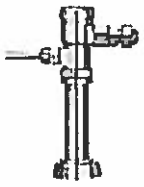


Valve Type: Zurn Piston

C) Urinal Valves:

- Subcontractor shall retrofit existing 1.5 gallon per flush urinal flush valves with water efficient 1.0 gallon per flush urinal Piston flush valves. Subcontractor will supply and install 1.0 flush valve and new angle stop. The installation will be free of defects or leaks.

2. Subcontractor shall retrofit the following urinal valves:
    - (40) Piston 1.0 GPF Urinal Valve
    - All existing flush sensors shall be re-installed on new valve.



Valve Type: Zurn Piston

D) General Bath Faucets and Faucet Aerators:

- Subcontractor shall retrofit existing 2.2 GPM bathroom faucet aerators with water efficient 0.5 gallon per minute VP aerator. Subcontractor will supply and install Aerator.

1. Subcontractor shall retrofit the following faucet Aerators:
    - (115) Faucets shall be retrofitted with new 0.5 GPM vandal proof aerators
    - (7) Kitchen faucets shall be retrofitted with new 1.5 GPM aerators
2. Subcontractor shall replace the following faucets:
    - (0) Single Handle basin model manufactured by Delta Faucets
    - (0) 4 inch center set faucet manufactured by Delta Faucets

Aerator: Niagara #270 BG Aerator, N320 SMTP, #NN3104 LM

E) General Bathroom Showerheads:

- Subcontractor shall retrofit existing 2.5 GPM showerheads with water efficient 1.75 gallon per minute pressure compensating showerhead. Subcontractor will supply and install showerhead.

3. Subcontractor shall retrofit the following showers:
    - (28) Showerhead shall be retrofitted with new 1.75 GPM showerhead

9.2 Discussion of Facility Operations and Maintenance Procedures that will be Affected by Installation/Implementation:

None Noted

9.3 Assumptions & Clarifications:

Inclusions:

- Repair and replacement of broken toilet flanges
- Subcontractor will patch and/or repair of walls or floors if the new fixture does not cover or match the opening left by the current fixtures.

Exclusions:

- Does not include labor to replace shut off valves or repair main water valves that do not close completely or that will not fully re-open.
- Does not include labor to repair previously deteriorated plumbing not associated with the work defined in this scope.
    - JCI will not repair or replace corroded wall hung toilet drain pipes.
- Does not include any enhancements to fixtures that are not covered in existing plumbing code.
- JCI shall not be responsible for previous damage to wall or flooring not associated with the scope of work.
- JCI shall reserve the right to refuse replacement of a non functioning angle stop based on the current condition of the plumbing.

10 SCOPE OF WORK –SEEC (EDUCATIONS FUNDING)

10.1 DESCRIPTION OF EQUIPMENT TO BE INSTALLED AND HOW IT WILL FUNCTION:

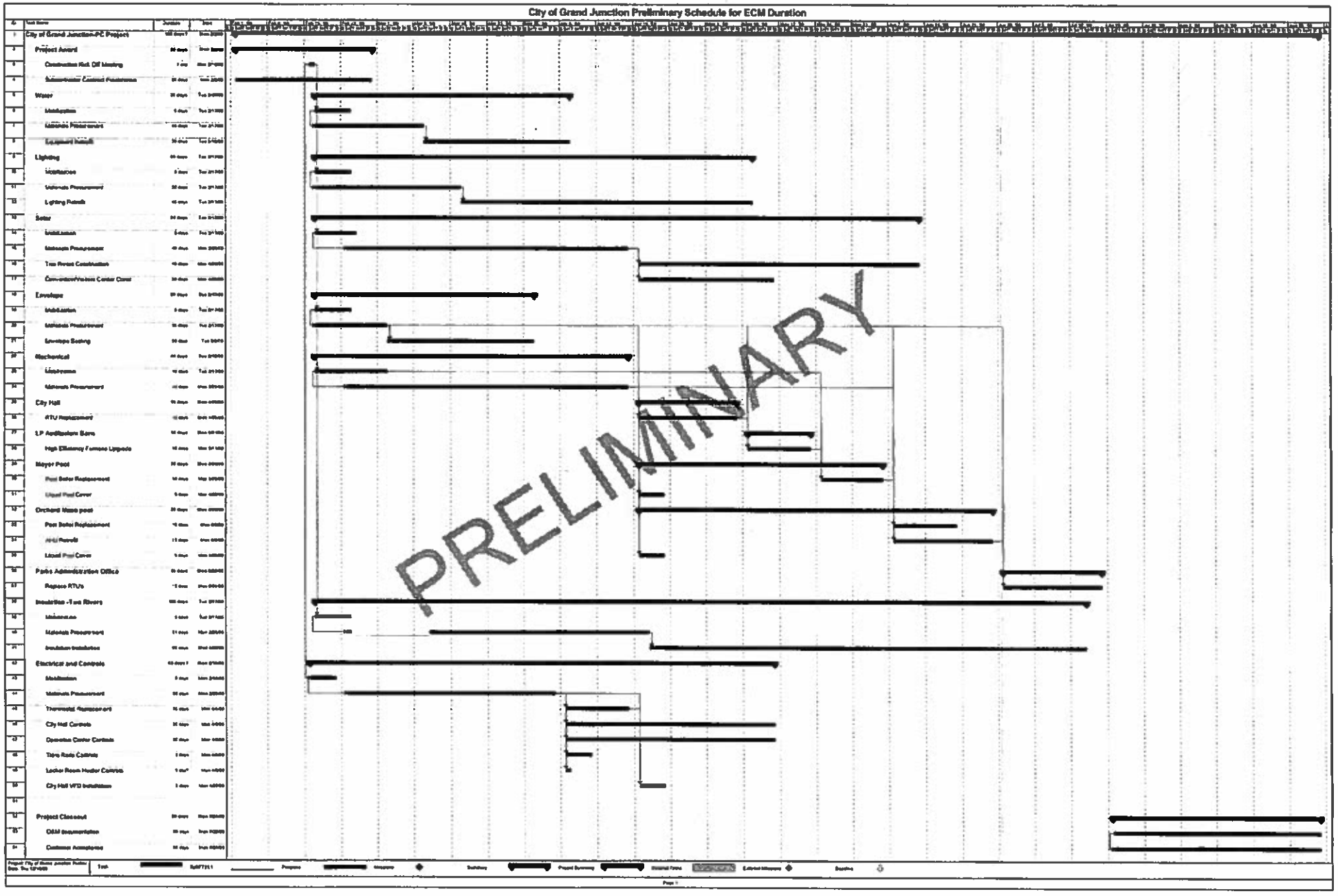
THIS CONSISTS OF AN EDUCATIONAL EFFORT THAT WILL BE CONDUCTED BY JOHNSON CONTROLS. THE FINAL SCOPE DETERMINATION IS IN PROGRESS WITH CITY STAFF. SEE ADDITIONAL DETAILS ON THE SEEC PROGRAM IN GENERAL IN THE APPENDIX.

10.2 DISCUSSION OF FACILITY OPERATIONS AND MAINTENANCE PROCEDURES THAT WILL BE AFFECTED BY INSTALLATION/IMPLEMENTATION: - N/A

10.3 ASSUMPTIONS & CLARIFICATIONS: - N/A

11 PROJECT SCHEDULE.

Reference Microsoft Project Schedule on the following page. Construction will be installed to minimize interruptions to customers operations. The schedule is detailed on the following page.


City of Grand Junction Preliminary Schedule for ECM Duration
PRELIMINARY

SCHEDULE B.
DESCRIPTION OF PREMISES; PRE-EXISTING EQUIPMENT INVENTORY

1 Existing Conditions

1.1 Site Summary

PLEASE SEE THE FOLLOWING PAGE FOR A TABLE OF THE BUILDINGS AND LOCATIONS INCLUDED IN THE CITY OF GRAND JUNCTION FACILITIES ENERGY EFFICIENCY PROJECT. THIS INCLUDES ALL BLDGS INCLUDED IN THE ORIGINAL AUDIT.

1.2 Pre-Existing Equipment Inventory

PLEASE SEE THE GRAND JUNCTION TECHNICAL ENERGY AUDIT DATED 2/4/09 FOR A DETAILED REPORT ON EXISTING EQUIPMENT.

Performance Contract - Schedules

Building/Facility	Address	Year Built/Remodeled	Square Footage
Avalon Theatre	645 Main Street	1922/ ?	10,000
Canyon View Maintenance Bldg	730 24 Road	1997	2,400
Cemetery Shop/Office	269 26-1/4 Road	1963	830
City Hall	250 N. 5th Street	2000	46,000
Concession Stand & Restrooms	1340 Gunnison Ave	1970	2,431
Engineering Lab	2549 River Road	1948	460
Facilities Office	2553 River Road	1949/2007	1,750
Field Engineering Lab/Office	2549 River Road	1948/2003	2,205
Fire Station #2	2827 Patterson Road	1992	6,280
Fire Station #3	582 25 1/2 Road	1963	5,477
Fire Station #4	251 27th Road	1982	4,386
Fire Station #5	2155 Broadway	2004/2008	7,291
Fire Training Building	2155 Broadway	1975	1,916
Locker Rooms	1340 Gunnison Ave	1994	4,254
LP Auditorium/Barn	1340 Gunnison Ave	1924/2006	9,610
LP Golf Clubhouse	1340 Gunnison Ave	1946	4,776
LP/Moyer Pool Restrooms, Filter & Equip.	1340 Gunnison Ave	1986	1,898
LP/Moyer Pool Restrooms/Shower/equip.	1340 Gunnison Ave	1986	4,044
Older American Center	6th street / Ouray Avenue	1976/2006	5,770
Operations Center (offices & shops)	2553 River Road	1956/1991 (offices only)	23,345
Orchard Mesa Indoor Pool	?? 2736 C Road	1975	20,204
Parks Admin Office	1340 Gunnison Ave	1936	2,942
Parks Maintenance Shop(s)	1400 Gunnison Ave	1936	4,998
Parkway Office	2529 High Country Ct	1995	5,045
Recycling Center Building	2549 River Road	1948	2,677
Rood Parking Garage	435 Rood Road	2007	
Service Center (Fleet & Warehouse)	2549 River Road	1982/2008 (office area)	31,985
Stadium Restrooms	1340 Gunnison Ave	2001	873
Stocker Stadium (Football Stadium)	1340 Gunnison Ave	1960	-
Suplizio Field / East Stadium (Baseball Stadium)	1340 Gunnison Ave	1961	-
Tiara Rado Clubhouse (2 mtrs - one for proshop, other for rest. & cha	2063 South Broadway	1977	13,438
Tiara Rado Golf Maintenance Bldg	2063 South Broadway	1982	1,785
Ticket Booth	1340 Gunnison Ave	1980	39
Ticket Booth & Concession	1340 Gunnison Ave	2001	80
Transportation Engineering	2553 River Road	2000	3,600
Two Rivers Convention Center	159 Main Street	2002	28,060
Visitor & Convention Center	740 Horizon Drive	1993/2006	3,290
W. Stadium/N. Restroom	1340 Gunnison Ave	1961	616
W. Stadium/S. Restoom & Ticket Booth	1340 Gunnison Ave	1990	1,300

1.3 Individual Building Descriptions

Avalon Theatre
The Avalon Theatre is a 10,000 sq ft theatre and performing arts space that was built in 1922. There are daily movies shown in the Avalon and speakers and performances are also intermittently scheduled. It is approximately three stories with a basement and it has been renovated multiple times since its original construction. There are still comfort issues with the space, especially in the colder months. Two abandoned boilers are located in the basement and the heating and cooling load are managed by four roof top units which serve the concessions and lobby area and the theatre space.

Canyon View Maintenance Building
The Canyon View Maintenance Building is a 2,400 sq ft space that was built in 1997. It's a one story building located in the Canyon View Park complex. It is primarily comprised of garage and equipment storage space with a small office area. There is no gas service to the building and there is electric baseboard heat in the offices, an electric unit heater in the garage and a direct evaporative cooler unit on the roof. Occupancy

Cemetery Shop
The Cemetery Shop/Office is a one story, 830 sq ft space that was built in 1963. It has a basic programmable thermostat, a natural gas furnace for heating and a direct evaporative cooler on the roof. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

City Hall
Grand Junction City Hall is 2-stories, 46,000 sq ft and primarily office space. It was built in 2000 and the City requested that it be investigated for the possibility of having it LEED certified. Control systems are in place and are being used efficiently. There is a roof top unit dedicated to the server room that is direct fire, DX and operates 24 hours a day, seven days a week. The lobby also has a single zone, direct fire, DX roof top unit that is set for a 6AM to 12AM occupancy. The training room a split DX and the other roof top unit is VAV and DX.

Concession Stand and Restrooms
The Concession Stand and Restroom is a one-story building that is located inside of the Stocker Stadium/Suplizio Field complex. It was built in 1970 and is 2,431 sq ft. There are two direct evaporative coolers on the roof. The space is used seasonally and there is no heating equipment.

Engineering Lab
The Engineering lab is a small two room, 460 sq ft building located behind the Field Engineering Services building. It was built in 1948 and has little equipment besides engineering lab materials. There is a window A/C unit and a gas fired unit heater. The space is occupied at most from 7:00AM to 6:00PM, Monday through Friday.

Facilities Office

The Facilities Office is 1,750 sq ft and was built in 1940. It was recently renovated in 2007-8 and a new rooftop unit was installed. The building is part office space and is connected to the evidence storage building. That facility is equipped with its own separate building systems and controls. It is occupied generally between 7 AM to 5 PM, Monday through Friday.

Field Engineering and Services Office
The Field Engineering and Services Office was built in 1948 and is 2,205 sq ft. The building is one story and is used as office space. It has been renovated in and is included on the list for potential LEED certification. There are two roof top units handling the heating and cooling for the building. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

Fire Station #2
Fire Station #2 is 6,280 sq ft and was built in 1992. The roof has five direct evaporative coolers and a roof top unit. There is also an existing natural gas boiler. The garage bay is heated by two radiant heaters and one natural gas unit heater. There is also an existing natural gas boiler. Fire Station #2 has a 24 hours a day, seven days a week occupancy schedule.

Fire Station #3
Fire Station #3 was built in 1963 and is 5,477 sq ft. It's currently being cooled by four direct evaporative coolers on the roof ranging from nine to 19 years old. Also, there is a boiler providing baseboard heating around the station. The garage is being served by three natural gas unit heaters. This location is occupied 24 hours a day, seven days a week.

Fire Station #4
Fire Station #4 was built in 1982 and is 4386 sq ft. There are four unit heaters being used in the garage area and four direct evaporative coolers located on the roof. The heating load for station is handled by a natural gas boiler in poor condition. Fire Station #4 is always occupied.

Fire Station #5
Fire Station #5 is the newest of the four Fire Stations involved in this project and like the other fire stations, is occupied 24 hours a day. It was built in 2005 and is 7,291 sq ft. There are two roof top units as well as three direct evaporative coolers located on the roof handling the heating and the cooling loads. The garage area has both radiant and unit heaters. It was requested that this building be evaluated for potential LEED certification.

Fire Station #5 Training Building
The Fire Station #5 Training building is next door to Fire Station #5. It was built in 1975 and is 1,916 sq ft. The space has variable use, unlike the stations, and has a gym and kitchen area. Heating and cooling are served by two direct evaporative coolers as well as a forced air furnace.

Lincoln Park - Administration Office

The Lincoln Park Administration building is used as office space and is 2,942 sq ft. It is a one story building and is occupied from 7 AM to 5 PM, Monday through Friday. There are two twelve year old roof top units that provide the facility with heating and cooling.

Lincoln Park - Auditorium/Barn
The Lincoln Park Auditorium/Barn was built in 1924 and is 9,610 sq ft. The main space is a high ceiling, hardwood gymnasium accompanied by a stage and a storage area for track and field equipment and other miscellaneous items. The space is used for events and performances as well as fitness classes varying throughout the year. The roof is equipped with two direct evaporative coolers and there are four forced air gas furnaces located above the ceiling.

Lincoln Park - Golf Clubhouse
The LP Golf Clubhouse is open the majority of the year during daylight hours. It was built in 1946 and is 4,776 sq ft. There is a small kitchen and dining area along with a pro shop. Existing equipment at this location includes direct evaporative coolers on the roof, a natural gas fired boiler and a non-programmable thermostat. The irrigation system at the golf course is also a candidate for replacing direct evaporative existing pump motors with premium high efficiency motors.

Lincoln Park - Maintenance Shops
The Lincoln Parks Maintenance Shops are comprised of work shops and office space. The buildings are Quonset hut-style with natural gas unit heaters and direct evaporative coolers. The office area has a new natural gas furnace for heating and direct evaporative coolers. This location is occupied primarily between 7:00AM to 6:00PM, Monday through Friday.

Lincoln Park - Moyer Pool
Moyer Pool is located in the Lincoln Park complex and is an outdoor facility. There are two pools and a water slide and the facility is open Memorial Day to Labor Day. During operating months of year, the pool is heated to 77 degrees and the pool is not covered overnight. There is a building that houses the pump equipment and two boilers, only one of which is functioning to handle the heating load for the pool. Another building houses the locker room/bathhouses, concession stand and cashier area. It was noted that refrigerators and freezers were still on in the concession stand after the pool had closed for the season. In the off season, the pool stays partially filled and it is covered but not heated.

Locker Room
The Locker Room is a one story facility located in Lincoln Park and serves Suplizio Field and Stocker Stadium. It was built in 1994 and is 4,254 sq ft. There are two 14 year old direct evaporative coolers on the roof and the space is controlled by a non-programmable thermostat. The locker room is not in use the entire year and equipment could be manually turned off in months of disuse. Heating is provided by 2 gas fired make-up air units.

Older American Center

The Older American Center, or Senior Center, was built in 1976 and was recently remodeled in 2006. It is 5,770 sq ft and one story. There are currently four direct evaporative coolers located on the roof but the City is interested in returning to DX cooling. Also, there are three abandoned condensing units outside the facility that could be removed. There are two furnaces.

Operations Center
The Operations Center is 23,345 sq ft and has garage bays, equipment storage space and an office area. It was built in 1956 and the building is in poor shape. There are five direct evaporative coolers on the roof and one rooftop unit as well as 10 natural gas unit heaters serving the garage bays. This facility is occupied 24 hours a day, seven days a week.

Orchard Mesa Indoor Pool
The Orchard Mesa Indoor Pool was built 1975 and is 20,004 sq ft. The pool is open all year round and a varying schedule, but is generally open most of the day. Solar system and panels on the roof were installed on the roof in Novan Energy, Inc. and Solar Dronics, Inc.. Currently, the pool is left uncovered while it is not in use.

Parkway Office
The Parkway Office was built in 1995 but was purchased by the City to serve as a construction office for a specific project. There are four direct evaporative coolers on the roof as well as a window A/C unit in a small conference room. The front portion of the building is an office area and the back is a garage space roughly divided into work spaces. The site has a furnace and the garage space has two natural gas unit heaters.

Recycling Center
The Recycling Center is a garage and equipment storage space. It was built in 1948 and is 2,677 sq ft. The shop area houses recycling equipment and the garage doors on the building generally remain open. There is no heating or cooling equipment for the space. There is a trailer adjacent to the building that is used as an office. It has a mechanical cooler attached to its exterior in very poor condition.

Service Center
The Service Center is 31,985 sq ft of both office space and garage bays. It was built in 1982 but the office area was updated in 2008. The City installed two Daikin units to serve the offices heating and cooling demands. The garage space has radiant heaters. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

Tiara Rado Clubhouse
The Tiara Rado Clubhouse was built in 1977 and is 13,438 sq ft. The space includes a pro shop and a restaurant. There is an interest in improving comfort in the space to increase interest in receptions and events at the Clubhouse. The direct evaporative coolers are unable to cool the space properly. Golf

Cart plug loads? Tiara Rado Golf Course is open all year except when there is snow on the ground, during daylight hours.

Tiara Rado Maintenance Shop
The Tiara Rado Maintenance Shop is a one story garage and storage space with a small office area. It was built in 1982 and is 1,785 sq ft. Natural gas unit heaters service the facility. Premium high efficiency irrigation pump motors are also being considered. This building is typically occupied 7AM to 5 PM M-F.

Transportation Engineering
The Transportation Engineering Office was built in 2000 and is 3,600 sq ft. The City of Grand Junction included the space on its list to investigate for LEED certification. It is a one story building primarily used for office space with a small garage/storage/work area. There are two eight year old roof top units managing heating and cooling for the facility. The space is typically occupied 7:00AM to 6:00PM, Monday through Friday.

Two Rivers Convention Center
Two Rivers Convention Center was built in 2002 and is 28, 060 sq ft. It is being investigated for possible LEED certification. The convention center used daily for meetings and events. Meals are often served at the events and the kitchen is used frequently.

Visitors and Conference Center
The Visitors and Conference Center is on the City's list to be investigated for LEED certification. It was built in 1993 and was remodeled in 2006. The space is one story and 3,290 sq ft. There is a small conference area, an exhibit area and office space and the building is usually occupied from 7 AM to 7 PM. Heating and cooling loads at the VCC are served by a high efficiency furnace and a roof top units.

West Stadium Restrooms
The West Stadium restrooms are located in Stocker/Suplizio Complex. There are no existing controls at this location and it is proposed that a basic controllable thermostat be installed.

1.3 Building Schedules

The general occupied and unoccupied operating schedules for various building area descriptions are detailed in the table below.

Performance Contract - Schedules

Use Group Description	M_F Hours _ Day	Days _ Week	Week Day Total Hours	Sat _ Sun Hours _ Day	_Days _ Week	Weekend Total Hours	Weeks _ Year	Hours
Hallways, lobby, stairwells, (usually 24/7)	24	5	120	24	2	48	52.14	8760
Hallways, lobby, stairwells - Propose Sensor	24	5	120	24	2	48	52.14	8760
Classrooms, Open Offices, labs, conference, library, (8/5)	8	5	40	0	2	0	52.14	2086
Classrooms, Open Offices, labs, conference, library - Propose Sensor	8	5	40	0	2	0	52.14	2086
24 x 7	24	5	120	24	2	48	52.14	8760
Storage, closets, janitors, mechanical, (2/5)	2	5	10	0	2	0	52.14	521
Storage, closets, janitors, mechanical - Propose Sensor	2	5	10	0	2	0	52.14	521
Private offices, study rooms, Bedrooms, (8/5)	8	5	40	0	2	0	52.14	2086
Private offices, study rooms, Bedrooms - Propose Sensor	8	5	40	0	2	0	52.14	2086
Rest rooms, locker rooms, (6/5)	6	5	30	0	2	0	52.14	1564
Rest rooms, locker rooms - Propose Sensor	6	5	30	0	2	0	52.14	1564
Garages, Gyms, Auditoriums, Stages, (8/5)	8	5	40	0	2	0	52.14	2086
Garages, Gyms, Auditoriums, Stages - Propose Sensor	8	5	40	0	2	0	52.14	2086
Appliances-stove hoods and fridge lights, (1hr per week)	0.2	5	1	0	2	0	52.14	52
exterior, (12/7)	12	5	60	12	2	24	52.14	4380
Restrooms on 24/7	24	5	120	24	2	48	52.14	8760
Meeting Rooms	8	5	40	0	2	0	52.14	2086

For more detail on the specific usage group applied to individual areas within each building, please see the Appendix in the Lighting FIM's Details section.

For various FIM's, more detailed building schedules where developed, or modifications to the bldg schedules deviating from the above general schedule where developed. These are detailed in individual building level tables as follows:

Season	Occupied / Unoccupied	Time	Temperatures
January- May & September - December	Occupied	6 am –7 pm, Mon. – Wed. 6 am – 12 am, Thurs – Friday	Heat: 72° F Cool: 75° F
All Year	Unoccupied	All hours not indicated and Holidays	Heat: 65° F Cool: 82° F

2 Existing Equipment Inventory

Following are reports generated from data collected during field audit activities in addition to equipment data reports provided by the City of Grand Junction.

SCHEDULE C:
ENERGY AND COST SAVINGS GUARANTEE

ASSURED PERFORMANCE GUARANTEE SCHEDULE

1. **DEFINITIONS.** The following terms are defined for purposes of this Schedule as follows:

Project Benefits are the Measured savings, cost avoidance &/or Billable Usage increases that occur in the Guarantee Term plus the Non-Measured savings, cost avoidance &/or Billable Usage increases achieved for that year as set forth in paragraph 3 below.

Annual Guaranteed Project Benefits are the portion of the Total Guaranteed Project Benefits to be achieved in any one year of the Guarantee Term, calculated and adjusted as set forth in this Schedule.

Annual Project Benefits are the Project Benefits achieved for any one year of this Agreement.

Project Benefits Surplus is the amount by which the Annual Project Benefits that exceed the Annual Guaranteed Project Benefits in any one-year of the Guarantee Term.

Project Benefits Shortfall is the amount by which the Annual Guaranteed Project Benefits exceeds the Annual Project Benefits in any one-year of the Guarantee Term.

Guarantee Term is the term of this Assured Performance Guarantee. As outlined in paragraph 2 of this Agreement, the Guarantee Term shall coincide with the term of Services and shall be 36 months from the Substantial Completion Date, unless terminated earlier. The 36 month term was requested by the City.

Installation Period means the period between the Commencement Date and the first day of the month following the Substantial Completion Date. For purposes of the annual reconciliation, Project Benefits achieved during the Installation Period shall be considered Project Benefits achieved during the first year of the Guarantee Term.

Measured Project Benefits are achieved and calculated as set forth in paragraph 3, Reconciliation, of this Schedule.

Non-Measured Project Benefits are the Project Benefits that have been agreed by the parties will be deemed achieved as set forth in Exhibit 1 of this Schedule. JCI and the City agree that Non-Measured Project Benefits may include, but are not limited to, future capital or operational costs avoided as a result of this Agreement. City agrees and acknowledges that JCI shall not be responsible for the achievement of such Project Benefits, as the actual realization of those Project Benefits is not within JCI's control. City acknowledges that it has evaluated sufficient information to believe that the Non-Measured Project Benefits will occur. As a result, Non-Measured Project Benefits shall not be measured or monitored at any time during the Guarantee Term, but rather shall be deemed achieved on the Substantial Completion Date.

Billable Usage Increases are the incremental increases in billable usage that occur as a result of guaranteed water meter efficiency improvements as calculated, if applicable, pursuant to billing information as provided by the City.

Total Guaranteed Project Benefits are the Total Guaranteed Project Benefits to be achieved during the entire Guarantee Term, calculated and adjusted as set forth in this Schedule.

Total Project Benefits are the Project Benefits achieved during the entire term of this Agreement.

Equipment is the product(s) installed by JCI, its subcontractors and/or its agents as outlined in Schedule A (Equipment to be installed by Contractor).

Service is the scope of work provided by JCI, its subcontractors and/or its agents as outlined in Schedule D (Monitoring and Verification).

Baseline is the mutually agreed upon calculated figures and/or usage amounts that reflect existing conditions and assumptions as set forth in Schedule E (Baseline Energy Consumption).

2. **GUARANTEE.** Subject to the terms and conditions of this Agreement, JCI guarantees that the City will achieve **$228,994** of Total Guarantee Project Benefits during the Term of the Agreement.

3. **CALCULATION OF PROJECT BENEFITS.** Within 60 days after the Substantial Completion Date, or earlier if otherwise specified in this Performance Contract, JCI will calculate the Project Benefit achieved during the Installation Period and advise the City of the amount of such Project Benefits. The frequency and the methods of reconciliation to be used during the Guarantee Term have been approved by the City at the time that this Agreement was executed and are defined in the Exhibits attached to this Schedule. Except by mutual agreement of the parties, no changes to the frequency or methods of reconciliation may be made during the Guarantee Term; but, if a utility providing energy to the City modifies its method of billing during the Guarantee Term, or if the City changes its utility suppliers or method of purchasing, JCI may, at its option, adjust the reconciliation methods to methods appropriate to the utility's revised method of billing.

   The parties agree that JCI's guarantee is in part subject to the City's compliance with all terms and conditions set forth in the Performance Contract. City acknowledges that it has evaluated sufficient information to believe that the Non-Measured Project Benefits will occur. As a result, Non-Measured Project Benefits shall not be measured or monitored at any time during the Guarantee Term, but rather shall be deemed achieved on the Substantial Completion Date.

4. **CHANGES IN USE.** The City agrees to notify JCI, within five (5) business days, of any actual or intended change, whether before or during the Guarantee Term, in the use of any facility or equipment to which this Schedule applies, or of any other condition arising before or during the Guarantee Term, that reasonably could be expected to change the amount of Project Benefits to which this Schedule applies. Such a change or condition would include, but is not limited to: changes in the primary use of any facility; changes to the hours of operation of any facility; changes or modifications to the Equipment or Services provided under this Agreement; failure of the premises to meet local building codes; changes in utility suppliers, method of utility billing, or method of utility purchasing; improper maintenance of the Equipment or of any related equipment other than by JCI; changes to the equipment or to any facility required by changes to local building codes; or additions or deletions of equipment at any facility. Such a change or condition need not be identified in the Base Line in order to permit JCI to make an adjustment.

   Upon receipt of such notice, or if JCI independently learns of any such change or condition, JCI shall calculate and send to the City a notice of adjustment to the Base Line to reflect the impact of such change or

condition, and the adjustment shall become effective as of the date that the change or condition first arose. Should the City fail to provide JCI with notice of any such change or condition, JCI may make reasonable estimates as to the impact of such change or condition and as to the date on which such change or condition first arose in calculating the impact of such change or condition, and such estimates shall be conclusive.

5. **Annual Review and Reimbursement/Reconciliation.**

Energy-related cost savings shall be measured and/or calculated as specified in **Schedule E** and **Schedule F** and a report provided within ninety (90) days of receipt of all Needed Data (as defined in **Schedule D** hereof) for the previous year for each anniversary of the Performance Commencement Date. Contractor has developed the measurement and verification procedures specified in **Schedule F** which is based on the *International Performance Measurement and Verification Protocol 2002.*

In the event the Energy and Cost Savings achieved during such Contract Year is less than the Guaranteed Energy and Cost Savings (as defined in **Schedule C** hereof), set forth for such year during the years the guarantee is in effect, Contractor shall pay the Agency an amount equal to the deficiency.

If during the Contract Year the Energy and Cost Savings achieved are greater than the Guaranteed Energy and Cost Savings, such excess Energy and Cost Savings shall be retained by the Agency.

The following Exhibits are attached and made part of this Schedule:

Exhibit 1	Annual Reconciliation & Guaranteed Project Benefit Allocation
Exhibit 2	Responsibilities of JCI and City
Exhibit 3	Unit Utility Rates and Costs
Exhibit 4	Primary Operations Schedules Pre & Post Retrofit
Exhibit 5	Calculation of Base Line and Project Benefits
	☐ FEMP or IPMVP Method A
	☐ FEMP or IPMVP Method B
	☐ FEMP or IPMVP Method C
	☐ FEMP or IPMVP Method D

Performance Contract - Schedules

Schedule C
Exhibit 1

ANNUAL RECONCILIATION & GUARANTEED PROJECT BENEFIT ALLOCATION

Year	Annual Energy Savings	Annual Operational Savings	Total Annual Savings
Installation	$0	$0	
1	$74,307	$10,098	$84,405
2	$76,313	$10,371	$86,684
3	$78,373	$10,651	$89,024

The Project Benefits identified further described in the following chart shall be considered Non-Measured Project Benefits and are included above in the "Operations and Maintenance Cost Avoidance" and "Future Capital Cost Avoidance" columns. The amount of the Non-Measured Project Benefits shall be deemed to increase during each year of the Guarantee Term by the escalation percentages set forth below.

The Non-Measured Project Benefits set forth in the table below have been agreed upon by the Parties and will be deemed fully achieved as set forth in the chart above. City agrees that (i) the Non-Measured Project Benefits may include, but are not limited to, future capital and operational costs avoided as a result of the Work and implementation of the FIMs, (ii) achievement of the Non-Measured Project Benefits may be outside of JCI's control, and (iii) it has evaluated sufficient information to conclude that the Non-Measured Project Benefits will occur.

Performance Contract - Schedules

Building	Utility Save	O&M Save	Avoid Cap
City Wide SEEC	$0	$0	$0
Canyon View Maint. Bldg	$5,376	$883	$0
City Hall	$9,531	$2,477	$37,315
Engineering Lab	$157	$0	$0
Facilities Offices	$318	$86	$0
Field Engineering Lab/Office	$1,258	$189	$0
Fire Station #3	$1,154	$106	$0
Fire Station #4	$1,263	$182	$45,018
Fire Station #5	$1,090	$161	$0
Fire Station #5 Training Building	$392	$120	$0
LP Auditorium/Barn	$2,355	$186	$0
LP Moyer Pool	$6,490	$310	$0
Parks Admin Office	$1,072	$95	$46,800
Recycling Center	$463	$47	$0
Service Center	$9,396	$813	$290,404
Tiara Rado Clubhouse	$2,855	$355	$0
Tiara Rado Maint. Bldg.	$382	$40	$0
Transportation Eng.	$465	$87	$0
Two Rivers Conv. Center	$25,213	$2,618	$0
Visitors Center	$1,588	$214	$0
Parks (Multiple Sites)	$3,487	$1,129	$0
Other Project Costs	$0	$0	$0
Total TEA Project	**$74,307**	**$10,098**	**$419,536**

The escalation factor for utility and O&M savings used is 2.7%

In addition to its obligations expressed elsewhere in the Contract, the City, by signing below, represents the information contained in this Exhibit accurately reflects its Non-Measured Projects Benefits and agrees JCI may depend upon the information the City supplied for JCI's calculations for determining the Total Project Benefits.

Dated _____, 200____.

CITY:

Signature:_____

JOHNSON CONTROLS, INC.

Signature:_____

Performance Contract - Schedules

Printed Name:_____ Printed Name:_____

Title:_____ Title:_____

Schedule C
Exhibit 2

Responsibilities of JCI and City

This Exhibit details the individual responsibilities of JCI and of the City, not otherwise set forth in this Performance Contract, in connection with the management and administration of the Assured Performance Guarantee.

1. Johnson Controls Responsibilities

Johnson Controls shall have operations or maintenance responsibilities to initially demonstrate, upon completion, through its commissioning activities that FIM-specific equipment and/or modifications are operating as intended. All ongoing operations and maintenance shall be the City's responsibility. Refer to Schedules F and H for details concerning FIM-specific commissioning activities

2. City of Grand Junction Maintenance Responsibilities

The City of Grand Junction directly maintains or manages service providers to maintain existing facilities, systems and equipment. This will continue to be the approach as a result of this project. Johnson Controls, Inc. will have no maintenance responsibility for the installed systems.

3. City of Grand Junction Existing equipment and systems

It is understood and agreed to that the City will continue to maintain its existing equipment and systems over the term of this agreement to the standards set forth in the operations and maintenance manuals for the existing equipment and systems.

4. City of Grand Junction New equipment and systems

It is understood and agreed to that the City will continue to maintain new equipment and systems installed as part of this project as instructed in the operations and maintenance procedures and manuals that will be provided to the City as part of the construction process. Johnson Controls, Inc. will provide the City operations and maintenance manuals as part of the standard construction process for this project. Replacement equipment or material should be of like or better efficiency. Correct maintenance is required to ensure the performance of the equipment and systems is kept at the expected level.

Performance Contract - Schedules

Schedule C
Exhibit 3

Unit Utility Rates and Costs

The unit energy costs by month for Base year of the Guarantee are set forth below and shall be used for all calculations made under this Schedule. If more than one utility is involved, additional columns or pages should be added to this Exhibit.

Johnson Controls

CITY OF Grand Junction COLORADO

Utility Rates — **The City of Grand Junction Colorado**

	Electrical (Xcel Energy)					Natural Gas	
		Summer (Jun-Sep)		Winter (Oct-May)			Average
Bldg	Utility Rate Schedule	Demand $/kW/mo	Energy $/kWh	Demand $/kW/mo	Energy $/kWh	Provider	$/Dth
Canyon View Maint. Bldg	SG	$16.08	$0.05390	$14.73	$0.05390	N/A	N/A
City Hall	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Engineering Lab	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Facilities Offices	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Field Engineering Lab/Office	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #2	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #3	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Fire Station #4	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #5	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #5 Training Building	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
LP Auditorium/Barn	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
LP Moyer Pool	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Parks Admin Office	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Recycling Center	C	N/A	$0.10760	N/A	$0.10329	N/A	N/A
Service Center	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Tiara Rado Clubhouse meter 1	C	N/A	$0.10760	N/A	$0.10329	N/A	N/A
Tiara Rado Clubhouse meter 2	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Tiara Rado Maint. Bldg.	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Transportation Eng.	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Two Rivers Conv. Center	SG	$16.08	$0.05390	$14.73	$0.05390	AM Gas	$8.1360
Visitors Center	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Parks (Multiple Sites)	C	N/A	$0.10760	N/A	$0.10329	N/A	N/A

% Annual Energy Costs Increase

The following table identifies the percentage increases that will be made to the amounts in the table for each succeeding year of the Guarantee. The $ annual energy Cost Increase is applicable to all rates.

Year	Electric	Demand	Natural Gas
1	2.7%	2.7%	2.7%
2	2.7%	2.7%	2.7%
3	2.7%	2.7%	2.7%

Schedule C

Primary Operations Schedules Pre & Post Retrofit

All Schedules and Setpoints remain unchanged. Assumptions on setpoints and operational hours impacting savings can be found in Section F of this contract (Savings Calcs etc) the Appendix section of the Grand Junction Technical Energy Audit date 2/4/09.

Schedule C

The various obligations and commitments undertaken by JCI in this Performance Contract are based in part on the assumption that City's Facilities are and will remain in full compliance with all applicable building codes, all equipment of City will be maintained in proper operating condition, and all equipment of the City will be operated in accordance with the terms of this Agreement. In the event JCI determines or becomes aware that building codes are not being adhered to or that the City's equipment is not being maintained in proper operating condition or that the City's equipment is not being operated in accordance with this Contract, JCI shall be entitled to make such adjustments as may be necessary to the calculations used to determine energy Project Benefits in order to reflect the effects of non-compliance with building codes and/or improper operating condition of City's equipment.

The services performed and Equipment provided by JCI under this Agreement are intended to operate and be used as a total package to achieve optimum energy efficiency for City under this Performance Contract. In the event City disables, disconnects, or otherwise ceases to use or overrides any or all service(s) or Equipment provided by JCI under this Performance Contract, JCI shall be entitled to make such adjustments as may be necessary to the calculations used to determine energy Project Benefits in order to reflect the effects of such action by City.

City and JCI acknowledge that the method of billing used by the applicable utility providing the energy source may be modified or subject to variation during the term of this Performance Contract. In such event, the calculations used to determine energy Project Benefits shall be subject to such adjustments as necessary to equate the modified or varied method of billing to the method in effect at the time the relevant billing variables were incorporated into this Performance Contract.

FEMP or IPMVP
Option A
Partially Measured Retrofit Isolation

Project Benefits are determined by partial field measurement of the energy use of the system(s) to which an improvement measure was applied, separate from the energy use of the rest of the facility. Measurements will be short-term with only one-time measurements in the pre & post-retrofit installation period.

Partial measurement means that some but not all parameter(s) will be Non-Measured. Careful review of improvement measure design and installation will ensure that Non-Measured values fairly represent the probable actual value. Stipulations will be shown in the M&V Plan along with analysis of the significance of the error they may introduce.

Engineering calculations using short-term pre & post-retrofit measurements and stipulations. The finding of these pre & post-retrofit measurements calculations of Project Benefits will then be Non-Measured for the life of the contract.

FEMP or IPMVP
Option B
Retrofit Isolation

Project Benefits are determined by field measurement of the energy use of the systems to which the improvement measure was applied, separate from the energy use of the rest of the facility. Short-term, long-term or continuous measurements are taken throughout the pre & post-retrofit period of the contract.

Engineering calculations using short term, long-term of continuous pre & post-retrofit measurements will be used to calculate the Project Benefits for the life of the contract.

FEMP or IPMVP
Option C

Option C involves use of utility meters or whole building sub-meters to assess the energy performance of a total building. Option C assesses the impact of any type of improvement measure, but not individually if more than one is applied to an energy meter. This option determines the collective Project Benefits of all improvement measure's applied to the part of the facility monitored by the energy meter. Also, since whole building meters are used, Project Benefits reported under Option C include the impact of any other change made in facility energy use (positive or negative).

FEMP or IPMVP
Option D
Calibrated Simulation

Option D involves the use of computer simulation software to predict energy use. Such simulation model must be "calibrated" so that it predicts an energy use and demand pattern that reasonably matches actual utility consumption and demand data from either the base-year or a post-retrofit year.

Option D may be used to assess the performance of all improvement measures in a facility, akin to Option C. However, different from Option C, multiple runs of the simulation too in Option D allow estimates of the Project Benefits attributable to each improvement measure within a multiple improvement measure project.

Option D may also be used to assess just the performance of individual systems within a facility, akin to Option A and B. In this case, the system's energy use must be isolated from that of the rest of the facility by appropriate meters.

SCHEDULE D:
MONITORING AND VERIFICATION AGREEMENT

Payment for Measurement and Verification Services

The following table presents the annual amounts to be paid by the City of Grand Junction to Johnson Controls for its Measurement and Verification (M&V) services to be conducted during the Installation Period and the first 3 years of the Performance Period. These costs were determined based upon the scope of M&V tasks identified for each Performance Year, as outlined in Schedule F. In general, these payments cover costs associated with conducting spot and interval (trend-based) measurements, visual inspections, data analyses, documentation reviews, calculation updates and reporting results pertaining to each implemented Energy Conservation Measure (ECM).

M&V Cost Summary

Price/Performance Year:	
$30,178	Installation Period (Post-installation measurement)
$8,460	Year #1
$8,688	Year #2
$8,923	Year #3

It should be noted that contract financing is based on the above listed payments for M&V services provided in the Installation Period and Years 1 through 3 of the Performance Period. Whereas the election of the Agency to terminate the Energy and Cost Savings Guarantee and related Monitoring Fees may be made at the end of Year 3 of the Performance Period, as outlined in Article 2, Section 2.3 of the contract documents, financing for this contract has been arranged under the assumption that this option **will** be exercised. Therefore, should the City choose to continue M&V services beyond Year 3, it will do so at additional annual expense independent of the financial terms contained herein or elsewhere in the Contract.

SCHEDULE E:
BASELINE ENERGY CONSUMPTION

Please reference Section 2 of the Grand Junction Technical Energy Audit dated 2/4/09 (attached).

2) BASE YEAR ENERGY USE

1 DESCRIPTION AND ITEMIZATION OF CURRENT BILLING RATES, INCLUDING SCHEDULES AND RIDERS.

	Electrical (Xcel Energy)					Natural Gas	
		Summer (Jun-Sep)		Winter (Oct-May)			Average
Bldg	Utility Rate Schedule	Demand $/kW/mo	Energy $/kWh	Demand $/kW/mo	Energy $/kWh	Provider	$/Dth
Canyon View Maint. Bldg	SG	$16.08	$0.05390	$14.73	$0.05390	N/A	N/A
City Hall	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Engineering Lab	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Facilities Offices	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Field Engineering Lab/Office	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #2	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #3	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Fire Station #4	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #5	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Fire Station #5 Training Building	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
LP Auditorium/Barn	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
LP Moyer Pool	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Parks Admin Office	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Recycling Center	C	N/A	$0.10760	N/A	$0.10329	N/A	N/A
Service Center	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Tiara Rado Clubhouse meter 1	C	N/A	$0.10760	N/A	$0.10329	N/A	N/A
Tiara Rado Clubhouse meter 2	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Tiara Rado Maint. Bldg.	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Transportation Eng.	C	N/A	$0.10760	N/A	$0.10329	Xcel	$8.6138
Two Rivers Conv. Center	SG	$16.08	$0.05390	$14.73	$0.05390	AM Gas	$8.1360
Visitors Center	SG	$16.08	$0.05390	$14.73	$0.05390	Xcel	$8.6138
Parks (Multiple Sites)	C	N/A	$0.10760	N/A	$0.10329	N/A	N/A

The Xcel Energy electrical rates above are the Rate Schedule Summation Sheets (aka "loaded tariffs) page 20 of Xcel's published rate tariffs. These schedules are available at http://www.xcelenergy.com/SiteCollectionDocuments/docs/psco_elec_entire_tariff.pdf and are also listed in the appendices.

The Xcel gas rates are based on the recent 12 month average historic commercial gas rate history. The commercial gas rate history is available at

http://www.xcelenergy.com/SiteCollectionDocuments/docs/CGWebsiteHistoricalRates.pdf. A summary table is also provided in the appendices.

The AM Gas Company gas rates are based on the recent 12 month billing history, as listed in the utility summary tables below for the Orchard Mesa Pool and Two Rivers Convention Center.

The City water rates were determined by staff interviews. Average rate is $2.43 per kgal which was used in all savings calculations, and while complete billing data was not available, savings where determined by field audits and typical usage patterns. Note that the following summary table somewhat understates the water budget for the bldgs. listed for this reason.

IMPORTANT NOTE ON UTILITY BILLING:

For the analysis done at the Orchard Mesa Indoor Pool, the modeling approach was that the electric utility bills are currently paid by the school district (Mesa County) and the gas utility is billed to the city but the gas costs are spilt 50/50 with the school. The FIM savings calculations at this location take full credit for the utility savings, without regard to who pays the utility bills.

2 SUMMARY OF ALL UTILITY BILLS FOR ALL FUEL TYPES.

Base Year Energy Use & Cost
September 1, 2007 to August 31, 2008*

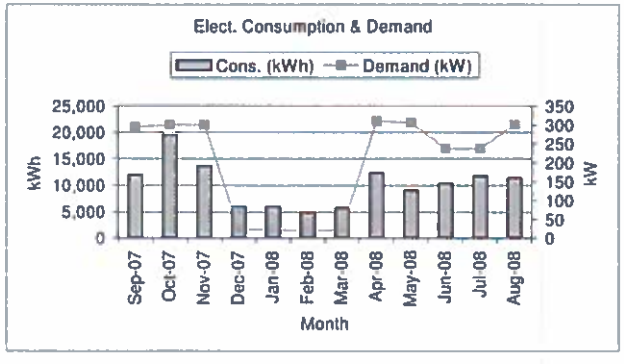
* Unless otherwise noted in Section 2.2 Tables

	Electrical					Natural Gas		Water		
	Demand		Energy**		Total Elect. Cost***	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	2,379	$21,266	123,040	$4,285	$25,551	0	$0	32	$156	$25,707
City Hall	2,224	$19,705	789,120	$28,409	$48,114	1269	$10,036	0	$0	$58,151
Engineering Lab	0	$0	70,709	$4,345	$4,345	231	$515	0	$0	$4,860
Facilities Offices	194	$1,654	28,840	$1,206	$2,861	360	$2,943	0	$0	$5,804
Field Engineering	0	$0	70,793	$4,544	$4,544	231	$1,868	0	$0	$6,412
Fire Station #3	302	$2,052	72,080	$2,489	$4,540	491	$3,955	0	$0	$8,495
Fire Station #4	0	$0	47,262	$5,675	$5,675	378	$3,045	0	$0	$8,720
Fire Station #5	0	$0	64,720	$4,145	$4,145	503	$4,013	0	$0	$8,158
Fire Station #5 Training Bldg	0	$0	5,431	$352	$352	104	$849	0	$0	$1,200
LP Auditorium Barn	283	$2,479	94,000	$3,194	$5,673	738	$5,746	37	$96	$11,515
LP Moyer Pool	482	$4,398	189,960	$7,336	$11,734	2300	$22,958	3360	$8,214	$42,907
Parks Admin Office	0	$0	57,928	$3,898	$3,898	89	$688	0	$0	$4,586
Recycling Center	0	$0	27,212	$1,773	$1,773	0	$0	0	$0	$1,773
Service Center	1,239	$10,943	341,600	$12,136	$23,079	1933	$15,259	0	$0	$38,338
Tiara Rado Clubhouse meter 1	0	$0	77,440	$5,105	$5,105	0	$0	0	$0	$5,105
Tiara Rado Clubhouse meter 2	446	$4,007	57,713	$2,273	$6,280	572	$4,616	0	$0	$10,896
Tiara Rado Clubhouse (combined)	446	4,007	135,153	7,378	$11,385	572	4,616	0	0	$16,001
Tiara Rado Maint. Bldg.	659	$5,916	90,696	$3,480	$9,395	95	$658	0	$0	$10,054
Transportation Eng.	0	$0	39,333	$4,897	$4,897	205	$1,613	0	$0	$6,510
Two Rivers Conv. Center	3,612	$32,111	1,208,640	$43,327	$75,438	4888	$40,250	0	$0	$115,688
Visitors Center	289	$2,560	81,160	$2,842	$5,402	1624	$1,304	1624	$0	$6,705
Parks (Multiple Sites)										
TOTAL	12,110	$ 107,090	3,537,677	$ 145,709	252,800	16,012	$ 120,316	5,053	$ 8,467	$381,583

Utility History
City of Grand Junction, CO
Canyon View (730 24 Road)

Account No.	Building Name	Building Address	Area (sf)
Prem #: D23226T	Canyon View Maint. Bldg	(730 24 Road)	2,400
4/06230/1/0 (water) 4900425375 (elec)			

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/ FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 32.95	11,440	$ 2,883.58	301	$ 2,005	$ 563	$ 5,485			$ 5,485	39,045	16.3	-	$ -
Jul-08	$ 33.87	11,760	$ 2,270.46	237	$ 1,595	$ 526	$ 4,425			$ 4,425	40,137	16.7	-	$ -
Jun-08	$ 29.95	10,400	$ 2,139.38	237	$ 1,581	$ 400	$ 4,151			$ 4,151	35,495	14.8	-	$ -
May-08	$ 26.27	9,120	$ 2,570.40	306	$ 1,997	$ 351	$ 4,944			$ 4,944	31,127	13.0	-	$ -
Apr-08	$ 35.71	12,400	$ 2,604.00	310	$ 2,028	$ 411	$ 5,078			$ 5,078	42,321	17.6	-	$ -
Mar-08	$ 16.59	5,760	$ 210.00	25	$ 197	$ 144	$ 568	No Gas Service at This Location		$ 568	19,659	8.2	5,650	$ 18.95
Feb-08	$ 14.05	4,880	$ 168.00	20	$ 161	$ 122	$ 465			$ 465	16,655	6.9	2,750	$ 11.00
Jan-08	$ 17.28	6,000	$ 201.60	24	$ 189	$ 158	$ 566			$ 566	20,478	8.5	-	$ -
Dec-07	$ 17.51	6,080	$ 210.00	25	$ 183	$ 171	$ 582			$ 582	20,751	8.6	-	$ -
Nov-07	$ 39.40	13,680	$ 2,520.00	300	$ 1,800	$ 385	$ 4,744			$ 4,744	46,690	19.5	-	$ -
Oct-07	$ 56.22	19,520	$ 2,671.71	300	$ 1,828	$ 472	$ 5,028			$ 5,028	66,622	27.8	6,400	$ 73.11
Sep-07	$ 34.56	12,000	$ 2,816.52	294	$ 1,808	$ 227	$ 4,887			$ 4,887	40,956	17.1	17,550	$ 53.27
t 12 mth total	$ 354	123,040	$ 21,266	2,379	$ 15,372	$ 3,931	$ 40,922	$ -	0	$ 40,922	419,936	175	32,350	156



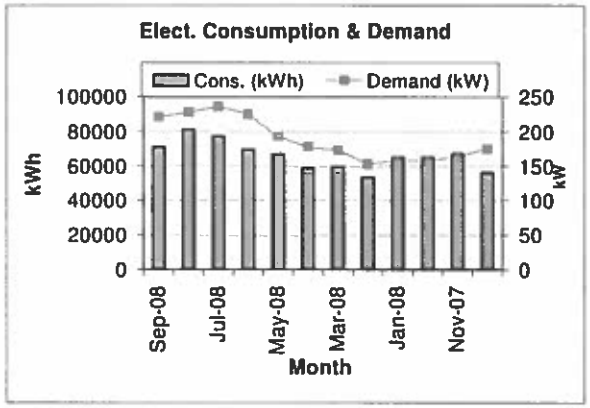
CITY OF Grand Junction COLORADO

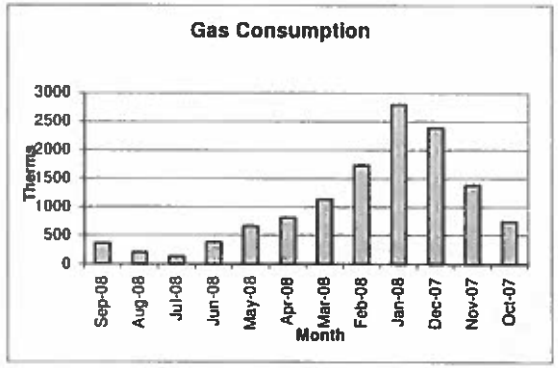
Technical Energy Audit

Utility History
City of Grand Junction, CO
City Hall (250 N. 5th Street)

Account No.	Building Name	Area (sf)
Prem #: 30009(	Hall (250 N. 5th St	46000

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost (excludes service fee)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 234.55	81,440	$ 2,184.24	228	$ 1,654	$ 4,011	$ 8,083			$ 8,305	298,155	6.5		
Jul-08	$ 223.49	77,600	$ 2,260.88	236	$ 1,703	$ 3,707	$ 7,894			$ 8,020	277,549	6.0		
Jun-08	$ 200.45	69,600	$ 2,120.10	225	$ 1,639	$ 2,679	$ 6,638			$ 7,052	275,545	6.0		
May-08	$ 193.08	67,040	$ 1,621.20	193	$ 1,397	$ 2,580	$ 5,791			$ 6,444	294,608	6.4		
Apr-08	$ 170.04	59,040	$ 1,495.20	178	$ 1,283	$ 2,163	$ 5,111			$ 5,842	283,204	6.2		
Mar-08	$ 172.34	59,840	$ 1,453.20	173	$ 1,239	$ 1,500	$ 4,364			$ 5,355	318,034	6.9		
Feb-08	$ 154.83	53,760	$ 1,285.20	153	$ 1,070	$ 1,347	$ 3,857		221.37	$ 5,343	356,883	7.8		
Jan-08	$ 187.08	64,960	$ 1,327.20	158	$ 1,112	$ 1,646	$ 4,272			$ 6,471	501,508	10.9		
Dec-07	$ 188.47	65,440	$ 1,327.20	158	$ 1,044	$ 1,841	$ 4,400			$ 6,193	461,947	10.0		
Nov-07	$ 193.08	67,040	$ 1,377.60	164	$ 1,081	$ 1,886	$ 4,537			$ 5,404	366,608	8.0		
Oct-07	$ 161.74	56,160	$ 1,499.50	175	$ 1,133	$ 1,506	$ 4,300			$ 4,668	266,274	5.8		
Sep-07	$ 193.54	67,200	$ 1,753.14	183	$ 1,217	$ 1,271	$ 4,435			$ 4,625	262,254	5.7		
nt 12 mth total	$ 2,273	789,120	$ 19,705	2,224	$ 15,571	$26,137	$ 63,686	$ 10,036	12,693	$ 73,722	3,962,567	86	-	-



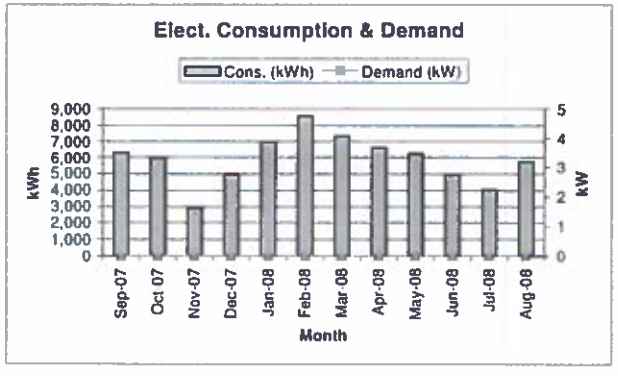


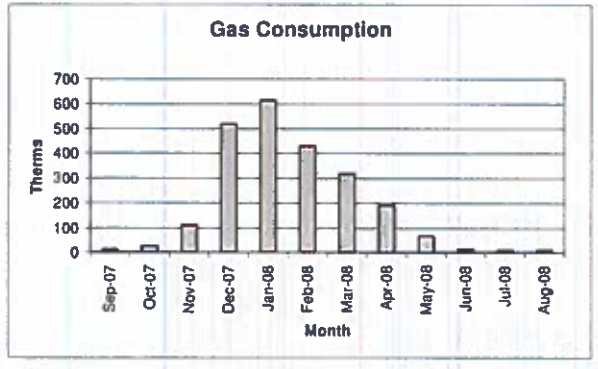
Technical Energy Audit

Utility History
City of Grand Junction, CO
Engineering Lab (2549 River Road)

Account No.	Building Name	Area (sf)
301617103	ring Lab (2549 River Road)	460

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 201.50	5,762	$ -	0	$ 144	$ 271	$ 617			$ 640	20,566	44.7		
Jul-08	$ 137.43	4,039	$ -	0	$ 105	$ 155	$ 397			$ 421	14,685	31.9		
Jun-08	$ 153.94	4,934	$ -	0	$ 124	$ 190	$ 468			$ 491	18,140	39.4		
May-08	$ 195.19	6,256	$ -	0	$ 154	$ 226	$ 576			$ 605	27,952	60.8		
Apr-08	$ 207.17	6,640	$ -	0	$ 162	$ 166	$ 535			$ 578	41,662	90.6		
Mar-08	$ 228.79	7,333	$ -	0	$ 173	$ 184	$ 586			$ 642	56,828	123.5		
Feb-08	$ 266.51	8,542	$ -	0	$ 198	$ 217	$ 682		23.27	$ 750	71,954	156.4		
Jan-08	$ 218.15	6,992	$ -	0	$ 155	$ 197	$ 570			$ 658	85,364	185.6		
Dec-07	$ 155.34	4,979	$ -	0	$ 113	$ 140	$ 409			$ 486	68,893	149.8		
Nov-07	$ 92.96	2,907	$ -	0	$ 70	$ 76	$ 239			$ 274	21,122	45.9		
Oct-07	$ 209.33	5,986	$ -	0	$ 137	$ 113	$ 460			$ 485	22,930	49.8		
Sep-07	$ 221.67	6,339	$ -	0	$ 144	$ 120	$ 486			$ 509	22,635	49.2		
Recent 12 Mo.	$ 2,288	70,709	$ -	0	$ 1,680	$ 2,057	$ 6,024	$ 515	2,314	$ 6,540	472,730	1028	-	-



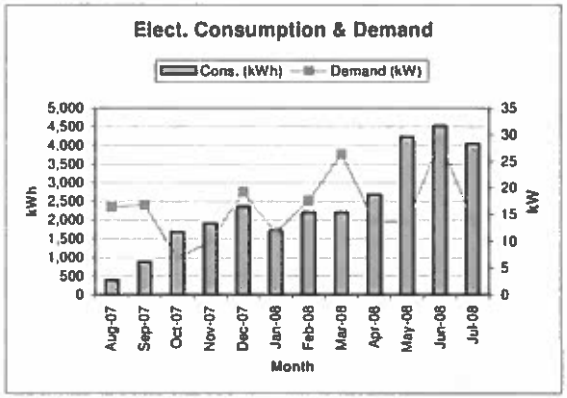


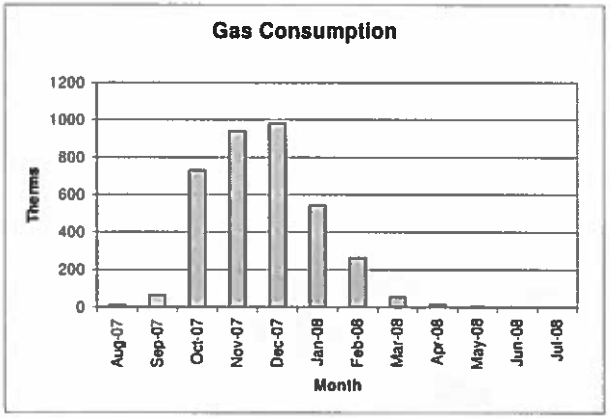
Technical Energy Audit

Utility History
City of Grand Junction, CO
Facilities Office (2553 River Road)

Account No.	Building Name	Area (sf)
301617103	Office (2553 Ri	1750
301918932		

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/ FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/ month)	Water Usage (gal)	Water Cost
Jul-08	$ 11.64	4,040	$ 134.12	14	$ 141	$ 199	$ 486	0.61	1	$ 486	13,889	7.9		
Jun-08	$ 13.02	4,520	$ 277.82	29	$ 247	$ 223	$ 761	2.17	2	$ 763	15,627	8.9		
May-08	$ 12.21	4,240	$ 134.12	14	$ 142	$ 200	$ 488	1	1	$ 489	14,571	8.3		
Apr-08	$ 7.72	2,680	$ 129.99	14	$ 136	$ 103	$ 377	14.88	14	$ 392	10,547	6.0		
Mar-08	$ 6.34	2,200	$ 218.40	26	$ 214	$ 85	$ 523	52.89	54	$ 576	12,909	7.4		
Feb-08	$ 6.34	2,200	$ 151.20	18	$ 159	$ 80	$ 396	234.03	262	$ 630	33,709	19.3		
Jan-08	$ 4.95	1,720	$ 100.80	12	$ 116	$ 43	$ 265	473.44	544	$ 738	60,270	34.4		
Dec-07	$ 6.80	2,360	$ 159.60	19	$ 162	$ 59	$ 388	834.8	981	$ 1,222	106,155	60.7		
Nov-07	$ 5.53	1,920	$ 84.00	10	$ 100	$ 49	$ 239	737.67	940	$ 976	100,553	57.5		
Oct-07	$ 4.84	1,680	$ 58.80	7	$ 77	$ 47	$ 188	546.71	730	$ 735	78,734	45.0		
Sep-07	$ 2.53	880	$ 142.80	17	$ 138	$ 25	$ 308	39.6	63	$ 348	9,303	5.3		
Aug-07	$ 1.15	400	$ 62.75	16	$ 70	$ 11	$ 145	5.32	11	$ 150	2,465	1.4		
Recent 12 Mo.	$ 83	28,840	$ 1,654	194	$ 1,701	$ 1,123	$ 4,562	$ 2,943	3,603	$ 7,505	458,731	262	-	-

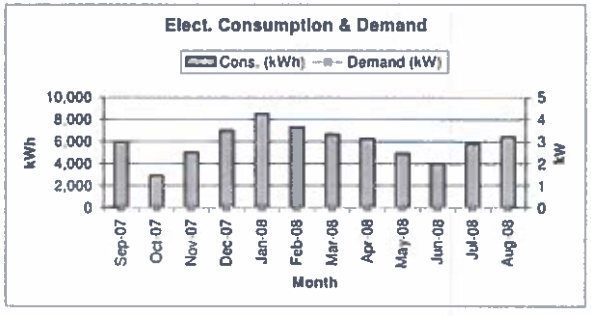


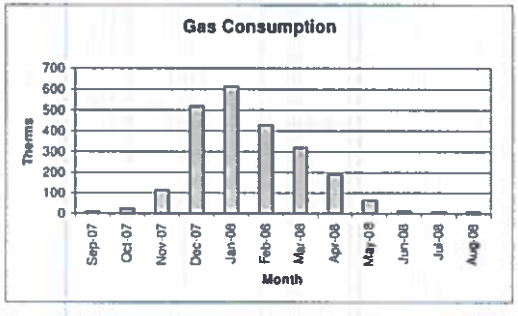


Utility History
City of Grand Junction, CO
Field Engineering Services and Lab (2549 River Road)

Account No.	Building Name	Area (sf)
	Field Engineering Ser	2,205

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 224.61	6,423	$ -	0	$ 159.14	$ 316.33	$ 700	9.82	9	$ 710	22,822	10.3		
Jul-08	$ 201.50	5,762	$ -	0	$ 144.18	$ 271.38	$ 617	8.97	9	$ 626	20,566	9.3		
Jun-08	$ 137.43	4,039	$ -	0	$ 104.58	$ 155.46	$ 397	13.82	13	$ 411	15,085	6.8		
May-08	$ 153.94	4,934	$ -	0	$ 123.79	$ 189.91	$ 468	64.63	68	$ 532	23,440	10.6		
Apr-08	$ 195.19	6,256	$ -	0	$ 154.33	$ 226.31	$ 576	169.72	190	$ 746	40,352	18.3		
Mar-08	$ 207.17	6,640	$ -	0	$ 161.59	$ 166.40	$ 535	276.75	318	$ 812	54,462	24.7		
Feb-08	$ 228.79	7,333	$ -	0	$ 172.97	$ 183.76	$ 586	364.22	428	$ 950	67,828	30.8		
Jan-08	$ 266.51	8,542	$ -	0	$ 198.33	$ 217.34	$ 682	482.63	615	$ 1,165	90,654	41.1		
Dec-07	$ 218.15	6,992	$ -	0	$ 155.35	$ 196.68	$ 570	388.68	519	$ 959	75,764	34.4		
Nov-07	$ 155.34	4,979	$ -	0	$ 113.18	$ 140.06	$ 409	70.4	112	$ 479	28,193	12.8		
Oct-07	$ 92.96	2,907	$ -	0	$ 70.05	$ 76.24	$ 239	12.43	25	$ 252	12,422	5.6		
Sep-07	$ 209.33	6,686	$ -	0	$ 135.85	$ 113.26	$ 460	5.75	10	$ 465	21,430	9.7		
Recent 12 Mo.	$ 2,291	70,793	$ -	0	$ 1,694	$ 2,253	$ 6,238	$ 1,868	2,314	$ 8,106	473,017	215	-	-

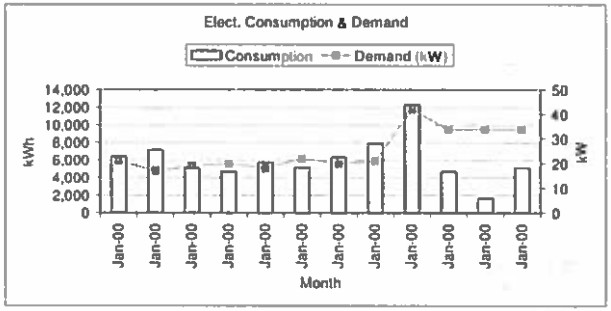


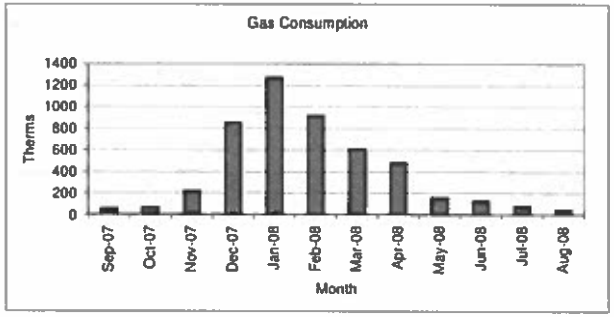


Utility History
City of Grand Junction, CO
Fire Station #3 (582 25 1/2 Road)

Account No.	Building Name	Area (sf)
3000510012	Fire Station #3 (582 2	5,477

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 10.00	6,400	$ 201.18	21	$ 176.33	$ 315.20	$ 703	48.13	45	$ 751	10,900	2.0		
Jul-08	$ 20.62	7,160	$ 162.86	17	$ 152.72	$ 324.61	$ 661	78.26	77	$ 739	14,860	2.7		
Jun-08	$ 14.52	5,040	$ 173.05	19	$ 161.98	$ 193.99	$ 544	136.03	130	$ 680	18,040	3.3		
May-08	$ 13.48	4,680	$ 168.00	20	$ 165.67	$ 180.13	$ 527	154.52	160	$ 682	20,680	3.8		
Apr-08	$ 16.47	5,720	$ 151.20	18	$ 154.69	$ 192.22	$ 515	426.33	480	$ 941	53,720	9.8		
Mar-08	$ 14.86	5,160	$ 184.80	22	$ 177.11	$ 129.31	$ 506	531.59	612	$ 1,038	66,360	12.1		
Feb-08	$ 18.09	6,280	$ 168.00	20	$ 163.27	$ 157.38	$ 507	773.56	923	$ 1,280	98,580	18.0		
Jan-08	$ 22.69	7,880	$ 176.40	21	$ 168.55	$ 206.01	$ 574	994.14	1276	$ 1,568	135,480	24.7		
Dec-07	$ 35.48	12,320	$ 352.80	42	$ 319.41	$ 346.56	$ 1,054	615.65	856	$ 1,670	97,920	17.9		
Nov-07	$ 32.95	4,680	$ 313.27	34	$ 274.68	$ 244.15	$ 865	129.57	222	$ 995	26,880	4.9		
Oct-07	$ -	1,680	$ -	34	$ -	$ -	$ -	33.99	67	$ 34	8,380	1.5		
Sep-07	$ -	5,080	$ -	34	$ -	$ -	$ -	33.4	58	$ 33	10,880	2.0		
Recent 12 Mo.	$ 199	72,080	$ 2,052	302	$ 1,914	$ 2,290	$ 6,455	$ 3,955	4,906	$ 10,410	582,880	103	-	-



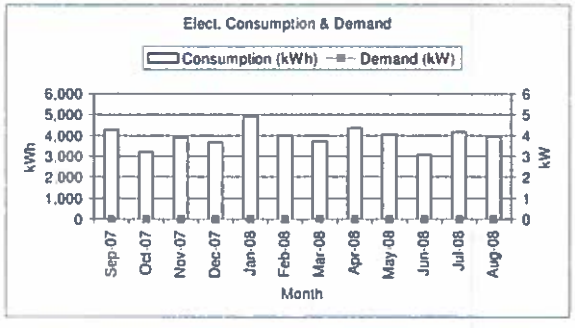


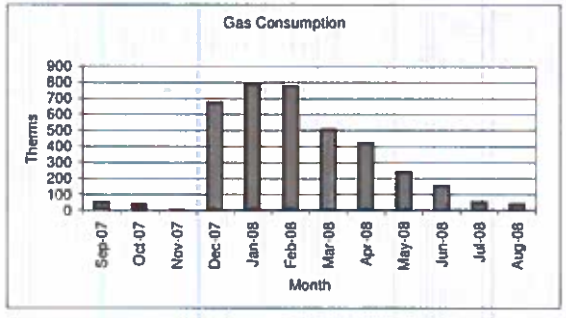
Technical Energy Audit

Utility History
City of Grand Junction, CO
Fire Station #4 (251 27th Road)

Account No.	Building Name	Area (sf)
300027002	Fire Station #4 (251 2	4,386

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 137.71	3,938	$ -	0	$ 193.95	$ 432.70	$ 764	39.86	40	$ 804	17,440	4.0		
Jul-08	$ 145.30	4,155	$ -	0	$ 169.70	$ 422.51	$ 738	58.37	54	$ 796	19,581	4.5		
Jun-08	$ 97.72	3,068	$ -	0	$ 118.09	$ 296.45	$ 512	158.5	155	$ 671	25,971	5.9		
May-08	$ 126.95	4,069	$ -	0	$ 156.62	$ 387.21	$ 671	222.62	242	$ 893	38,087	8.7		
Apr-08	$ 135.41	4,340	$ -	0	$ 121.51	$ 366.22	$ 623	374.53	427	$ 998	57,512	13.1		
Mar-08	$ 115.75	3,710	$ -	0	$ 92.97	$ 301.25	$ 510	437.44	507	$ 947	63,362	14.4		
Feb-08	$ 124.52	3,991	$ -	0	$ 100.01	$ 322.64	$ 547	628.71	781	$ 1,176	91,721	20.9		
Jan-08	$ 153.66	4,925	$ -	0	$ 134.98	$ 402.32	$ 691	609.66	794	$ 1,301	96,209	21.9		
Dec-07	$ 114.38	3,666	$ -	0	$ 103.12	$ 303.20	$ 521	457.56	680	$ 978	80,512	18.4		
Nov-07	$ 121.77	3,903	$ -	0	$ 109.79	$ 322.19	$ 554	3.16	6	$ 557	13,921	3.2		
Oct-07	$ 110.91	3,221	$ -	0	$ 65.18	$ 253.70	$ 430	22.05	40	$ 452	14,993	3.4		
Sep-07	$ 148.53	4,276	$ -	0	$ 80.90	$ 330.80	$ 561	32.3	55	$ 594	20,094	4.6		
Recent 12 Mo.	$ 1,534	47,262	$ -	0	$ 1,447	$ 4,141	$ 7,122	$ 3,045	3,781	$ 10,166	539,405	123	-	-

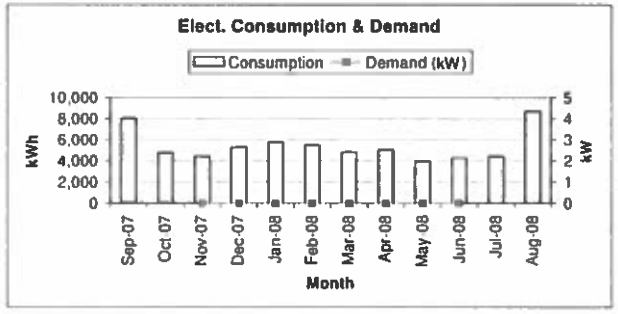


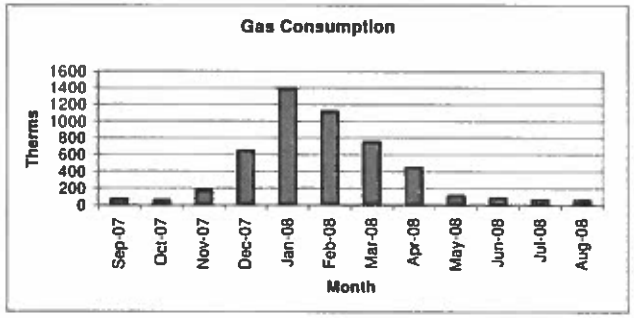


Utility History
City of Grand Junction, CO
Fire Station #5 (2155 Broadway)

Account No.	Building Name	Area (sf)
300203443	Fire Station #5 (2155	7,291

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 304.94	8,720	$ -	0	$ 212.85	$ 429.46	$ 947	63.06	61	$ 1,010	35,861	4.9		
Jul-08	$ 153.87	4,400	$ -	0	$ 112.91	$ 190.07	$ 457	72.97	70	$ 530	22,017	3.0		
Jun-08	$ 138.48	4,240	$ -	0	$ 108.53	$ 163.20	$ 410	89.01	86	$ 499	23,071	3.2		
May-08	$ 122.30	3,920	$ -	0	$ 100.18	$ 150.88	$ 373	108.03	115	$ 481	24,879	3.4		
Apr-08	$ 157.25	5,040	$ -	0	$ 125.67	$ 155.02	$ 438	402.49	456	$ 840	62,802	8.6		
Mar-08	$ 149.76	4,800	$ -	0	$ 117.79	$ 120.29	$ 388	651.41	753	$ 1,039	91,682	12.6		
Feb-08	$ 169.73	5,440	$ -	0	$ 130.52	$ 136.33	$ 437	920.07	1126	$ 1,357	131,167	18.0		
Jan-08	$ 179.71	5,760	$ -	0	$ 132.87	$ 154.75	$ 467	1078.26	1396	$ 1,546	159,259	21.8		
Dec-07	$ 164.74	5,280	$ -	0	$ 119.46	$ 148.53	$ 433	452.07	652	$ 885	83,221	11.4		
Nov-07	$ 137.28	4,400	$ -	0	$ 101.04	$ 123.77	$ 362	98.06	179	$ 460	32,917	4.5		
Oct-07	$ 158.47	4,720	$ -	0	$ 109.08	$ 105.41	$ 373	32.91	63	$ 406	22,409	3.1		
Sep-07	$ 279.76	8,000	$ -	0	$ 180.04	$ 151.36	$ 611	44.4	76	$ 656	34,904	4.8		
Recent 12 Mo.	$ 2,116	64,720	$ -	0	$ 1,551	$ 2,029	$ 5,896	$ 4,013	5,033	$ 9,709	724,189	99	-	-

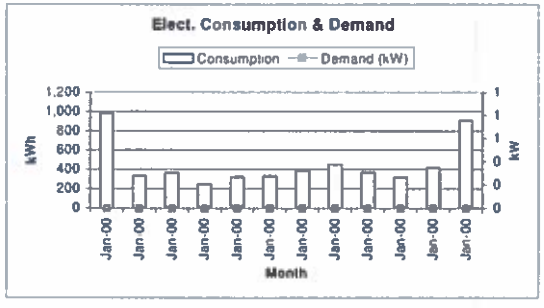


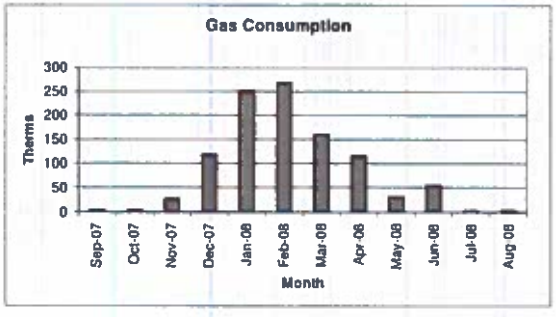


Utility History
City of Grand Junction, CO
Fire Station #5 Fitness Building (2155 Broadway)

Account No.	Building Name	Area (sf)
300077832	Fire Station #5 Fitnes:	1,916

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 34.24	979	$ -	0	$ 31.86	$ 48.22	$ 114	4.13	4	$ 118	3,741	2.0		
Jul-08	$ 11.68	334	$ -	0	$ 16.85	$ 14.43	$ 43	3.12	3	$ 46	1,440	0.8		
Jun-08	$ 11.99	367	$ -	0	$ 17.60	$ 14.13	$ 44	56.93	55	$ 101	6,753	3.5		
May-08	$ 7.77	249	$ -	0	$ 14.76	$ 9.58	$ 32	29.11	31	$ 61	3,950	2.1		
Apr-08	$ 10.02	321	$ -	0	$ 16.41	$ 9.87	$ 36	101.52	115	$ 138	12,596	6.6		
Mar-08	$ 10.30	330	$ -	0	$ 16.42	$ 8.27	$ 35	138.43	160	$ 173	17,126	8.9		
Feb-08	$ 12.07	387	$ -	0	$ 17.56	$ 9.70	$ 39	219.81	269	$ 259	26,221	14.7		
Jan-08	$ 14.07	451	$ -	0	$ 18.61	$ 12.11	$ 45	194.65	252	$ 239	26,739	14.0		
Dec-07	$ 11.61	372	$ -	0	$ 16.70	$ 10.46	$ 39	81.82	118	$ 121	13,070	6.8		
Nov-07	$ 9.92	318	$ -	0	$ 15.56	$ 8.95	$ 34	14.77	27	$ 49	3,785	2.0		
Oct-07	$ 13.97	416	$ -	0	$ 17.73	$ 9.29	$ 41	2.08	4	$ 43	1,820	0.9		
Sep-07	$ 31.72	907	$ -	0	$ 28.30	$ 17.16	$ 77	2.12	4	$ 80	3,496	1.8		
Recent 12 Mo.	$ 179	5,431	$ -	0	$ 228	$ 172	$ 580	$ 849	1,042	$ 1,429	122,736	64	-	-



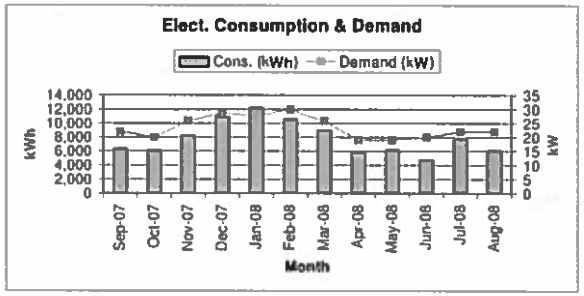


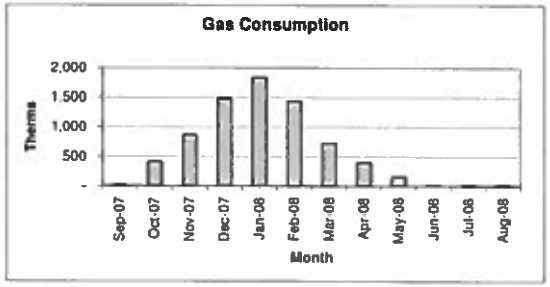
Technical Energy Audit

Utility History
City of Grand Junction, CO
Auditorium-Barn (1340 Gunnison Ave)

Account No.	Building Name	Area (sf)
8, 2000470453 (both gas & 4965-3118 (water)	Auditorium-Barn (1340	9,610

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 17.51	6,080	$ 210.76	22	$ 182.27	$ 299.44	$ 710	$ 20	18	$ 730	22,551	2.3		
Jul-08	$ 22.12	7,680	$ 210.76	22	$ 185.59	$ 365.72	$ 784	$ 19	19	$ 803	28,112	2.9		
Jun-08	$ 13.82	4,800	$ 189.08	20	$ 168.96	$ 184.75	$ 557	$ 19	17	$ 575	18,082	1.9		
May-08	$ 17.74	6,160	$ 159.60	19	$ 162.37	$ 237.10	$ 577	$ 154	157	$ 731	36,724	3.8		
Apr-08	$ 16.59	5,760	$ 159.60	19	$ 161.39	$ 210.65	$ 548	$ 361	404	$ 909	60,059	6.2		
Mar-08	$ 26.04	9,040	$ 218.40	26	$ 210.71	$ 226.54	$ 682	$ 631	725	$ 1,313	103,354	10.8	7,000	$ 15.70
Feb-08	$ 30.64	10,640	$ 252.00	30	$ 232.76	$ 266.64	$ 782	$ 1,225	1,434	$ 2,007	179,714	18.7	-	$ -
Jan-08	$ 35.25	12,240	$ 235.20	28	$ 221.89	$ 309.16	$ 802	$ 1,444	1,836	$ 2,246	225,375	23.5	-	$ -
Dec-07	$ 31.56	10,960	$ 243.60	29	$ 213.21	$ 308.30	$ 797	$ 1,112	1,478	$ 1,908	185,206	19.3	-	$ -
Nov-07	$ 23.73	8,240	$ 218.40	26	$ 191.84	$ 231.79	$ 666	$ 548	862	$ 1,213	114,323	11.9	1,000	$ 21.85
Oct-07	$ 17.51	6,080	$ 171.26	20	$ 154.14	$ 163.31	$ 506	$ 203	414	$ 709	62,151	6.5	19,000	$ 38.65
Sep-07	$ 18.20	6,320	$ 210.76	22	$ 168.88	$ 119.57	$ 517	$ 10	18	$ 528	23,370	2.4	10,000	$ 19.75
Recent 12 Mo.	$ 271	94,000	$ 2,479	283	$ 2,254	$ 2,923	$ 7,927	$ 5,746	7,382	$ 13,673	1,059,022	110	37,000	96





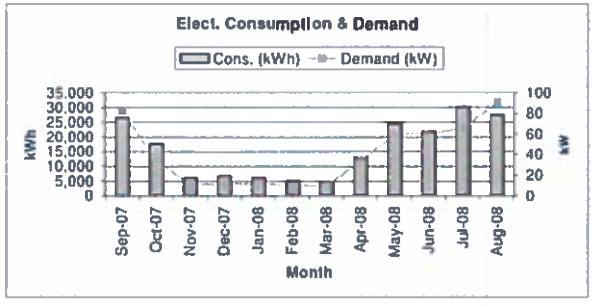
Technical Energy Audit

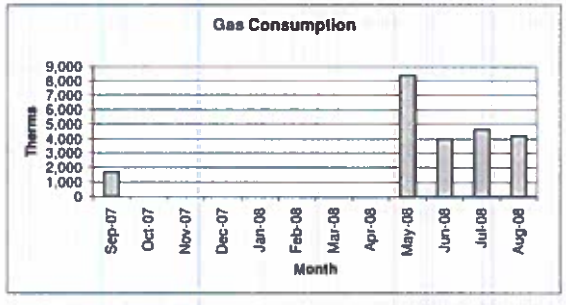
Utility History
City of Grand Junction, CO
LP Pool (1340 Gunnison Ave)

Account No.	Building Name	Area (sf)
4965-3210 (water)	LP Pool (1340 Gunnis	1,898

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 79.26	27,520	$ 867.20	90	$ 661.91	$ 1,355.36	$ 2,949	4690.85	4,230	$ 7,650	516,926	272.4		
Jul-08	$ 86.86	30,160	$ 632.28	66	$ 512.41	$ 1,436.21	$ 2,581	4622.08	4,673	$ 7,203	570,236	300.4		
Jun-08	$ 63.01	21,880	$ 567.21	60	$ 465.14	$ 842.16	$ 1,875	4334.79	3,972	$ 6,209	471,876	248.6		
May-08	$ 70.16	24,360	$ 504.00	60	$ 461.20	$ 937.62	$ 1,903	8308.39	8,427	$ 10,211	925,841	487.8		
Apr-08	$ 37.79	13,120	$ 285.60	34	$ 271.96	$ 479.82	$ 1,037	1.78	2	$ 1,039	44,979	23.7	0	$ -
Mar-08	$ 13.02	4,520	$ 84.00	10	$ 100.57	$ 113.27	$ 298	0.87	1	$ 299	15,527	8.2	284,000	$ 703
Feb-08	$ 14.98	5,200	$ 92.40	11	$ 105.39	$ 130.31	$ 328	1.71	2	$ 330	17,948	9.5	1	$ 9
Jan-08	$ 18.09	6,280	$ 100.80	12	$ 112.94	$ 158.62	$ 372	1.56	2	$ 374	21,634	11.4	0	$ -
Dec-07	$ 19.35	6,720	$ 100.80	12	$ 107.91	$ 189.03	$ 398	1.5	2	$ 399	23,135	12.2	51,000	$ 117
Nov-07	$ 17.51	6,080	$ 92.40	11	$ 101.17	$ 171.03	$ 385	0.83	1	$ 365	20,851	11.0	580,000	$ 1,413
Oct-07	$ 50.92	17,680	$ 291.13	34	$ 252.49	$ 474.88	$ 1,019	0.98	2	$ 1,019	60,542	31.9	898,000	$ 2,192
Sep-07	$ 76.15	26,440	$ 785.56	82	$ 556.11	$ 500.24	$ 1,842	993.2	1,884	$ 2,835	258,640	136.3	1,547,000	$ 3,782
Recent 12 Mo.	$ 547	189,960	$ 4,398	482	$ 3,709	$ 6,789	$ 14,975	$ 22,958	22,998	$ 37,934	2,948,133	1553	3,360,001	$ 8,214

Note: Gas use and costs listed are the sum of both gas services at this facility

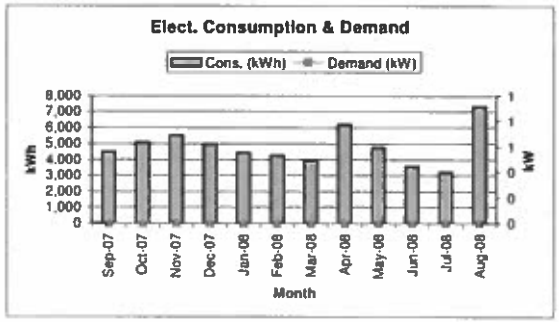


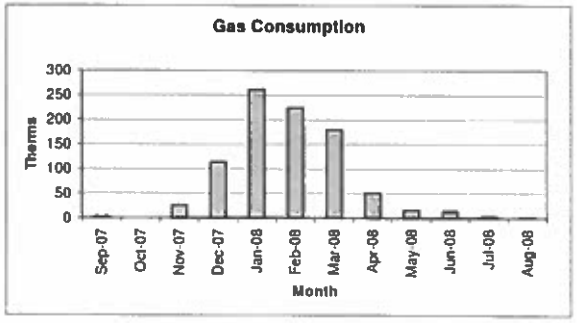


Utility History
City of Grand Junction, CO
Parks Administration (1340 Gunnison Ave)

Account No.	Building Name	Area (sf)
prem #:300130148	Parks Administration (	2,942
7000470525 (elec and gas)		

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 256.85	7,345	$ -	0	$ 180.69	$ 361.74	$ 799	2.08	2	$ 801	25,268	8.6		
Jul-08	$ 237.27	3,213	$ -	0	$ 167.96	$ 325.00	$ 730	3.29	3	$ 734	11,266	3.8		
Jun-08	$ -	3,572	$ -	0	$ -	$ -	$ -	12.77	13	$ 13	13,491	4.6		
May-08	$ 164.61	4,762	$ -	0	$ 122.08	$ 183.29	$ 470	14.29	16	$ 484	17,853	6.1		
Apr-08	$ 193.94	6,216	$ -	0	$ 153.60	$ 239.25	$ 587	44.42	51	$ 631	26,315	8.9		
Mar-08	$ 123.77	3,967	$ -	0	$ 101.17	$ 145.08	$ 370	152.9	179	$ 523	31,439	10.7		
Feb-08	$ 134.04	4,296	$ -	0	$ 107.89	$ 107.66	$ 350	176.23	224	$ 526	37,062	12.6		
Jan-08	$ 138.72	4,446	$ -	0	$ 108.41	$ 111.42	$ 359	196.3	261	$ 555	41,274	14.0		
Dec-07	$ 154.78	4,961	$ -	0	$ 119.34	$ 125.30	$ 399	71.79	113	$ 471	28,232	9.6		
Nov-07	$ 172.91	5,542	$ -	0	$ 124.99	$ 155.90	$ 454	12.74	26	$ 467	21,515	7.3		
Oct-07	$ 158.90	5,093	$ -	0	$ 115.57	$ 143.27	$ 418	0	0	$ 418	17,382	5.9		
Sep-07	$ 143.22	4,515	$ -	0	$ 103.75	$ 121.27	$ 368	1.15	2	$ 369	15,610	5.3		
Most Recent 12 Mo.	$ 1,879	57,928	$ -	0	$ 1,405	$ 2,019	$ 5,304	$ 688	890	$ 5,992	286,708	97	0	$ -

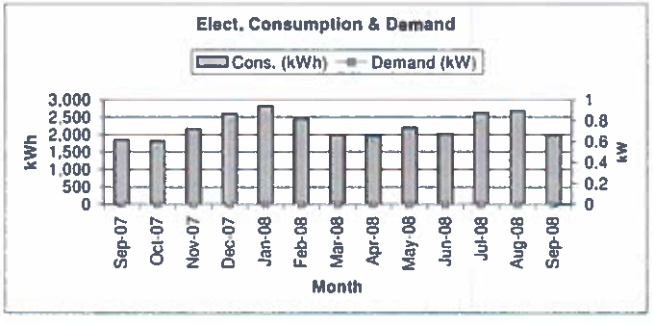




Utility History
City of Grand Junction, CO
Recycling Center(2549 River Road)

Account No.	Building Name	Area (sf)
	Recycling Center(254	2,677

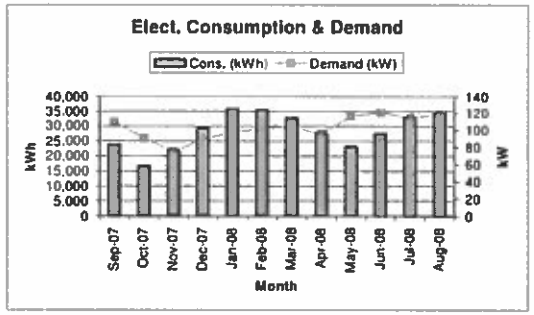
Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Sep-08	$ 69.80	1,996	0	0	62.37	98.30	$ 230			#VALUE!	6,812	2.5		
Aug-08	$ 94.28	2,696	$ -	0	$ 80.96	$ 132.78	$ 308			$ 308	9,201	3.4		
Jul-08	$ 92.15	2,635	$ -	0	$ 79.42	$ 124.10	$ 296			$ 296	8,993	3.4		
Jun-08	$ 69.05	2,029	$ -	0	$ 63.14	$ 78.10	$ 210			$ 210	6,925	2.6		
May-08	$ 68.45	2,194	$ -	0	$ 66.40	$ 84.45	$ 219			$ 219	7,488	2.8		
Apr-08	$ 61.25	1,963	$ -	0	$ 60.19	$ 71.01	$ 192			$ 192	6,700	2.5		
Mar-08	$ 62.56	2,005	$ -	0	$ 60.11	$ 50.25	$ 173			$ 173	6,843	2.6		
Feb-08	$ 76.03	2,437	$ -	0	$ 69.46	$ 61.07	$ 207			$ 207	8,317	3.1		
Jan-08	$ 88.11	2,824	$ -	0	$ 78.48	$ 71.85	$ 238			$ 238	9,638	3.6		
Dec-07	$ 81.00	2,596	$ -	0	$ 69.80	$ 73.03	$ 224			$ 224	8,860	3.3		
Nov-07	$ 67.70	2,170	$ -	0	$ 59.86	$ 61.04	$ 189			$ 189	7,406	2.8		
Oct-07	$ 57.91	1,811	$ -	0	$ 51.58	$ 47.49	$ 157			$ 157	6,181	2.3		
Sep-07	$ 64.76	1,852	$ -	0	$ 52.98	$ 35.04	$ 153			$ 153	6,321	2.4		
Recent 12 Mo.	$ 883	27,212	$ -	0	$ 792	$ 890	$ 2,566	$ -	0	$ 2,566	92,875	35	0	$ -

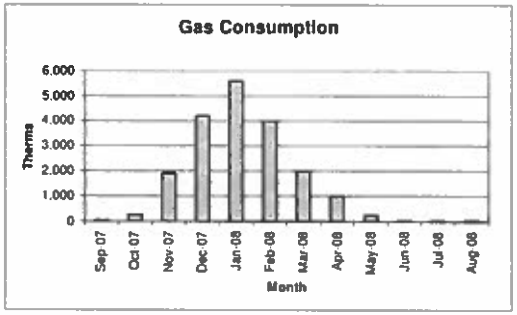


Utility History
City of Grand Junction, CO
Service Center (249 River Road)

Account No.	Building Name	Area (sf)
Prem #: 301918932	Service Center (249 F	22,345

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 99.36	34,500	$ 1,140.02	119	$ 862.61	$ 1,699.13	$ 3,801	44.74	41	$ 3,846	121,849	5.5		
Jul-08	$ 95.04	33,000	$ 1,101.70	115	$ 836.97	$ 1,554.23	$ 3,588	19.89	20	$ 3,608	114,629	5.1		
Jun-08	$ 79.20	27,500	$ 1,123.49	121	$ 871.59	$ 1,058.48	$ 3,133	29.76	28	$ 3,163	96,658	4.3		
May-08	$ 66.53	23,100	$ 982.80	117	$ 821.64	$ 889.12	$ 2,760	244.83	250	$ 3,005	103,840	4.6		
Apr-08	$ 79.49	27,600	$ 806.40	96	$ 696.29	$ 998.41	$ 2,581	884.28	990	$ 3,465	193,199	8.6		
Mar-08	$ 94.46	32,800	$ 882.00	105	$ 755.99	$ 821.97	$ 2,554	1751.87	2,013	$ 4,306	313,246	14.0		
Feb-08	$ 102.24	35,500	$ 856.80	102	$ 722.24	$ 889.63	$ 2,571	3403.85	4,000	$ 5,975	521,162	23.3		
Jan-08	$ 103.39	35,900	$ 823.20	98	$ 691.78	$ 913.43	$ 2,532	4390.72	5,595	$ 6,923	682,027	30.5		
Dec-07	$ 84.67	29,400	$ 756.00	90	$ 595.53	$ 827.02	$ 2,263	3138.7	4,191	$ 5,402	519,442	23.2		
Nov-07	$ 62.50	21,700	$ 630.00	75	$ 497.07	$ 610.42	$ 1,800	1200.57	1,910	$ 3,001	265,062	11.9		
Oct-07	$ 48.10	16,700	$ 786.62	91	$ 586.28	$ 437.95	$ 1,859	128.39	258	$ 1,987	82,797	3.7		
Sep-07	$ 68.83	23,900	$ 1,053.80	110	$ 720.64	$ 452.19	$ 2,295	21.28	37	$ 2,317	85,271	3.8		
Recent 12 Mo.	$ 984	341,600	$ 10,943	1,239	$ 8,659	$ 11,152	$ 31,737	$ 15,259	19,333	$ 46,996	3,099,181	139	0	$ -





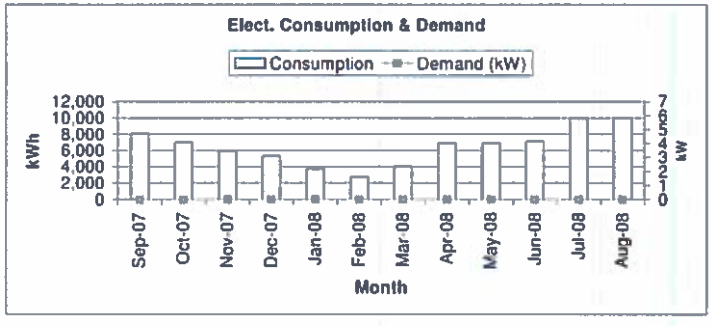
Technical Energy Audit

Utility History
City of Grand Junction, CO
Tiara Rado Clubhouse (2063 South Broadway)

Account No.	Building Name	Area (sf)
30001221	Tiara Rado Clubhous	13,438

C service entrance (Meter 1)

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 349.70	10,000	$ -	0	$ 242.77	$ 492.50	$ 1,085			$ 1,085	34,130	2.5		
Jul-08	$ 346.90	9,920	$ -	0	$ 243.54	$ 422.31	$ 1,013			$ 1,013	33,857	2.5		
Jun-08	$ 232.88	7,120	$ -	0	$ 176.18	$ 274.05	$ 683			$ 683	24,301	1.8		
May-08	$ 214.66	6,880	$ -	0	$ 169.08	$ 264.81	$ 649			$ 649	23,481	1.7		
Apr-08	$ 214.66	6,880	$ -	0	$ 168.30	$ 211.61	$ 595			$ 595	23,481	1.7		
Mar-08	$ 124.80	4,000	$ -	0	$ 99.66	$ 100.24	$ 325			$ 325	13,652	1.0		
Feb-08	$ 84.86	2,720	$ -	0	$ 69.70	$ 68.16	$ 223			$ 223	9,283	0.7		
Jan-08	$ 114.82	3,680	$ -	0	$ 89.66	$ 98.67	$ 303			$ 303	12,560	0.9		
Dec-07	$ 164.74	5,280	$ -	0	$ 119.48	$ 148.53	$ 433			$ 433	18,021	1.3		
Nov-07	$ 184.70	5,920	$ -	0	$ 132.89	$ 166.53	$ 484			$ 484	20,205	1.5		
Oct-07	$ 233.77	6,960	$ -	0	$ 156.66	$ 155.19	$ 546			$ 546	23,754	1.8		
Sep-07	$ 282.56	8,080	$ -	0	$ 181.76	$ 152.87	$ 617			$ 617	27,577	2.1		
Most Recent 12 Mo.	$ 2,549	77,440	$ -	0	$ 1,850	$ 2,555	$ 6,954	$ -	0	$ 6,954	264,303	20	0	$ -

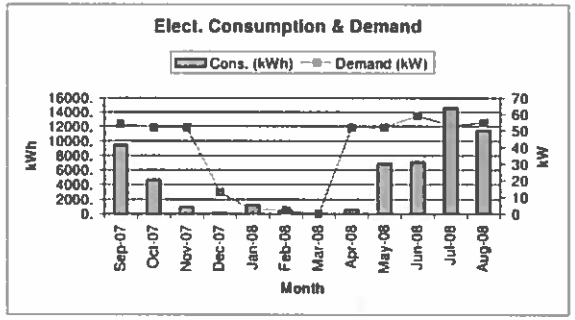


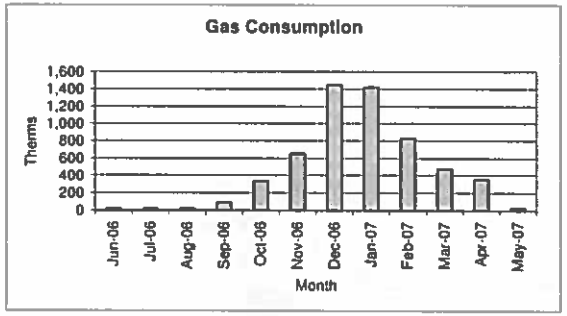
Utility History
City of Grand Junction, CO
Tiara Rad Clubhouse (2063 South Broadway)

Account No.	Building Name	Area (sf)
300013697	Tiara Rad Clubhouse	13,438

SG service entrance (Meter 2)

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	33.02	11465.	526.90	55	$ 406	$ 565	$ 1,531			$ 1,531	39,130	2.9		
Jul-08	42.16	14640.	507.74	53	$ 403	$ 623	$ 1,576			$ 1,576	49,986	3.7		
Jun-08	20.57	7144.	523.45	59	$ 423	$ 275	$ 1,242			$ 1,242	24,382	1.8		
May-08	19.89	6906.	436.80	52	$ 374	$ 266	$ 1,097			$ 1,097	23,570	1.8		
Apr-08	1.70	591.	436.80	52	$ 361	$ 18	$ 818			$ 818	2,017	0.2		
Mar-08	0.09	30.	0.00	0	$ 28	$ 1	$ 29			$ 29	102	0.0		
Feb-08	1.44	500.	16.80	2	$ 42	$ 13	$ 72			$ 72	1,707	0.1		
Jan-08	3.45	1197.	19.57	2	$ 49	$ 32	$ 104			$ 104	4,085	0.3		
Dec-07	0.58	202.	109.20	13	$ 105	$ 6	$ 220			$ 220	689	0.1		
Nov-07	2.73	947.	436.80	52	$ 333	$ 27	$ 800			$ 800	3,232	0.2		
Oct-07	13.39	4650.	475.66	52	$ 344	$ 104	$ 936			$ 936	15,870	1.2		
Sep-07	27.19	9441.	517.32	54	$ 365	$ 179	$ 1,088			$ 1,088	32,222	2.4		
May-07	14.66	5091	345.60	59	$ 375	$ 140	$ 1,025	$ 44	32	$ 1,069	20,576	1.5		
Apr-07	2.10	728	520.80	62	$ 385	$ 21	$ 929	$ 283	357	$ 1,212	38,185	2.8		
Mar-07	0.01	108	176.40	21	$ 149	$ 3	$ 329	$ 416	476	$ 744	47,969	3.6		
Feb-07	0.87	301	16.80	2	$ 40	$ 9	$ 67	$ 692	832	$ 759	84,227	6.3		
Jan-07	0.35	123	10.77	1	$ 29	$ 3	$ 44	$ 1,100	1,424	$ 1,144	142,820	10.6		
Dec-06	1.11	384	439.95	35	$ 42	$ 10	$ 493	$ 1,196	1,449	$ 1,688	146,211	10.9		
Nov-06	0.26	90	477.66	38	$ 42	$ 2	$ 522	$ 476	655	$ 998	65,807	4.9		
Oct-06	8.61	2990	786.33	54	$ 55	$ 78	$ 928	$ 208	335	$ 1,137	43,705	3.3		
Sep-06	27.15	9428	747.50	54	$ 63	$ 249	$ 1,137	$ 94	92	$ 1,231	41,378	3.1		
Aug-06	38.06	13215	811.25	59	$ 69	$ 371	$ 1,289	$ 35	22	$ 1,324	47,303	3.5		
Jul-06	37.07	12871	797.50	55	$ 56	$ 361	$ 1,252	$ 35	23	$ 1,287	46,229	3.4		
Jun-06	44.08	15307	760.05	53	$ 63	$ 429	$ 1,310	$ 38	25	$ 1,348	54,743	4.1		
Most Recent 12 Mo.	$ 166	57,713	$ 4,007	446	$ 3,233	$ 2,107	$ 9,513	$ 4,616	5,722	$ 13,941	779,151	58	0	$ -
	5506						9,513.24							

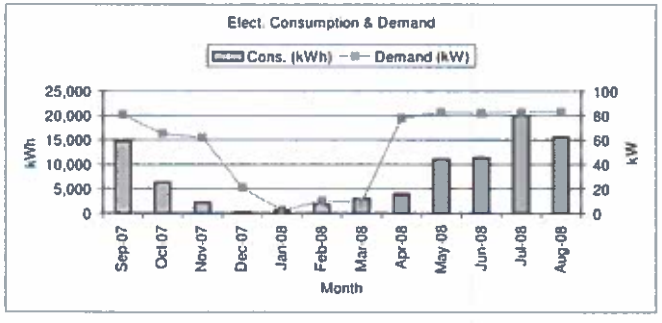


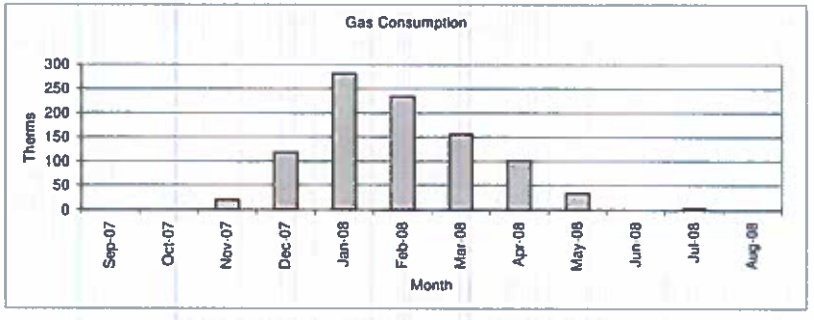


Utility History
City of Grand Junction, CO
Tiara Rado Maintenance Building (2063 South Broadway)

Account No.	Building Name	Area (sf)
	Tiara Rado Maintenance Building (20(	1,785

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 44.81	15,560	$ 795.14	83	$ 595.33	$ 766.33	$ 2,202	0	0	$ 2,202	53,106	29.8		
Jul-08	$ 57.88	20,096	$ 795.14	83	$ 609.41	$ 852.78	$ 2,315	2.82	3	$ 2,318	68,888	38.6		
Jun-08	$ 32.67	11,345	$ 724.28	82	$ 579.46	$ 436.67	$ 1,773	0	0	$ 1,773	38,720	21.7		
May-08	$ 31.88	11,071	$ 697.20	83	$ 580.18	$ 426.12	$ 1,735	27.6	33	$ 1,763	41,085	23.0		
Apr-08	$ 11.21	3,893	$ 855.20	78	$ 532.97	$ 116.73	$ 1,316	78.37	101	$ 1,394	23,387	13.1		
Mar-08	$ 8.67	3,012	$ 75.60	9	$ 90.31	$ 75.48	$ 250	117.56	155	$ 368	25,780	14.4		
Feb-08	$ 5.21	1,810	$ 84.00	10	$ 93.60	$ 45.36	$ 228	166.51	234	$ 395	29,578	16.6		
Jan-08	$ 1.62	564	$ 19.57	2	$ 47.92	$ 15.13	$ 84	187.87	287	$ 272	30,125	16.9		
Dec-07	$ 0.74	256	$ 176.40	21	$ 151.37	$ 7.20	$ 336	69.23	118	$ 405	12,674	7.1		
Nov-07	$ 6.25	2,171	$ 520.80	62	$ 393.59	$ 61.07	$ 982	8.39	19	$ 990	9,310	5.2		
Oct-07	$ 18.11	6,287	$ 596.25	65	$ 423.41	$ 138.91	$ 1,177	0	0	$ 1,177	21,458	12.0		
Sep-07	$ 42.14	14,631	$ 775.98	81	$ 534.12	$ 276.82	$ 1,629	0	0	$ 1,629	49,936	28.0		
Most Recent 12 Mo.	$ 261	90,696	$ 5,916	659	$ 4,632	$ 3,219	$ 14,027	$ 658	945	$ 14,685	404,045	226	0	$ -

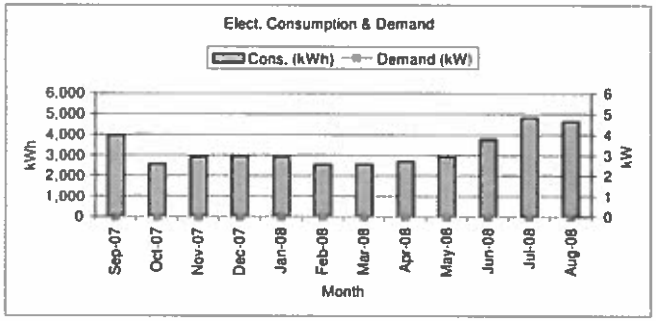


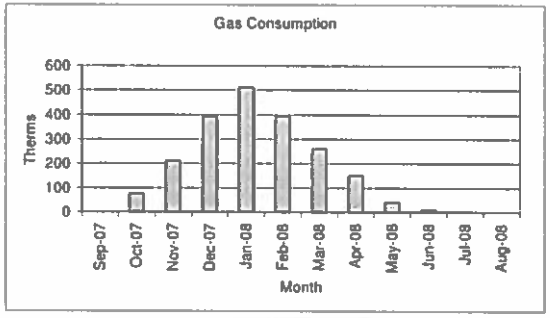


Utility History
City of Grand Junction, CO
Transportation Engineering Building (2553 River Road)

Account No.	Building Name	Area (sf)
Prem # 3000020876	Transportation Engineering Building (2!	2,205

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost ($)	Gas Cost ($)	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 163.10	4,664	$ -	0	$ 229.70	$ 510.76	$ 904	0	0	$ 904	15,918	7.2		
Jul-08	$ 169.36	4,843	$ -	0	$ 228.09	$ 520.05	$ 918	0	0	$ 918	16,529	7.5		
Jun-08	$ 128.86	3,787	$ -	0	$ 145.76	$ 373.26	$ 648	11.69	11	$ 660	14,025	6.4		
May-08	$ 90.89	2,913	$ -	0	$ 112.12	$ 279.78	$ 483	40.17	41	$ 523	14,042	6.4		
Apr-08	$ 83.83	2,687	$ -	0	$ 97.20	$ 252.43	$ 433	134.67	151	$ 568	24,271	11.0		
Mar-08	$ 79.75	2,556	$ -	0	$ 64.05	$ 211.51	$ 355	226.28	260	$ 582	34,724	15.7		
Feb-08	$ 79.84	2,559	$ -	0	$ 64.13	$ 210.11	$ 354	333.57	392	$ 688	47,934	21.7		
Jan-08	$ 90.20	2,891	$ -	0	$ 73.56	$ 236.77	$ 401	401.78	512	$ 802	61,067	27.7		
Dec-07	$ 92.07	2,951	$ -	0	$ 83.01	$ 245.76	$ 421	294.32	393	$ 715	49,372	22.4		
Nov-07	$ 90.98	2,916	$ -	0	$ 82.03	$ 242.98	$ 416	132.63	211	$ 549	31,052	14.1		
Oct-07	$ 82.76	2,588	$ -	0	$ 67.67	$ 213.97	$ 365	37.81	76	$ 402	16,433	7.5		
Sep-07	$ 139.11	3,978	$ -	0	$ 75.26	$ 308.37	$ 523	0	0	$ 523	13,577	6.2		
Recent 12 Mo.	$ 1,291	39,333	$ -	0	$ 1,323	$ 3,606	$ 6,219	$ 1,613	2,047	$ 7,832	338,944	154	0	$ -





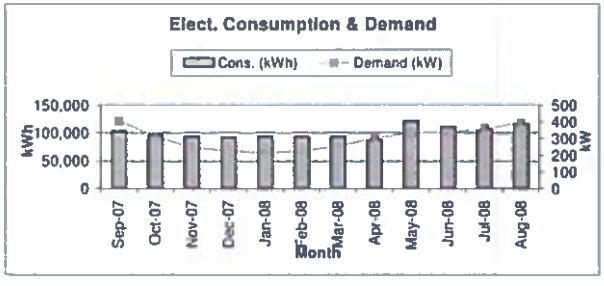
Utility History
City of Grand Junction, CO
Two Rivers Convention Center (159 Main Street)

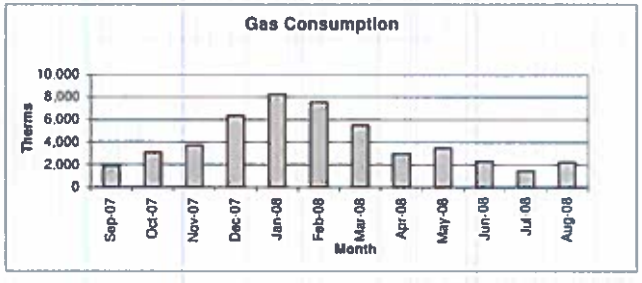
Account No.	Building Name	Area (sf)
Prem #: 300687829	Two Rivers Convention Center (159 M	28,060

Prem # (sign):300687830 (not included in table below)

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (Btu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 335.92	116,640	$ 3,774.52	394	$ 2,794.26	$ 5,744.52	$ 12,649	2238.47	2,240	$ 14,888	622,092	22.2		
Jul-08	$ 306.20	106,320	$ 3,429.64	358	$ 2,546.73	$ 5,125.55	$ 11,408	1963.98	1,470	$ 13,372	509,870	18.2		
Jun-08	$ 320.03	111,120	$ 3,179.23	336	$ 2,449.97	$ 4,277.01	$ 10,226	2750.41	2,330	$ 12,977	612,253	21.8		
May-08	$ 349.06	121,200	$ 2,780.40	331	$ 2,387.85	$ 4,664.99	$ 10,182	3908.71	3,510	$ 14,089	764,656	27.3		
Apr-08	$ 253.67	88,080	$ 2,536.80	302	$ 2,132.07	$ 3,221.21	$ 8,144	3103.68	3,000	$ 11,247	600,617	21.4		
Mar-08	$ 270.26	93,840	$ 2,158.80	257	$ 1,835.81	$ 2,351.63	$ 6,617	5239.29	5,490	$ 11,856	869,276	31.0		
Feb-08	$ 267.49	92,880	$ 1,915.20	228	$ 1,601.43	$ 2,327.57	$ 6,112	6317.88	7,490	$ 12,430	1,065,999	38.0		
Jan-08	$ 270.26	93,840	$ 1,797.60	214	$ 1,504.94	$ 2,378.64	$ 5,951	6010.28	8,280	$ 11,962	1,148,276	40.9		
Dec-07	$ 266.11	92,400	$ 1,932.00	230	$ 1,502.16	$ 2,599.21	$ 6,299	4709.99	6,310	$ 11,009	946,361	33.7		
Nov-07	$ 270.95	94,080	$ 2,074.80	247	$ 1,603.84	$ 2,646.47	$ 6,596	1917.14	3,740	$ 8,513	695,095	24.8		
Oct-07	$ 275.10	95,520	$ 2,671.58	312	$ 1,991.64	$ 2,565.63	$ 7,504	1056.32	3,090	$ 8,560	635,010	22.6		
Sep-07	$ 295.83	102,720	$ 3,860.74	403	$ 2,585.23	$ 1,943.46	$ 8,685	1036.16	1,930	$ 9,721	543,583	19.4		
Most Recent 12 Mo.	$ 3,481	1,208,640	$ 32,111	3,612	$ 24,936	$ 39,846	$ 100,374	$ 40,250	48,880	$ 140,624	9,013,088	321	0	$ -

AM Gas effective rate 0.8235 $/therm

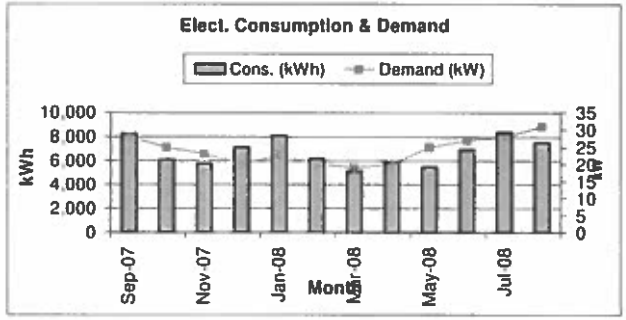


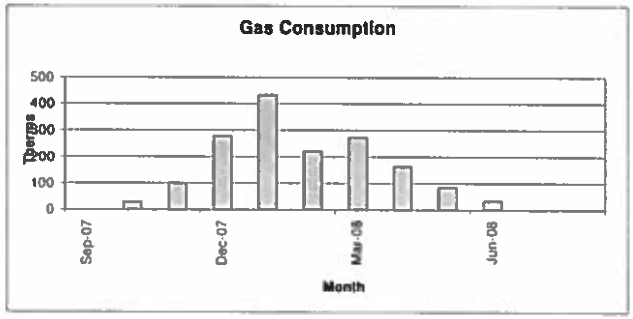


Utility History
City of Grand Junction, CO
Visitors Center (740 Horizon Dr.)

Account No.	Building Name	Area (sf)
No Information	Visitors Center (740 H	3,290

Billing Period	Electric Consumption Cost	Electric Consumption (kWh)	Electric Demand Cost	Billed Peak Demand (kW)	Other Charges ($)	ECA/FCA ($)	Total Electric Cost	Gas Cost	Gas Consumption (Therms)	Combined Gas & Elect. Cost	Combined Energy (kBtu)	EUI (kBtu/sf/month)	Water Usage (gal)	Water Cost
Aug-08	$ 21.77	7,560	$ 296.98	31	$ 243.37	$ 372.33	$ 934	0	0	$ 934	25,802	7.8		
Jul-08	$ 24.19	8,400	$ 268.24	28	$ 226.51	$ 385.46	$ 904	1.01	1	$ 905	28,769	8.7		
Jun-08	$ 20.04	6,960	$ 247.35	27	$ 217.93	$ 267.89	$ 753	34.66	33	$ 788	27,054	8.2		
May-08	$ 15.90	5,520	$ 210.00	25	$ 199.27	$ 212.46	$ 638	83.45	86	$ 721	27,440	8.3		
Apr-08	$ 17.05	5,920	$ 168.00	20	$ 167.86	$ 201.36	$ 554	144.88	163	$ 699	36,505	11.1		
Mar-08	$ 14.86	5,160	$ 159.60	19	$ 158.14	$ 129.31	$ 462	238.88	275	$ 701	45,111	13.7		
Feb-08	$ 17.86	6,200	$ 168.00	20	$ 163.16	$ 155.37	$ 504	188.53	224	$ 693	43,561	13.2		
Jan-08	$ 23.39	8,120	$ 191.52	23	$ 185.78	$ 211.80	$ 612	337.54	433	$ 950	71,014	21.6		
Dec-07	$ 20.62	7,160	$ 168.00	20	$ 155.29	$ 201.41	$ 545	200.26	278	$ 746	52,237	15.9		
Nov-07	$ 16.59	5,760	$ 193.20	23	$ 170.84	$ 162.03	$ 543	59.2	101	$ 602	29,759	9.0		
Oct-07	$ 17.63	6,120	$ 220.54	25	$ 184.30	$ 152.02	$ 574	15.25	30	$ 590	23,888	7.3		
Sep-07	$ 23.85	8,280	$ 268.24	28	$ 207.55	$ 156.66	$ 656	0	0	$ 656	28,260	8.6		
Most Recent 12 mo.	$ 234	81160	$ 2,560	289	$ 2,280	$ 2,608	$ 7,682	$ 1,304	1624	$ 8,985	439399	134	0	0





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3 IDENTIFICATION AND DEFINITION OF BASE YEAR CONSUMPTION AND DESCRIPTION OF HOW ESTABLISHED.

Base Year energy use was established as the most recent 12-month period for which utility bills for all city facilities were collectively available. However, other than the LP Moyer Pool gas saving FIMs and the Two Rivers Convention Center photo voltaic (PV) benefits, no Option C measurement and verification (M&V) approach (utility bill analysis) was selected as a means to validate energy savings for any of the facilities considered within this audit or in connection with any of their FIMs. Therefore, a regression equation, which is used to modify Base Year energy use in future Performance Years to reduce the influences from uncontrolled variables (i.e. weather), was not developed for any facilities' Base Year energy use other than for the LP Moyer Pool. A regression equation and supporting data points will be provided for establishing current and calculating future baseline natural gas consumption at the LP Moyer Pool. No regression equation will be developed for the PV installation at the Convention Center because no baseline data currently exists, and it is believed that all uncontrolled variables will negligibly affect performance.

4 RECONCILIATION OF ESTIMATED END USE CONSUMPTION (I.E. LIGHTING, COOLING, HEATING, FANS AND PLUG LOADS) WITH BASE YEAR (INCLUDE DISCUSSION OF ANY UNUSUAL FINDINGS).

Reconciliation of savings with the Base Year is typically associated with projects adopting an Option C M&V approach. Therefore, reconciliation with base year performance will be presented annually only in connection with the natural gas benefits identified at the LP Moyer Pool through utility bill comparison.

SCHEDULE F:
SAVINGS MEASUREMENT AND CALCULATION FORMULAE; METHODOLOGY TO ADJUST BASELINE; MONITORING AND VERIFICATION PLAN

Please see the attached Sections 4 (Savings Calculations) & 6 (Measurement & Verification Plan) from the Grand Junction Technical Energy Audit dated 2/4/09.

4) SAVINGS CALCULATIONS

1 Savings calculation units and dollars

The **calculated savings** (as opposed to guaranteed savings) contained in Chapter 4 of the TEA Report contains the total energy savings potential in both energy units (i.e. kWh, kW, dTh) and dollars. The calculations are based upon the data gathered during the detailed audit portion of the evaluation. Existing equipment and operational conditions came from a variety of sources such as, but not limited to those listed below:

- Equipment nameplates
- Building blue prints
- Building operation and maintenance manuals
- Equipment maintenance manuals
- Manufacture research based upon model and date manufactured
- Extraction of control system variable control system components
- Controls system status readings
- Equipment data logger trends
- Equipment power measurements
- Equipment runtime measurements
- Equipment temperature measurement
- Staff interview data

The data gathered is obtained typically in a 2-3 month period. The calculated savings represent the expected total improvement in energy usage and associated cost based upon utility rates used.

The actual savings obtained may exceed or fall short of the calculated amount. This is based upon several factors which directly affect the potential of a measure to obtain, exceed or fall short of the calculated savings including dynamic schedules of building use and/or individual operator adjustments in set points.

The guarantee requires that the City of Grand Junction provide specific details of changes to equipment and schedules in a timely manner. To avoid overloading the customer with continuous reporting to JCI of very minor changes in operations or schedules, and account for variance from staff interview data from actual, a **guarantee factor** is applied to the energy savings units and cost.

The guarantee factor is applied to the energy and cost savings from the savings calculations. For each FIM, the same guarantee factor is applied to both the energy and cost savings.

Table 4.1 lists the **calculated** energy savings per measure and the **guaranteed** energy savings units. Table 4.2 shows the **calculated** cost savings per measure and the **guaranteed** cost savings for the selected scope.

Please note all dollar savings values in Tables 4.1 and 4.2 have been rounded to the whole dollar.

The total guaranteed energy savings dollars for the contract for the 1st year is $74,303. The operations and maintenance savings for the first 1st year is $10,098. Note that the O&M savings are applied to the fist three years of the project while the energy savings are applied over the 15 year project term. The total first year savings is $84,405 dollars for the first year.

Please note, only **calculated savings** are presented in both Section 4 and the Appendices of the TEA Report. **Guarantee savings** units and dollars are used in all other locations in the TEA Report.

Table 4.1 Calculated & Guaranteed Energy Savings Units

			Calculated Savings Units					Guaranteed Savings Units			
ECM #	Building	Energy Conservation Measure	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)	Guaran-tee Factor	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)
FIM-41	City Wide	SEEC (Education Funding)	0.0	0.0	0.0	0.0	100%	0.0	0.0	0.0	0.0
CV-1	Canyon View Maint	Lighting Retrofits	0.0	58,071.2	164.2	0.0	90%	0.0	52,264.1	147.7	0.0
CV-8	Canyon View Maint	Basic Programmable Thermostat (NS	0.0	1,442.0	0.0	0.0	85%	0.0	1,225.7	0.0	0.0
CV-33	Canyon View Maint	Envelope Sealing/Improvements	0.0	7,500.0	0.0	0.0	80%	0.0	6,000.0	0.0	0.0
CV-40	Canyon View Maint	Water Conservation-Low flow fixtures	0.0	256.0	0.0	4.7	75%	0.0	192.0	0.0	3.5
CH-1	City Hall	Lighting Retrofits	-24.7	66,351.0	242.8	0.0	90%	-22.2	59,715.9	218.5	0.0
CH-24	City Hall	Elect. Water Cooler Timers	0.0	828.0	0.0	0.0	90%	0.0	745.2	0.0	0.0
CH-16	City Hall	Variable Frequency Drives (2 VFDs &	0.0	41,116.0	10.8	0.0	90%	0.0	37,004.4	9.7	0.0
CH-25	City Hall	High SEER RTU Replacement w/ ec	0.0	19,826.0	27.5	0.0	90%	0.0	17,843.4	24.8	0.0
CH-33	City Hall	Envelope Sealing/Improvements	9.4	0.0	0.0	0.0	80%	7.5	0.0	0.0	0.0
CH-17	City Hall	Vending Miser	0.0	4,713.0	0.0	0.0	90%	0.0	4,241.7	0.0	0.0
EL-1	Engineering Lab	Lighting Retrofits	-0.1	553.0	0.0	0.0	90%	-0.1	497.7	0.0	0.0
EL-33	Engineering Lab	Envelope Sealing/Improvements	16.0	0.0	0.0	0.0	80%	12.8	0.0	0.0	0.0
FO-1	Facilities Offices	Lighting Retrofits	-0.8	3,397.0	11.3	0.0	90%	-0.7	3,057.3	10.2	0.0
FO-33	Facilities Offices	Envelope Sealing/Improvements	4.4	0.0	0.0	0.0	80%	3.5	0.0	0.0	0.0
FE-1	Field Engineering L	Lighting Retrofits	-3.9	9,415.0	0.0	0.0	90%	-3.5	8,473.5	0.0	0.0
FE-33	Field Engineering L	Envelope Sealing/Improvements	61.6	0.0	0.0	0.0	80%	49.3	0.0	0.0	0.0
FE-24	Field Engineering L	Elect. Water Cooler Timers	0.0	207.0	0.0	0.0	90%	0.0	186.3	0.0	0.0
FS3-1	Fire Station #3	Lighting Retrofits	-2.6	6,623.0	35.0	0.0	90%	-2.3	5,960.7	31.5	0.0
FS3-33	Fire Station #3	Envelope Sealing/Improvements	51.1	0.0	0.0	0.0	80%	40.9	0.0	0.0	0.0
FS3-40	Fire Station #3	Water Conservation-Low flow fixtures	1.4	0.0	0.0	18.0	75%	1.1	0.0	0.0	13.5
FS4-1	Fire Station #4	Lighting Retrofits	-1.7	6,962.0	0.0	0.0	90%	-1.5	6,265.8	0.0	0.0
FS4-33	Fire Station #4	Envelope Sealing/Improvements	43.6	0.0	0.0	0.0	80%	34.9	0.0	0.0	0.0
FS4-40	Fire Station #4	Water Conservation-Low flow fixtures	0.1	0.0	0.0	58.9	75%	0.1	0.0	0.0	44.2
FS4-18	Fire Station #4	High efficiency boilers w/ OA reset	27.0	0.0	0.0	0.0	90%	24.3	0.0	0.0	0.0
FS5-1	Fire Station #5	Lighting Retrofits	-5.3	12,681.0	0.0	0.0	90%	-4.8	11,412.9	0.0	0.0
FS5-33	Fire Station #5	Envelope Sealing/Improvements	30.9	0.0	0.0	0.0	80%	24.7	0.0	0.0	0.0
FS5-40	Fire Station #5	Water Conservation-Low flow fixtures	11.2	0.0	0.0	46.4	75%	8.4	0.0	0.0	34.8
FS5T-1	Fire Station #5 Trai	Lighting Retrofits	-1.2	2,290.0	0.0	0.0	90%	-1.1	2,061.0	0.0	0.0
FS5T-8	Fire Station #5 Trai	Basic Programmable Thermostat (NS	8.8	0.0	0.0	0.0	90%	7.9	0.0	0.0	0.0
FS5T-33	Fire Station #5 Trai	Envelope Sealing/Improvements	17.2	0.0	0.0	0.0	80%	13.7	0.0	0.0	0.0
FS5T-40	Fire Station #5 Trai	Water Conservation- (see FS#5)	0.0	0.0	0.0	0.0	75%	0.0	0.0	0.0	0.0
LPAB-1	LP Auditorium/Barn	Lighting Retrofits	-4.8	10,976.0	57.0	0.0	90%	-4.3	9,878.4	51.3	0.0
LPAB-21	LP Auditorium/Barn	High efficiency furnaces	116.0	0.0	0.0	0.0	90%	104.4	0.0	0.0	0.0
LPAB-33	LP Auditorium/Barn	Envelope Sealing/Improvements	18.3	0.0	0.0	0.0	80%	14.7	0.0	0.0	0.0
LPAB-40	LP Auditorium/Barn	Water Conservation-Low flow fixtures	6.3	0.0	0.0	26.0	75%	4.7	0.0	0.0	19.5

Table 4.1 Continued

			Calculated Savings Units					Guaranteed Savings Units			
ECM #	Building	Energy Conservation Measure	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)	Guaran-tee Factor	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)
LPMP-1	LP Moyer Pool	Lighting Retrofits	-2.5	12,053.0	49.4	0.0	90%	-2.3	10,847.7	44.5	0.0
LPMP-18	LP Moyer Pool	High efficiency boiler	280.0	0.0	0.0	0.0	90%	252.0	0.0	0.0	0.0
LPMP-39	LP Moyer Pool	Liquid Pool Cover (includes 1st yr ch	566.8	0.0	0.0	0.0	75%	425.1	0.0	0.0	0.0
LPMP-40	LP Moyer Pool	Water Conservation-Low flow fixtures	5.1	0.0	0.0		75%	3.8	0.0	0.0	0.0
PA-1	Parks Admin Office	Lighting Retrofits	-4.1	9,128.0	0.0		90%	-3.7	8,215.2	0.0	0.0
PA-33	Parks Admin Office	Envelope Sealing/Improvements	8.8	0.0	0.0		80%	7.1	0.0	0.0	0.0
PA-40	Parks Admin Office	Water Conservation-Low flow fixtures	1.5	0.0	0.0		75%	1.1	0.0	0.0	0.0
PA-25	Parks Admin Office	New high eff. RTU (4 & 3 ton unit)	0.0	1,518.0	0.0		90%	0.0	1,366.2	0.0	0.0
RC-1	Recycling Center	Lighting Retrofits	-0.4	4,643.0	0.0		90%	-0.4	4,178.7	0.0	0.0
RC-33	Recycling Center	Envelope Sealing/Improvements	0.0	0.0	0.0		10%	0.0	0.0	0.0	0.0
RC-40	Recycling Center	Water Conservation-Low flow fixtures	2.1	0.0	0.0		75%	1.6	0.0	0.0	0.0
SC-1	Service Center	Lighting Retrofits	-27.7	65,139.0	298.7		90%	-24.9	58,625.1	268.8	0.0
SC-33	Service Center	Envelope Sealing/Improvements	204.0	0.0	0.0		80%	163.2	0.0	0.0	0.0
SC-40	Service Center	Water Conservation-Low flow fixtures	8.9	0.0	0.0		75%	6.7	0.0	0.0	0.0
SC-20	Service Center	MAU's 1,2,3 - 2 Large, 1 Small Heati	0.0	15,124.0	30.0		90%	0.0	13,611.6	27.0	0.0
TRC-1	Tiara Rado Clubhou	Lighting Retrofits	-6.2	15,704.0	73.9		90%	-5.6	14,133.6	66.5	0.0
TRC-8	Tiara Rado Clubhou	Basic Programmable Thermostat (NS	49.7	0.0	0.0		90%	44.7	0.0	0.0	0.0
TRC-10	Tiara Rado Clubhou	Boiler & Pump OA Lockout/Reset	13.3	1,636.0	0.0		80%	10.6	1,308.8	0.0	0.0
TRC-33	Tiara Rado Clubhou	Envelope Sealing/Improvements	22.1	0.0	0.0		80%	17.6	0.0	0.0	0.0
TRC-40	Tiara Rado Clubhou	Water Conservation-Low flow fixtures	7.1	0.0	0.0		75%	5.3	0.0	0.0	0.0
TRC-28	Tiara Rado Clubhou	Ice Machine Retrofit	0.0	2,102.0	0.0		90%	0.0	1,891.8	0.0	0.0
TRM-1	Tiara Rado Maint. B	Lighting Retrofits	-0.8	1,786.0	9.4		90%	-0.7	1,607.4	8.4	0.0
TRM-8	Tiara Rado Maint. B	Basic Programmable Thermostat (NS	14.2	0.0	0.0		90%	12.8	0.0	0.0	0.0
TRM-33	Tiara Rado Maint. B	Envelope Sealing/Improvements	11.3	0.0	0.0		80%	9.0	0.0	0.0	0.0
TE-1	Transportation Eng.	Lighting Retrofits	-1.8	4,526.0	0.0		90%	-1.6	4,073.4	0.0	0.0
TE-33	Transportation Eng.	Envelope Sealing/Improvements	13.2	0.0	0.0		80%	10.6	0.0	0.0	0.0
TE-40	Transportation Eng.	Water Conservation-Low flow fixtures	1.5	0.0	0.0		75%	1.1	0.0	0.0	0.0
TE-24	Transportation Eng.	Elect. Water Cooler Timers	0.0	207.0	0.0		90%	0.0	186.3	0.0	0.0
TRCC-1	Two Rivers Conv. C	Lighting Retrofits	-43.9	99,599.0	332.4		90%	-39.5	89,639.1	299.2	0.0
TRCC-33	Two Rivers Conv. C	Envelope Sealing/Improvements	203.7	0.0	0.0		80%	162.9	0.0	0.0	0.0
TRCC-37	Two Rivers Conv. C	Photo Voltaic (PV) Elec - 15.6 kW (D	0.0	23,025.0	0.0		90%	0.0	20,722.5	0.0	0.0
TRCC-40	Two Rivers Conv. C	Water Conservation-Low flow fixtures	11.2	0.0	0.0		75%	8.4	0.0	0.0	0.0
TRCC-28	Two Rivers Conv. C	Ice Machine Retrofit (2)	0.0	4,205.0	0.0		90%	0.0	3,784.5	0.0	0.0
TRCC-34	Two Rivers Conv. C	Added Insulation to Garage Ceiling	1,418.0	19,220.0	0.0		85%	1,205.3	16,337.0	0.0	0.0
VC-1	Visitors Center	Lighting Retrofits	-4.0	10,289.0	47.2		90%	-3.6	9,260.1	42.4	0.0
VC-33	Visitors Center	Envelope Sealing/Improvements	21.5	0.0	0.0		80%	17.2	0.0	0.0	0.0
VC-37	Visitors Center	Photo Voltaic (PV) Elec - 5 kW DC	0.0	7,332.0	0.0		90%	0.0	6,598.8	0.0	0.0
VC-40	Visitors Center	Water Conservation-Low flow fixtures	2.1	0.0	0.0		75%	1.6	0.0	0.0	0.0
P-1	Parks (Multiple Site	Lighting Retrofits	-3.5	41,219.0	0.0		90%	-3.2	37,097.1	0.0	0.0

Table 4.2 Calculated & Guaranteed Cost Savings

			Calculated Cost Savings					Guaranteed Cost Savings			
ECM #	Building	Energy Conser- vation Measure	Natural Gas Savings ($/yr)	Electric Savings ($/yr)	Water Savings ($/yr)	Total Utility Savings ($/yr)	Guaran- tee Factor	Natural Gas Savings ($/yr)	Electric Savings ($/yr)	Water Savings ($/yr)	Total Savings ($/yr)
FIM-41	City Wide	SEEC (Education Funding)	$0	$0	$0	$0	100%	$0	$0	$0	$0
CV-1	Canyon View M	Lighting Retrofits	$0	$5,520	$0	$5,520	90%	$0	$4,968	$0	$4,968
CV-8	Canyon View M	Basic Programmable Thermostat	$0	$78	$0	$78	85%	$0	$66	$0	$66
CV-33	Canyon View M	Envelope Sealing/Improvements	$0	$404	$0	$404	80%	$0	$323	$0	$323
CV-40	Canyon View M	Water Conservation-Low flow fixt	$0	$14	$11	$25	75%	$0	$11	$8	$19
CH-1	City Hall	Lighting Retrofits	-$235	$6,592	$0	$6,357	90%	-$212	$5,932	$0	$5,721
CH-24	City Hall	Elect. Water Cooler Timers	$0	$44	$0	$44	90%	$0	$40	$0	$40
CH-16	City Hall	Variable Frequency Drives (2 VF	$0	$2,380	$0	$2,380	90%	$0	$2,142	$0	$2,142
CH-25	City Hall	High SEER RTU Replacement w	$0	$1,482	$0	$1,482	90%	$0	$1,335	$0	$1,335
CH-33	City Hall	Envelope Sealing/Improvements	$81	$0	$0	$81	80%	$65	$0	$0	$65
CH-17	City Hall	Vending Miser	$0	$254	$0	$254	90%	$0	$229	$0	$229
EL-1	Engineering Lab	Lighting Retrofits	-$1	$53	$0	$53	90%	-$1	$48	$0	$47
EL-33	Engineering Lab	Envelope Sealing/Improvements	$138	$0	$0	$138	80%	$110	$0	$0	$110
FO-1	Facilities Offices	Lighting Retrofits	-$7	$327	$0	$319	90%	-$6	$294	$0	$288
FO-33	Facilities Offices	Envelope Sealing/Improvements	$38	$0	$0	$38	80%	$30	$0	$0	$30
FE-1	Field Engineerin	Lighting Retrofits	-$37	$941	$0	$903	90%	-$33	$847	$0	$813
FE-33	Field Engineerin	Envelope Sealing/Improvements	$531	$0	$0	$531	80%	$425	$0	$0	$425
FE-24	Field Engineerin	Elect. Water Cooler Timers	$0	$22	$0	$22	90%	$0	$20	$0	$20
FS3-1	Fire Station #3	Lighting Retrofits	-$25	$868	$0	$843	90%	-$23	$781	$0	$759
FS3-33	Fire Station #3	Envelope Sealing/Improvements	$440	$0	$0	$440	80%	$352	$0	$0	$352
FS3-40	Fire Station #3	Water Conservation-Low flow fixt	$14	$0	$44	$58	75%	$0	$0	$44	$44
FS4-1	Fire Station #4	Lighting Retrofits	-$16	$729	$0	$713	90%	-$14	$656	$0	$642
FS4-33	Fire Station #4	Envelope Sealing/Improvements	$376	$0	$0	$376	80%	$301	$0	$0	$301
FS4-40	Fire Station #4	Water Conservation-Low flow fixt	$9	$0	$143	$152	75%	$7	$0	$107	$114
FS4-18	Fire Station #4	High efficiency boilers w/ OA res	$229	$0	$0	$229	90%	$206	$0	$0	$206
FS5-1	Fire Station #5	Lighting Retrofits	-$51	$851	$0	$800	90%	-$46	$766	$0	$720
FS5-33	Fire Station #5	Envelope Sealing/Improvements	$266	$0	$0	$266	80%	$213	$0	$0	$213
FS5-40	Fire Station #5	Water Conservation-Low flow fixt	$96	$0	$113	$209	75%	$72	$0	$85	$157
FS5T-1	Fire Station #5 T	Lighting Retrofits	-$12	$240	$0	$228	90%	-$11	$216	$0	$205
FS5T-8	Fire Station #5 T	Basic Programmable Thermostat	$76	$0	$0	$76	90%	$68	$0	$0	$68
FS5T-33	Fire Station #5 T	Envelope Sealing/Improvements	$148	$0	$0	$148	80%	$118	$0	$0	$118
FS5T-40	Fire Station #5 T	Water Conservation- (see FS#5)	$0	$0	$0	$0	75%	$0	$0	$0	$0
LPAB-1	LP Auditorium/B	Lighting Retrofits	-$45	$1,422	$0	$1,376	90%	-$41	$1,280	$0	$1,239
LPAB-21	LP Auditorium/B	High efficiency furnaces	$1,002	$0	$0	$1,002	90%	$902	$0	$0	$902
LPAB-33	LP Auditorium/B	Envelope Sealing/Improvements	$158	$0	$0	$158	80%	$126	$0	$0	$126
LPAB-40	LP Auditorium/B	Water Conservation-Low flow fixt	$54	$0	$63	$117	75%	$41	$0	$47	$88
LPMP-1	LP Moyer Pool	Lighting Retrofits	-$23	$1,369	$0	$1,346	90%	-$21	$1,232	$0	$1,212
LPMP-18	LP Moyer Pool	High efficiency boiler	$2,410	$0	$0	$2,410	90%	$2,169	$0	$0	$2,169
LPMP-39	LP Moyer Pool	Liquid Pool Cover (includes 1st y	$3,659	$0	$0	$3,659	75%	$2,744	$0	$0	$2,744
LPMP-40	LP Moyer Pool	Water Conservation-Low flow fixt	$44	$0	$443	$487	75%	$33	$0	$332	$365

Table 4.2 Continued

			Calculated Cost Savings					Guaranteed Cost Savings			
ECM #	Building	Energy Conser- vation Measure	Natural Gas Savings ($/yr)	Electric Savings ($/yr)	Water Savings ($/yr)	Total Utility Savings ($/yr)	Guaran- tee Factor	Natural Gas Savings ($/yr)	Electric Savings ($/yr)	Water Savings ($/yr)	Total Savings ($/yr)
PA-1	Parks Admin Of	Lighting Retrofits	-$39	$852	$0	$813	90%	-$36	$767	$0	$731
PA-33	Parks Admin Of	Envelope Sealing/Improvements	$76	$0	$0	$76	80%	$61	$0	$0	$61
PA-40	Parks Admin Of	Water Conservation-Low flow fixt	$13	$0	$55	$68	75%	$10	$0	$41	$51
PA-25	Parks Admin Of	New high eff. RTU (4 & 3 ton unit	$0	$255	$0	$255	90%	$0	$230	$0	$230
RC-1	Recycling Cente	Lighting Retrofits	-$4	$486	$0	$482	90%	-$4	$438	$0	$434
RC-33	Recycling Cente	Envelope Sealing/Improvements	$0	$0	$0	$0	10%	$0	$0	$0	$0
RC-40	Recycling Cente	Water Conservation-Low flow fixt	$18	$0	$21	$39	75%	$14	$0	$16	$29
SC-1	Service Center	Lighting Retrofits	-$263	$7,613	$0	$7,350	90%	-$237	$6,852	$0	$6,615
SC-33	Service Center	Envelope Sealing/Improvements	$1,757	$0	$0	$1,757	80%	$1,406	$0	$0	$1,406
SC-40	Service Center	Water Conservation-Low flow fixt	$76	$0	$232	$308	75%	$57	$0	$174	$231
SC-20	Service Center	MAU's 1,2,3 - 2 Large, 1 Small H	$0	$1,271	$0	$1,271	90%	$0	$1,144	$0	$1,144
TRC-1	Tiara Rado Club	Lighting Retrofits	-$58	$1,910	$0	$1,851	90%	-$52	$1,719	$0	$1,666
TRC-8	Tiara Rado Club	Basic Programmable Thermostat	$428	$0	$0	$428	90%	$385	$0	$0	$385
TRC-10	Tiara Rado Club	Boiler & Pump OA Lockout/Rese	$136	$88	$0	$224	80%	$109	$70	$0	$179
TRC-33	Tiara Rado Club	Envelope Sealing/Improvements	$190	$0	$0	$190	80%	$152	$0	$0	$152
TRC-40	Tiara Rado Club	Water Conservation-Low flow fixt	$61	$0	$433	$494	75%	$46	$0	$325	$371
TRC-28	Tiara Rado Club	Ice Machine Retrofit	$0	$113	$0	$113	90%	$0	$102	$0	$102
TRM-1	Tiara Rado Mair	Lighting Retrofits	-$8	$224	$0	$216	90%	-$7	$201	$0	$194
TRM-8	Tiara Rado Mair	Basic Programmable Thermostat	$122	$0	$0	$122	90%	$110	$0	$0	$110
TRM-33	Tiara Rado Mair	Envelope Sealing/Improvements	$97	$0	$0	$97	80%	$78	$0	$0	$78
TE-1	Transportation E	Lighting Retrofits	-$17	$387	$0	$370	90%	-$15	$349	$0	$333
TE-33	Transportation E	Envelope Sealing/Improvements	$114	$0	$0	$114	80%	$91	$0	$0	$91
TE-40	Transportation E	Water Conservation-Low flow fixt	$13	$0	$15	$28	75%	$10	$0	$11	$21
TE-24	Transportation E	Elect. Water Cooler Timers	$0	$22	$0	$22	90%	$0	$20	$0	$20
TRCC-1	Two Rivers Con	Lighting Retrofits	-$417	$10,182	$0	$9,765	90%	-$375	$9,164	$0	$8,788
TRCC-3	Two Rivers Con	Envelope Sealing/Improvements	$1,657	$0	$0	$1,657	80%	$1,326	$0	$0	$1,326
TRCC-3	Two Rivers Con	Photo Voltaic (PV) Elec - 15.6 kW	$0	$3,888	$0	$3,888	90%	$0	$3,499	$0	$3,499
TRCC-4	Two Rivers Con	Water Conservation-Low flow fixt	$97	$0	$83	$180	75%	$73	$0	$62	$135
TRCC-2	Two Rivers Con	Ice Machine Retrofit (2)	$0	$227	$0	$227	90%	$0	$204	$0	$204
TRCC-3	Two Rivers Con	Added Insulation to Garage Ce	$12,212	$1,036	$0	$13,248	85%	$10,380	$881	$0	$11,261
VC-1	Visitors Center	Lighting Retrofits	-$38	$1,206	$0	$1,168	90%	-$34	$1,086	$0	$1,052
VC-33	Visitors Center	Envelope Sealing/Improvements	$185	$0	$0	$185	80%	$148	$0	$0	$148
VC-37	Visitors Center	Photo Voltaic (PV) Elec - 5 kW D	$0	$395	$0	$395	90%	$0	$356	$0	$356
VC-40	Visitors Center	Water Conservation-Low flow fixt	$18	$0	$26	$44	75%	$14	$0	$20	$33
P-1	Parks (Multiple	Lighting Retrofits	-$33	$3,907	$0	$3,874	90%	-$30	$3,517	$0	$3,487

2 BASE YEAR ENERGY USE AND COST

The table below conveys the current energy use and costs (for the most recent 12-month period for which utility data was available) for each city audited facility included in the final scope of work, as well as cumulatively for the entire project.

Base Year Energy Use & Cost
September 1, 2007 to August 31, 2008*

* Unless otherwise noted in Section 2.2 Tables

	Electrical					Natural Gas		Water		
	Demand		Energy**		Total Elect. Cost***	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	2,379	$21,266	123,040	$4,285	$25,551	0	$0	32	$156	$25,707
City Hall	2,224	$19,705	789,120	$28,409	$48,114	1269	$10,036	0	$0	$58,151
Engineering Lab	0	$0	70,709	$4,345	$4,345	231	$515	0	$0	$4,860
Facilities Offices	194	$1,654	28,840	$1,206	$2,861	360	$2,943	0	$0	$5,804
Field Engineering	0	$0	70,793	$4,544	$4,544	231	$1,868	0	$0	$6,412
Fire Station #3	302	$2,052	72,080	$2,489	$4,540	491	$3,955	0	$0	$8,495
Fire Station #4	0	$0	47,262	$5,675	$5,675	378	$3,045	0	$0	$8,720
Fire Station #5	0	$0	64,720	$4,145	$4,145	503	$4,013	0	$0	$8,158
Fire Station #5 Training Bldg	0	$0	5,431	$352	$352	104	$849	0	$0	$1,200
LP Auditorium Barn	283	$2,479	94,000	$3,194	$5,673	738	$5,746	37	$98	$11,515
LP Moyer Pool	482	$4,398	189,960	$7,336	$11,734	2300	$22,958	3360	$8,214	$42,907
Parks Admin Office	0	$0	57,928	$3,898	$3,898	89	$688	0	$0	$4,586
Recycling Center	0	$0	27,212	$1,773	$1,773	0	$0	0	$0	$1,773
Service Center	1,239	$10,943	341,600	$12,136	$23,079	1933	$15,259	0	$0	$38,338
Tiara Rado Clubhouse meter 1	0	$0	77,440	$5,105	$5,105	0	$0	0	$0	$5,105
Tiara Rado Clubhouse meter 2	446	$4,007	57,713	$2,273	$6,280	572	$4,616	0	$0	$10,896
Tiara Rado Clubhouse (combined)	446	4,007	135,153	7,378	$11,385	572	4,616	0	0	$16,001
Tiara Rado Maint. Bldg.	659	$5,916	90,696	$3,480	$9,395	95	$658	0	$0	$10,054
Transportation Eng.	0	$0	39,333	$4,897	$4,897	205	$1,613	0	$0	$6,510
Two Rivers Conv. Center	3,612	$32,111	1,208,640	$43,327	$75,438	4888	$40,250	0	$0	$115,688
Visitors Center	289	$2,560	81,160	$2,842	$5,402	1624	$1,304	1624	$0	$6,705
Parks (Multiple Sites)										
TOTAL	12,110	$ 107,090	3,537,677	$ 145,709	252,800	16,012	$ 120,316	5,053	$ 8,467	$381,583

** includes "ECA" charges listed in the Section 2.2 Tables

***excludes "Other" charges listed in the Section 2.2 Tables

Note that the Parks facilities where not summed up due to the amount of data required. Instead, a delta (savings) was generated by field audit determined savings which is shown below.

3 POST-RETROFIT ENERGY USE AND COST

The tables below convey the expected post energy use and costs, and separately the resulting guaranteed savings, for each facility as well as cumulatively for the entire project, provided that all proposed FIMs are implemented.

CITY OF Grand Junction COLORADO

Technical Energy Audit

Post-Retrofit Energy Use & Cost
Fist Year Performance Period

	Electrical					Natural Gas		Water		
	Demand		Energy*		Total Elect. Cost**	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	2,231	$19,112	63,358	$1,071	$20,183	0	$0	29	$148	$20,331
City Hall	1,971	$18,000	669,569	$22,437	$38,438	1284	$10,183	0	$0	$48,621
Engineering Lab	0	$0	70,211	$4,297	$4,297	219	$405	0	$0	$4,702
Facilities Offices	184	$1,507	25,783	$1,060	$2,567	357	$2,919	0	$0	$5,486
Field Engineering	0	$0	62,133	$3,678	$3,678	186	$1,477	0	$0	$5,154
Fire Station #3	270	$1,592	66,119	$2,167	$3,759	451	$3,615	14	-$33	$7,341
Fire Station #4	0	$0	40,996	$5,019	$5,019	320	$2,545	44	-$107	$7,457
Fire Station #5	0	$0	53,307	$3,379	$3,379	475	$3,773	35	-$85	$7,068
Fire Station #5 Training Bldg	0	$0	3,370	$136	$136	84	$673	0	$0	$808
LP Auditorium Barn	232	$1,732	84,122	$2,661	$4,393	619	$4,718	18	$49	$9,160
LP Moyer Pool	438	$3,751	178,112	$6,751	$10,502	1621	$18,033	3223	$7,882	$36,417
Parks Admin Office	0	$0	48,347	$2,902	$2,902	85	$653	17	-$41	$3,513
Recycling Center	0	$0	23,033	$1,336	$1,336	1	$10	7	-$16	$1,310
Service Center	943	$6,616	269,363	$8,467	$15,083	1788	$14,033	72	-$174	$28,942
Tiara Rado Clubhouse (combined)	388	3,038	117,618	6,456	$9,494	499	3,977	134	-325	$13,146
Tiara Rado Maint. Bldg.	651	$5,792	89,089	$3,402	$9,194	73	$478	0	$0	$9,672
Transportation Eng.	0	$0	35,073	$4,528	$4,528	185	$1,528	5	-$11	$6,045
Two Rivers Conv. Center	3,313	$27,752	1,078,157	$33,938	$61,690	3551	$28,847	26	$62	$90,475
Visitors Center	246	$1,941	65,301	$2,019	$3,960	1609	$1,177	1616	-$20	$5,117
Parks (Multiple Sites)	0	0	-37,097	-3,517	-3,517	3	30	0	0	-$3,487
TOTAL	10,859	$88,833	3,007,166	$112,187	$201,020	13,418	$99,055	4,533	$7,205	$307,280

* includes "ECA" charges listed in the Section 2.2 Tables

**excludes "Other" charges listed in the Section 2.2 Tables

Post-Retrofit Guaranteed Energy & Cost Savings
Fist Year Performance Period

	Electrical					Natural Gas		Water		
	Demand		Energy*		Total Elect. Cost**	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	148	$2,154	59,682	$3,214	$5,368	0	$0	3	$8	$5,376
City Hall	253	$3,704	119,551	$5,972	$9,676	-15	-$147	0	$0	$9,530
Engineering Lab	0	$0	498	$46	$48	13	$110	0	$0	$158
Facilities Offices	10	$148	3,057	$146	$294	3	$24	0	$0	$318
Field Engineering Lab/Office	0	$0	8,660	$866	$866	46	$391	0	$0	$1,258
Fire Station #3	32	$460	5,961	$321	$781	40	$340	14	$33	$1,154
Fire Station #4	0	$0	6,266	$656	$656	58	$499	44	$107	$1,263
Fire Station #5	0	$0	11,413	$766	$766	28	$239	35	$85	$1,090
Fire Station #5 Training Building	0	$0	2,061	$216	$216	21	$176	0	$0	$392
LP Auditorium/Barn	51	$747	9,878	$532	$1,280	119	$1,028	20	$47	$2,355
LP Moyer Pool	44	$648	10,848	$585	$1,232	679	$4,925	137	$333	$6,489
Parks Admin Office	0	$0	9,581	$996	$996	4	$35	17	$41	$1,073
Recycling Center	0	$0	4,179	$438	$438	1	$10	7	$16	$463
Service Center	296	$4,327	72,237	$3,669	$7,996	145	$1,228	72	$174	$9,396
Tiara Rado Clubhouse	67	969	17,334	922	$1,891	73	639	134	325	$2,855
Tiara Rado Maint. Bldg.	8	$123	1,607	$78	$201	21	$180	0	$0	$382
Transportation Eng.	0	$0	4,260	$369	$369	10	$85	5	$11	$465
Two Rivers Conv. Center	299	$4,359	120,483	$9,389	$13,748	1337	$11,403	26	$62	$25,213
Visitors Center	42	$618	15,859	$823	$1,441	15	$127	8	$20	$1,588
Parks (Multiple Sites)	0	0	37,097	3,517	3,517	3	30	0	0	$3,487
TOTAL	1,251	$18,257	530,511	$33,522	$51,780	2,595	$21,262	520	$1,262	$74,303

* includes "ECA" charges listed in the Section 2.2 Tables

**excludes "Other" charges listed in the Section 2.2 Tables

Johnson Controls

4 SAVINGS ESTIMATES INCLUDING ANALYSIS METHODOLOGY, SUPPORTING CALCULATIONS AND ASSUMPTIONS USED.

The savings calculations are developed per facility improvement measure type. The FIM types included are Controls, Electrical, Envelope, Lighting, Mechanical, Pool, Solar, and Water Conservation.

4.1 CONTROLS.

The savings calculation methodologies for the controls measures are presented below.

4.1.1 OC-6 OPERATIONS CENTER DDC SEQUENCE OPTIMIZATION.

Several upgrades to the existing Trane Tracer DDC system will be made to address occupancy comfort issues related to dissimilarly loaded zones served by a single VVT (variable volume and temperature) roof top unit. No savings are credited to the project for DDC changes related to occupancy comfort.

Logged temperatures of the occupied space indicated that there is no existing night setback strategy. Therefore, a night setback routine will be implemented. Night setback savings were calculated based on the reduction of gas usage for heating and electric usage for DX cooling from scheduling the existing 7.5-ton RTU-1 and perimeter baseboards, as outlined in the following table:

Season	Occupied / Unoccupied	Time	Temperatures
All Year	Occupied	6 am –6 pm, Mon. – Friday	Heat: 70° F Cool: 75° F
All Year	Unoccupied	All hours not indicated	Heat: 60° F Cool: 85° F

Calculation Methodology

See Section 4.1.2 for the calculation methodology used for night setback savings as the energy savings from this FIM are solely based on implementing a night setback routine. Please refer to Appendix 3 for detailed savings calculation.

For utility cost saving projections, the cost of electricity was based on Xcel Energy's secondary general (SG) rate schedule and the cost of gas based on Xcel's CG rates as listed in Table 2.1.

The agreed upon values include site weather data, baseline utility usage, existing hours of operation, hours of actual occupancy, post-FIM scheduled unoccupied and occupied hours, and heating and cooling set-points. See Appendix 3 for the detailed savings calculations.

OC-6 Occupied/Unoccupied Scheduling	Units	Dollars $
Annual Heat Energy Savings	287.7 DTh/yr	$2,478
Annual Cooling Energy Savings	3376 kWh/yr	$182
Total Annual Savings		$2,660

4.1.2 FIM-8 Programmable Thermostats.

Stand-alone programmable thermostats will be installed at the following locations:

- CV-8: Canyon View Maintenance Building
- FS5T-8: Fire Station #5 Training Building
- TRC-8: Tiara Rado Clubhouse
- TRM-8: Tiara Rado Maintenance Building

Space temperature loggers at the above locations were used to establish a) the baseline temperature setpoints which were also used for the post FIM occupied setpoints, and b) to verify there are no existing night setback routines. Night setback (NSB) savings were calculated based on the reduction of energy usage for heating and for DX cooling from scheduling the existing HVAC systems, with one hour for morning warm-up based upon the occupancy and temperature setpoint schedules summarized in the table below.

FIM ID/ Bldg Name	Season	Occupied / Unoccupied	Time	Temperature Setpoints
CV-8 Canyon View Maint. Bldg	All Year	Occupied	6 am –4 pm, Mon. – Friday	Heat: 68 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A
FS5T-8 Fire Station #5 Training Building	All Year	Occupied	5 am –8 pm, Sun. – Sat.	Heat: 68 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A
TRC-8 Tiara Rado Clubhouse	All Year	Occupied	6 am –5 pm, Sun. – Sat.	Heat: 65 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A
TRM-8: Tiara Rado Maintenance Building	All Year	Occupied	6 am –5 pm, Mon. – Friday	Heat: 66 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A

Calculation Methodology

Heating and cooling savings from implementing night setback (NSB) routines were calculated using a temperature bin based spreadsheet analysis. The heat transfer equation for conduction formed the basis of the temperature bin analysis. That relation is:

$$q = UA \cdot \Delta T \qquad \text{Eqn. 4.1.2.1}$$

where:

q is the building heating load (Btu/hr)

UA is the calibrated building heat transfer factor (Btu/(hr*F)), and

ΔT is the temperature difference between the indoor temperature setpoint and outside air temperature.

The calculation spreadsheet utilized TMY2 outdoor temperature data for Grand Junction that was grouped into 5 degree temperature bins. The bin temperature data was also grouped by the temperature observation period to accommodate adjustments to the delta-T value based on setpoint scheduling.

The building heat transfer factor (i.e. UA value) was calibrated using Eqn. 4.1.2.1 with one year's bin data so that the baseline gas consumption in the bin model was set equal to the historic gas use for space heating from the pervious year's utility bills. This baseline gas consumption for space heating was estimated by subtracting the domestic hot water (DHW) gas usage (estimated as the average monthly summertime gas use times 12 months per year) from the annual gas usage.

Once the building UA value was calibrated to the baseline heating load, the NSB schedules were applied to the bin model by adjusting the delta-T value in Eqn. 4.1.2.1 to calculate the post-FIM gas usage. Heating energy savings were then calculated as the difference between the pre and post gas consumption and the cost savings were found by multiplying the gas savings by the appropriate gas rate.

For the NSB cooling savings associated with OC-6, the UA value calibrated from the heating load was also applied to the bin model to determine the per and post DX cooling loads.

Fan energy savings from the NSB routines were considered negligible and were not included in the savings calculation.

The agreed upon values include site weather data, baseline utility usage, existing hours of operation, hours of actual occupancy, post-FIM scheduled unoccupied and occupied hours, and heating and cooling set-points. See Appendix 3 for the detailed savings calculations.

FIM #	Building	Energy Savings (units)	Cost Savings ($/yr)
CV-8	Canyon View Maint. Bldg	1,442 (kWh/yr)	$78
FS5T-8	Fire Station #5 Training Building	8.8 (DTh/yr)	$76
TRC-8	Tiara Rado Clubhouse	49.7 (DTh/yr)	$428
TRM-8:	Tiara Rado Maintenance Building	14.2 (DTh/yr)	$122

4.1.3 TRC-10 Boiler Outdoor Air Reset and Pump Lockout at Tiara Rado Clubhouse.

A new stand-alone direct digital controller will be added to provide boiler supply water temperature reset, and boiler & circulation pump lockout based on the outdoor air temperature to reduce electric pump and gas heating energy.

Calculation Methodology

The electrical energy savings for locking-out the circulation pump was calculated as:

$$kWh_{svgs} = \frac{\left(HrsOn_{pre} - HrsOn_{post}\right) \cdot HP_{motor} \cdot LF \cdot 0.745}{\eta}$$

where:

kWh_{svgs} is the annual electrical energy savings (1,636 kWh/yr),

$HrsOn_{pre}$ is the baseline hours per year the pump is active (8760 hrs/yr)

$HrsOn_{post}$ is the post-FIM hours per year the pump will be active (5981 hrs/yr)

HP_{motor} is the motor nameplate horse power (3/4 hp)

LF is the baseline motor load factor (assumed 80%)

0.745 is the conversion factor for kW per HP. and

η is the motor electrical efficiency (assumed 76%)

The baseline pump motor run time is based on motor logger data showing the pump running continually, including during warm weather. The post-FIM motor run time is based on binned outdoor air temperature data for Grand Junction (TMY-2) and the pump being locked-out at temperatures above 65 °F.

The gas savings from locking-out the boiler above 65 °F ambient was estimated as the eliminated boiler standby loss which was calculated as:

$$SBLR = \left[\overline{Q}_{summer} \cdot 12\left(\frac{months}{yr}\right) - Q_{DHW}\right] \cdot \frac{HrsOn_{pre} - HrsOn_{post}}{HrsOn_{pre}}$$

where:

$SBLR$ is the boiler standby loss reduction (31.9E5 Btu/yr),

$\overline{Q}_{summer}$ is the average monthly gas usage in the summer (25.5E5 Btu/month),

Q_{DHW} is the annual DHW gas load from the water audit (205.5E5 Btu/yr), and

$\frac{HrsOn_{pre} - HrsOn_{post}}{HrsOn_{pre}}$ is the ratio of hours the boiler will be locked out to the baseline run hours (31.7%).

Equations for calculating the gas savings from enabling a boiler reset schedule are listed in the detailed calculation in Appendix 3. Those calculations are based upon the average reduction in boiler supply temperature (34 °F) which was based upon A) the temperature reset schedule of 180 °F supply temperature at 10 °F ambient and 120 °F supply temperature at 60 °F ambient, and B) the bin temperature data set described above. Gas savings of 10.1 dTh/yr result from reduced combustion and radiation losses.

Energy cost savings were calculated as the product of energy savings and the energy rate.

The agreed upon values include the reset and lockout schedules, site weather data, baseline operating hours, motor HP, motor load factor, motor efficiency, utility baselines, DHW load, baseline boiler efficiency (80%), and the net improvement in the average boiler thermal efficiency (1.79%).

The table below summarizes the calculated savings for this FIM. See Appendix 3 for the detailed savings calculations.

TRC-10 BOILER OA RESET AND LOCKOUT	Gas Energy Savings (dTh/yr)	Gas Cost Savings ($/yr)	Electrical Energy Savings (kWh/yr)	Electrical Cost Savings ($/yr)	Total Energy Dollars Saved
Annual Energy Savings from Lockout	3.2	$27	1,636	$88	$116
Annual Energy Savings from Reset	10.1	$109	0	0	$109
Total Annual Savings	13.3	$136	1,636	$88	$225

4.1.4 FIM-17 VENDING MISERS

Vending machine controllers will be installed at the following locations:

- CH-17: City Hall, 3 ea. cold drink machines and 1 ea. snack machine

Calculation Methodology

In order to calculate the savings for this measure, the pre and post retrofit wattage, the assumed or measured operating hours, the assumed or measured percentage energy use

savings, the number of vending machines, the number of snack machines, and the assumed power requirements were used.

The energy usage savings in kWh are calculated by multiplying the post retrofit wattage under sensor control by the assumed operating hours by the percentage energy savings for that use type, as detailed below:

Usage Savings = Controlled Wattage × Operating Hours × Percentage Usage Savings

Cost savings are then calculated on an annual basis using the appropriate utility rates and the savings calculated above with the required conversion factors.

These formulas are detailed below:

Usage Cost Savings = Usage Savings × usage rate / 1000 Wh/kWh

The agreed upon values are the controlled wattages, operating hours, and percentage usage savings.

The table below summarizes the calculated savings from the Vending FIMs.

FIM #	Building	Energy Savings (kWh/yr)	Cost Savings ($/yr)
CH-17	City Hall	4,713	$254
OC-17	Operations Center	3,264	$176
OM-17	Orchard Mesa Indoor Pool	1,815	$98

Please refer to Appendix 3 for the detailed savings calculations.

4.1.6 FIM-24 Electric Water Cooler Timers

Timers will be installed on the electric water coolers at the following locations:

- CH-24: City Hall
- FE-24: Field Engineering
- TE-24: Transportation Engineering

In addition, the electric water coolers will be electrically disabled at the Locker Rooms under FIM number LR-24.

Calculation Methodology

The electrical energy savings for reduced compressor run hours was calculated as:

$$kWh_{svgs} = \left(HrsOn_{pre} - HrsOn_{post}\right) \cdot kW_{motor} \cdot CF$$

where:

kWh_{svgs} is the annual electrical energy savings (kWh/yr),

$HrsOn_{pre}$ is the baseline hours per year the EWC is active (8760 hrs/yr)

$HrsOn_{post}$ is the post-FIM hours per year the EWC will be active (hrs/yr)

kW_{motor} is the EWC's rated power draw(0.325 kW)

CF is the compressor cycling factor (assumed 12.5%)

The post-FIM hours for disabling the EWCs at the Locker Rooms are zero. The post-FIM hours for EWCs with timers of 3640 hrs per year are based upon enabling the units to operate 10 hours per day, 7 days per week.

The agreed to values include the pre and post hours the EWCs are enabled, the EWC rated power draw, and the compressor cycling factor. Post-installation timer setup (i.e. enabled hours) will be confirmed under the M&V plan.

FIM #	Building	Energy Savings (kWh/yr)	Cost Savings ($/yr)
CH-24	City Hall	828	$44
FE-24	Field Engineering	207	$22
TE-24	Transportation Eng.	207	$22

4.2 ELECTRICAL

The savings calculation methodologies for each electrical FIM are noted below.

4.2.1 CH-16 REPLACE INLET GUIDE VEINS WITH VARIABLE FREQUENCY DRIVE AT CITY HALL

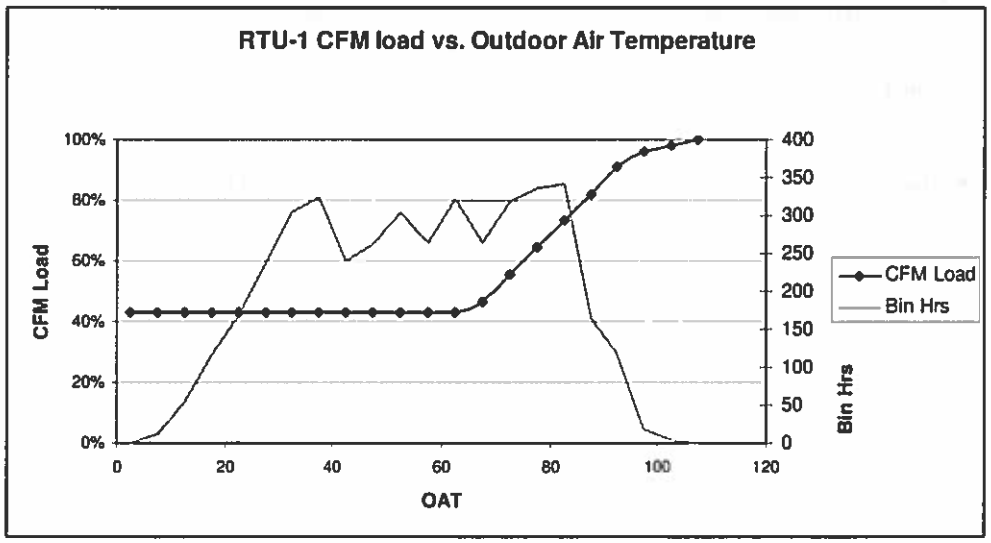
RTU-1 at the City Hall building is a 90-ton variable air volume (VAV) unit. Currently, the air volume is modulated by inlet guide veins. This FIM will disable the inlet guide veins (IGV) by locking them in the open position, replace the supply air fan motors with premium efficiency

motors, and add new variable frequency drives (VFDs) to modulate the air volume. Electrical fan energy savings will be achieved from the motor replacements and the reduced energy requirements associated with the VFD drives.

Calculation Methodology

Fan energy for this measure was calculated using a temperature bin based spreadsheet analysis. That spreadsheet utilized TMY2 outdoor temperature data for Grand Junction that was grouped into 5 degree temperature bins. The bin temperature data was also grouped by the temperature observation period to accommodate proper evaluation of the RTU operating schedule.

Trend data of the inlet guide vein position and outdoor air temperature were obtained through the building management system to correlate the supply air (SA) volume with the ambient air temperature. These trend logs revealed the minimum SA rate to meet the ventilation load of 43% of the full load SA flow rate. These trends also showed the RTU-1 operating schedule to be between 6 AM and midnight on weekdays. The figure below illustrates the correlation between the outdoor air temperature and RTU-1's supply air volume used in the bin calculations.



Calculation of the baseline fan energy with IGVs was based on the following relation obtained from *Energy Audit of Building Systems* by Moncef Krarti:

$$\frac{BHP_n}{BHP_{FL\_pre}} = 1.57\left(\frac{CFM_n}{CFM_{FL}}\right)^2 - 1.32\frac{CFM_n}{CFM_{FL}} + .746 \qquad \text{Eqn. 4.2.1.1}$$

where:

$\frac{BHP_n}{BHP_{FL\_pre}}$ is the fraction of the motor shaft power at speed "n" to the baseline full-load break horse power, and

$\frac{CFM_n}{CFM_{FL}}$ is the fraction of the fan flow rate at speed "n" to the full-load CFM.

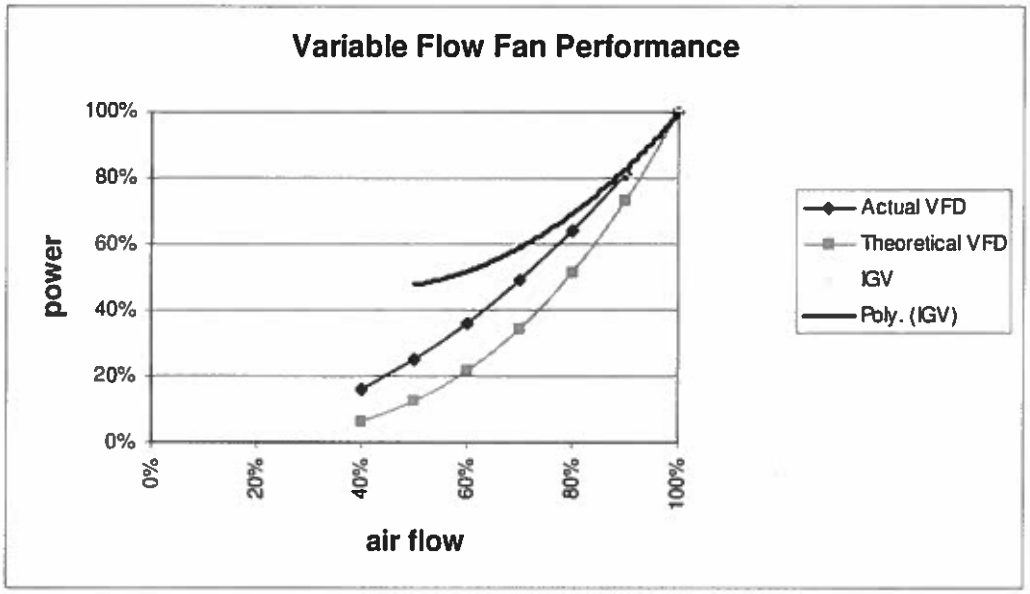
The fan affinity laws indicate that the fan power is proportional to the cube of the fan speed. A conservative approach, however, was used for estimating the post-FIM fan power as follows:

$$\frac{BHP_n}{BHP_{FL\_post}} = \left(\frac{CFM_n}{CFM_{FL}}\right)^{2.25} \qquad \text{Eqn. 4.2.1.2}$$

where:

$\frac{BHP_n}{BHP_{FL\_post}}$ is the fraction of the motor shaft power at speed "n" to the post FIM full-load motor break horse power

The figure below illustrates the fan load vs. fan speed relationships noted above.



The baseline full-load motor power requirement was calculated using the following relation:

$$P_{FL\_pre} = \frac{HP_{motor} \cdot LF \cdot 0.745}{\eta_{pre}} = \qquad \text{Eqn. 4.2.1.3}$$

where:

P_{FL_pre} is the baseline full load fan power (kW)

HP_{motor} is the motor nameplate horsepower rating (hp),

LF is the baseline motor load factor at full load,

0.745 is the conversion factor for kW per HP. and

η_{pre} is the baseline motor efficiency.

RTU-1 has two ea. 25 hp motors, therefore the nameplate horsepower rating used in Eqn. 4.2.1.3 is 50 hp. The full load break horse power (BHP) for the RTU is 45 hp, based upon the manufacture's fan curves using the design CFM, the internal static pressure from the manufacture's literature and design supply air external static pressure of 2.0 inches WG from the HVAC drawings. Therefore, the baseline load factor (*LF*) was determined to be 45/50 = 90%. A baseline motor efficiency of 91.7% was assumed for the existing standard efficiency motors.

The full load electric power requirement for the premium efficiency motors was calculated using the following relation:

$$P_{FL\_post} = \frac{BHP_{FL} \cdot 0.745}{\eta_{post}} \qquad \text{Eqn. 4.2.1.4}$$

where:

P_{FL_post} is the post FIM full load fan power (kW)

BHP_{FL} is the full-load fan break horse power (45 hp)

0.745 is the conversion factor for kW per HP. and

η_{post} is the new motor efficiency (94.0%).

Substituting Eqn. 4.2.1.3 and 4.2.1.4 into Eqn. 4.2.1.1 and 4.2.1.2 respectively, the pre and post FIM fan energy requirements at each temperature bin (i.e. fan speed) were determined. The annual fan energy was then calculated by summing up the fan energy use over all temperature bins.

The electrical energy savings was calculated as the difference between the pre and post energy usages. The monthly electrical demand savings was determined as the difference between the pre and post full load fan power values. Electrical consumption cost savings were then evaluated as the energy savings times the energy rate and the and demand cost savings were calculated by multiplying the monthly demand reduction by the seasonal demand rate over a 12 month period.

The agreed to values include the fan loading curve for inlet guide veins (Eqn. 4.2.1.1), nameplate motor horse power, pre-retrofit motor efficiencies, motor load factor, RTU operating schedule. The VFD fan loading curve, post-FIM motor nameplate efficiency, and the correlation between CFM and outdoor air temperature will be updated based upon the M&V plan for FIM CH-16 in Section 6.

The table below summarizes the calculated energy savings for this measure. See Appendix 3 for the detailed bin spreadsheet calculations.

CH-16 Install VFD on RTU-1	Energy Units Saved	Energy Dollars Saved
Annual Electrical Consumption Savings	41,116 kWh/yr	$2,216
Annual Electrical Demand Savings	11 kW/yr	$164
Total Annual Savings		$2,380

4.3 ENVELOPE

The savings calculation methodology for the envelope improvement measures are noted below.

4.3.1 FIM-33 ENVELOPE SEALING

Envelope sealing improvements will be applied at the 20 locations indicated in the summary table below.

Calculation Methodology

While this measure is largely an occupancy comfort issue, energy savings will result from the reduction of air infiltration. Engineering spreadsheets were used to calculate the energy savings from infiltration reductions by decreasing the effective leakage areas and their associated unintended air changes. Note that the calculations reflect energy savings from reduced natural gas usage for heating while cooling energy savings were considered negligible. Key spreadsheet variables common to both the existing and proposed conditions include:

- Building type and estimated building tightness (AP)n
- HVAC equipment efficiencies
- Operating hours and equivalent degree days
- Wall and Floor area
- Wall R-value/Roof R-value
- Internal peak gains, including interior/exterior lighting, hot water, and plug loads
- Flow factor; rated wind amount for the region

The only factors changed in the spreadsheet to simulate the infiltration performance are:

- Existing effective leakage area
- Proposed effective leakage area
- Existing infiltration rate (CFM)
- Proposed infiltration rate (CFM)

Applying the energy spreadsheet results, basic savings calculations are as follows:

Gas energy savings = Existing estimated gas consumption – projected gas consumption

Gas cost savings = gas usage savings * gas unit cost

The agreed to values include the pre and post FIM effective leakage areas (unless otherwise indicated through visual observation), flow factor, AP^n value for building type, HVAC system efficiencies, and site weather (i.e. heating degree days).

The table below lists the calculated utility cost savings along with the unit cost of gas applied to each building for each Envelope FIM.

FIM Number	Building Name	Gas Savings/year (dTh/yr)	Gas Cost Savings/year ($/yr)
CV-33	Canyon View Maint. Bldg	7,500	$404
CH-33	City Hall	9.4	$81
EL-33	Engineering Lab	16.0	$138
FO-33	Facilities Offices	4.4	$38
FE-33	Field Engineering Lab/Office	61.6	$531
FS3-33	Fire Station #3	51.1	$440
FS4-33	Fire Station #4	43.6	$376
FS5-33	Fire Station #5	30.9	$266
FS5T-33	Fire Station #5 Training Building	17.2	$148
LPAB-33	LP Auditorium/Barn	18.3	$158
PA-33	Parks Admin Office	8.8	$76
SC-33	Service Center	204.0	$1,757
TRC-33	Tiara Rado Clubhouse	22.1	$190
TRM-33	Tiara Rado Maint. Bldg.	11.3	$97
TE-33	Transportation Eng.	13.2	$114
TRCC-33	Two Rivers Conv. Center	203.7	$1,657
VC-33	Visitors Center	21.5	$185

*Savings listed are kWh and kWh cost savings for buildings w/ electric heat.

4.3.2 TRCC-34 INSULATE GARAGE CEILING AT TWO RIVERS CONVENTION CENTER

Calculation Methodology

Energy savings for adding insulation to the parking garage ceiling were estimated using the heating and cooling degree day methods as follows.

The gas heating load associated with the floor load was calculated using:

$$GAS_{htg} = \frac{24(hrs/day) \cdot HDD \cdot UA \cdot SBF}{\eta_{htg} \cdot 10^6 (Btu/dTh)}$$

where:

GAS_{htg} is the gas used for heating (dTh/yr)

HDD is the annual heating degree days in Grand Junction (5700 (days °F))

U is the "U value" (1/R) of the ceiling assembly $\frac{Btu}{hr \cdot ft^2 \cdot {}^oF}$

A is the area of the garage ceiling below the conditioned space (ft^2)

SBF is a HDD correction factor to account for night setback (assumed 75%)

η_{htg} is the heating plant efficiency (assumed 85%)

Similarly, the electrical energy for the cooling associated with the floor load was calculated by:

$$kWh_{clg} = \frac{24 \cdot CDD \cdot UA \cdot SBF}{kW/ton \cdot 12{,}000(Btu/ton)}$$

where:

kWh_{clg} is the electric energy used for cooling (kWh/yr)

CDD is the annual cooling degree days in Grand Junction (1091 (days °F))

SBF is a CDD correction factor to account for night setback (assumed 75%)

KW/ton is the cooing plant efficiency (assumed 1.0)

The heating and cooling energy savings were then calculated as the difference between the pre and post energy usage where the pre-retrofit values were based on a U value for the uninsulated floor/ceiling assembly and the post-retrofit values were based on the U value of the floor ceiling assembly after adding insulation. All other variables in the above equations

were held fixed in the analysis. The cost savings were calculated by multiplying the energy savings by the energy rates.

The agreed upon values include the location (HDD and CDD data), utility rates, area of the ceiling below the conditioned space and R value of the uninsulated ceiling. The area and R value of the new insulation will be confirmed under the M&V plan. Please refer to Appendix 5 for the detailed calculations.

The table below summarizes the calculated energy savings for this FIM.

TRCC-34 Added Insulation to Garage Ceiling	Units	Dollars $
Annual Heat Energy Savings	1,418 DTh/yr	$12,212
Annual Cooling Energy Savings	19,220 kWh/yr	$1,036
Total Annual Energy Savings		$13,248

4.4 LIGHTING

The savings calculation methodology for the lighting improvement measures are noted below.

4.4.1 FIM-1 LIGHTING UPGRADES

Lighting system improvements will be applied at the 20 locations indicated in the summary table below.

Calculation Methodology

Lighting energy savings were calculated using a Microsoft Excel® spreadsheet model of baseline and Post-Installation conditions. Please refer to Appendix 2 for the detailed write-up of the Savings Calculations and Methodology section for this Facility Improvement Measure (FIM).

Lighting savings were calculated based on the fixture quantities, wattages and run hours as indicated below. The lighting demand savings is given by:

Demand Reduction (kW) = (FIXTEXIST * WATTEXIST - FIXTPROPOSED * WATTPROPOSED)*12/1000

Demand Savings ($/yr) = Demand Reduction * AVGDMNDRATE

Where:

Demand Savings (kW) is the annual lighting demand reduction

Demand Savings ($/yr) is the annual savings from lighting demand reduction

FIXTEXIST = number of existing light fixtures

WATTEXIST = wattage of existing light fixture (watts)

FIXTPROPOSED = number of proposed light fixtures

WATTPROPOSED = wattage of proposed light fixture (watts)

AVGDMNDRATE = weighted average annual demand rate ($/kW)

The lighting energy savings is given by:

Energy Reduction (kWh) = (FIXTEXIST * WATTEXIST * HRSEXIST - FIXTPROPOSED * WATTPROPOSED * HRSPROPOSED)*1000

Energy Savings ($/yr) = Energy Reduction * CONSUMPTIONRATE

Where:

Energy Reduction (kWh) is the annual lighting energy reduction

Energy Savings ($/yr) is the annual savings from lighting energy reduction

HRSEXIST = number of annual run hours for the existing light fixtures

HRSPROPOSED = number of annual run hours for the proposed light fixtures; Note timer(s) installed at the Recreation Center will result in reduced "HRSPROPOSED" run hours

CONSUMPTIONRATE = energy consumption rate ($/kWh)

Savings calculations for the lighting FIM's consider the effects of reduced lighting loads on the buildings' HVAC systems. Energy usage savings are apportioned to either heating (penalty) or cooling (savings) by multiplying the energy usage savings by the number months of heating or cooling, and dividing by twelve months in a year. The amount of heat from the fixtures that contributes to space heating/cooling loads is assumed to be 80% per ASHRAE recommendations. Finally, the heating penalty is calculated by multiplying the heating portion by the appropriate conversion factors and dividing by the heating plant efficiency. Likewise, the cooling savings (in kWh) is calculated by multiplying the cooling portion by the appropriate conversion factors and multiplying by the cooling plant efficiency in kW/ton. Lighting use is assumed not to experience seasonal variations. The lighting effects on the HVAC systems are calculated as follows:

Heating Penalty (DTh) = #months htg/12 * lighting energy reduction (kWh) * 80% * 3413(Btu/kWh) / 10^6(Btu/DTh) / heating plant efficiency (%)

Cooling Penalty (kWh) = #months cooling/12 * lighting energy reduction (kWh) * 80% * 3413(Btu/kWh) / 12000(Btu/ton) * cooling plant efficiency (kW/ton)

ASSUMPTIONS and CLARIFICATIONS

The following assumptions are made regarding current operating conditions:

- Lighting burn hours are based on interviews with facility personnel and hours logged at each facility. Lighting burn hours are listed in the detailed lighting scope tables listed in Appendix 2.

- Wattages are based on industry published data.
- Energy and demand rates are based on Xcel Energy loaded rate tariffs as noted in Section 2, Table 1.

The following assumptions are made regarding proposed operating conditions:

- Operating hours remain the same except where timers or occupancy sensors are installed, as noted in the detailed scopes of work listed in Appendix 2.

The agreed upon values include lighting burn hours, building operating hours, lighting audit counts, pre-retrofit fixture wattages, reduced operating hours from timers and occupancy sensors, and HVAC adjustment calculations. Lighting burn hours and lighting audit counts are indicated in the detailed scope tables in Appendix 2. Note the lighting detailed scope tables reflect the complete audit results of the facilities indicated. A lighting code indicated as "NORETRO" indicates a fixture that is not to be retrofitted.

Please refer to Appendix 2 for detailed savings calculations. The calculated lighting savings are summarized in the table below.

Technical Energy Audit

FIM Number	Building Name	Electrical Energy Savings (kWh/yr)	Electrical Demand Savings (kW/yr)	Total Electrical Cost Savings ($/yr)	Gas Savings (DTh/yr)	Gas Cost Savings ($/yr)	Total Annual Cost Savings ($/yr)
CV-1	Canyon View Maintenance Building	58,071	164	$5,520	0.0	$0	$5,520
CH-1	City Hall	66,351	243	$6,592	-24.7	($235)	$6,357
EL-1	Engineering Lab	553	0	$53	-0.1	($1)	$53
FO-1	Facilities Offices	3,397	11	$327	-0.8	($7)	$319
FE-1	Field Engineering	9,415	0	$941	-3.9	($37)	$903
FS3-1	Fire Station #3	6,623	35	$868	-2.6	($25)	$843
FS4-1	Fire Station #4	6,962	0	$729	-1.7	($16)	$713
FS5-1	Fire Station #5	12,681	0	$851	-5.3	($51)	$800
FS5T-1	Fire Station #5 Training Building	2,290	0	$240	-1.2	($12)	$228
LPAB-1	Lincoln Park Auditorium Barn	10,976	57	$1,422	-4.8	($45)	$1,376
LPMP-1	Lincoln Park Moyer Pool	12,053	49	$1,369	-2.5	($23)	$1,346
PA-1	Parks Admin. Building	9,128	0	$852	-4.1	($39)	$813
RC-1	Recycling Center	4,643	0	$486	-0.4	($4)	$482
SC-1	Service Center	65,139	299	$7,613	-27.7	($263)	$7,350
TRC-1	Tiara Rado Clubhouse	15,704	74	$1,910	-6.2	($58)	$1,851
TRM-1	Tiara Rado Maintenance Bldg	1,786	9	$224	-0.8	($8)	$216
TE-1	Transportation Engineering	4,526	0	$387	-1.8	($17)	$370
TRCC-1	Two Rivers Convention Center	99,599	332	$10,182	-43.9	($417)	$9,765
VC-1	Visitors Center	10,289	47	$1,206	-4.0	($38)	$1,168
P-1	Parks (multiple sites)	41,219	0	$3,907	-3.5	($33)	$3,874

4.5 MECHANICAL

The savings calculation methodology for the mechanical improvement measures are noted below.

4.5.1 FIM-18 HIGH EFFICIENCY BOILERS

High efficiency boilers will be installed at the following locations:

- LPMP-18: Lincoln Park Moyer Pool
- FS4-18: Fire Station #4

Calculation Methodology

The annual gas savings for replacing an existing boiler with a new unit was calculated using the following relation:

$$GAS_{svgs} = GasLoad_{pre} \cdot \left(1 - \frac{\eta_{pre}}{\eta_{post}}\right) \qquad \text{Eqn. 4.5.1.1}$$

where:

GAS_{svgs} is the annual gas savings (DTh/yr)

$GasLoad_{pre}$ is the adjusted baseline gas consumption for the existing boiler (DTh/yr)

η_{pre} is the baseline boiler thermal efficiency

η_{post} is the new boiler thermal efficiency.

The gas cost savings were calculated by multiplying the annual gas savings by the applicable gas rate.

The pre and post boiler efficiencies (81% & 97% respectively at the LP Moyer Pool and 80% & 87% at Fire Station #2) were based on manufactures' nameplate data.

The challenge for the FIM-18 savings calculations was obtaining the correct baseline boiler fuel consumption. At the LP Moyer Pool, the baseline boiler gas usage was determined by subtracting the estimated domestic hot water gas use (based upon the water audit) from the annual gas consumption for the site (based upon the utility bills).

At the LP Moyer Pool, the savings will be verified by utility bill comparison as noted under the M&V plan.

The table below summarizes the calculated gas savings associated with this FIM. Refer to Appendix 4 for the detailed savings calculations for both pool boiler replacements.

FIM #	Building	Energy Savings (DTh/yr)	Cost Savings ($/yr)
LPMP-18	LP Moyer Pool	252	$2,169
FS4-18	Fire Station #4	24	$206

4.5.2 FIM-20 Replace Makeup Air Units

New replacement MAUs will be installed at the following locations:

- SC-20: Service Center, 3 ea. MAUs

Calculation Methodology

Except for the two-speed motor on MAU-2 at the Service Center, all of the new MAUs will have premium efficiency fan motors. The electric power reduction for replacing the fan motors was calculated using the following relation:

$$P_{svgs} = P_{pre} \cdot \left(1 - \frac{\eta_{pre}}{\eta_{post}}\right) \qquad \text{Eqn. 4.5.2.1}$$

where:

P_{svgs} is the electrical power reduction (kW)

P_{pre} is the baseline motor load (kW)

η_{pre} is the baseline motor efficiency, and

η_{post} is the new motor efficiency.

The baseline motor load was calculated using:

$$P_{pre} = HP_{motor} \cdot LF \cdot 0.745 \qquad \text{Eqn. 4.5.2.2}$$

where:

HP_{motor} is the motor nameplate horsepower rating,

LF is the baseline motor load factor (assumed 85%), and

0.745 is the conversion factor for kW per HP.

At the Service Center, the design supply air rates will be slightly reduced to provide additional fan energy savings. The table below lists the pre and post design airflow rates. These reduced rates are designed to meet the code required ventilation rates as well as HVAC system heating and cooling loads as noted in the detailed calculations in Appendix 4.

MAU ID	Building	Baseline Cooling CFM	Baseline Heating CFM	Post Cooling CFM	Post Heating CFM
MAU-1	Service Center	30,000	30,000	28,000	28,000
MAU-2	Service Center	30,000	15,000	22,500	15,000
MAU-3*	Service Center	n/a	5,230	3,960	3,960

The fan affinity laws indicate that the fan power is proportional to the cube of the fan speed. A conservative approach, however, was used for estimating fan power reduction due to reduced air flow as follows:

$$BHP_2 = BHP_1 \cdot \left(\frac{CFM_2}{CFM_1} \right)^2 \qquad \text{Eqn. 4.5.2.3}$$

where:

BHP_1 and BHP_2 are the pre and post fan power, and

CFM_1 and CFM_2 are the pre and post supply air rates.

Therefore, to account for the air-flow reductions and the improved fan motor efficiencies at the Service Center, the baseline fan power in Eqn. 4.5.2.1 (P_{pre}) was reduced by Eqn. 4.5.2.3 to account for the total fan power reduction.

Annual demand savings were calculated by multiplying the motor power reduction by the number of months the fan operates per year. Demand cost savings were generated by multiplying the demand savings by the appropriate utility demand rates.

Annual consumption savings were calculated by multiplying the motor power reduction by the number of run hours per year. The consumption cost savings were generated by multiplying the consumption savings by the appropriate utility consumption rates.

The table below lists the MAU operating schedules used in the calculations, which were based on staff interviews.

MAU ID	Building	Run Schedule (hrs/wk)	Run Schedule (months/yr)	Run Schedule (hrs/yr)
MAU-1	Service Center	50	12	2600
MAU-2	Service Center	50 summer	12	1333

		5 winter		
MAU-3*	Service Center	0	0	0

* MAU-3 is currently out of service.

Since MAU-3 at the Service Center is out of service, the energy required to operate the new replacement unit has been applied to the project as an energy increase (i.e. as a penalty).

The agreed to values include the baseline motor efficiencies, MAU operating schedules, pre-installation supply air rates, Eqn. 4.5.2.3 correlation between fan flow and fan power. The post-FIM nameplate motor efficiencies and airflow rates will be field verified under the M&V plan.

The following table summarizes the calculated fan energy savings for replacing the MAUs. Refer to Appendix 4 for the actual calculations.

FIM Number	Building Name	Electrical Energy Savings (kWh/yr)	Electrical Demand Savings (kW/yr)	Energy Cost Savings ($/yr)	Demand Cost Savings ($/yr)	Total Annual Cost Savings ($/yr)
SC-20	Service Center	15,124	30	$815	$456	$1,271

4.5.3 LPAB-21 High Efficiency Furnaces

The existing furnaces at the Lincoln Park Auditorium/Barn building will be replaced with new high efficiency units, resulting in reduced gas consumption for space heating.

Calculation Methodology

The annual gas savings for replacing the existing furnaces with a new units was calculated using the following relation:

$$GAS_{svgs} = GasLoad_{pre} \cdot \left(1 - \frac{\eta_{pre}}{\eta_{post}}\right)$$

where:

GAS_{svgs} is the annual gas savings (DTh/yr)

$GasLoad_{pre}$ is the baseline gas consumption for the existing furnaces (DTh/yr)

η_{pre} is the baseline furnace thermal efficiency

η_{post} is the new furnace thermal efficiency.

The gas cost savings was calculated by multiplying the annual gas savings by the applicable gas rate.

The baseline efficiency was assumed to be 80% for the B-vented furnaces. The post-retrofit efficiency of 95.5% is based on the manufacture's nameplate efficiency for the new condensing furnaces.

The baseline gas consumption for space heating (716.6 DTh/yr) was calculated by subtracting the estimated domestic hot water (DHW) gas usage from the annual gas usage based upon the previous year's utility bills. Here, the DHW gas load was estimated as the average monthly summertime gas use time 12 months per year.

The agreed to values include the baseline heating gas use and the baseline furnace efficiency. The post-FIM nameplate furnace efficiency will be confirmed under the M&V plan in Section 6.

The table below summarized the calculated gas savings associated with this FIM. Refer to Appendix 4 for the detailed savings calculations.

LPAB-21	Gas Savings (DTh/yr)	Gas Cost Savings ($/yr)
High Efficiency Furnaces	116.0	$1,002

4.5.4 FIM-25 Replace Roof Top Units

New replacement RTUs will be installed at the following locations:

- CH-25: City Hall, RTU-3 only.
- PA-25: Parks Admin. Building, RTUs-1 & 2.

CH-25 Calculation Methodology

At the City Hall, the existing 7.5-ton RTU serving the IT Room will be replaced with a 10-ton high efficiency unit. An eQuest building simulation model was created to evaluate this RTU replacement.

Because the area of interest in the simulation model was limited to a small fraction of the building's total cooling load, a whole building model was not generated nor was the model calibrated based on building utility history. Rather, the simulation model only included the single zone IT Room. Since this room is located in the core of the top floor of the building, the walls and floors were modeled as adiabatic while the roof was modeled as the only component of the envelope with outdoor exposure. As such, the internal gains from the room were determined to be the primary factor driving the zone load and special attention was given to determine their value.

The internal loads in the IT room were determined using two methods. First, logged RTU temperature data from a period of over 18 days was used to used to determine the cooling load on the unit using the following relation:

$$Q_{cool} = \frac{1.08 \cdot CFM \cdot \Delta T}{12{,}000}$$

where:

Q_{cool} is the RTU coil load (tons)

CFM is the supply airflow rate of 3,500 cfm from the mechanical drawings,

1.08 is the convective heat transfer factor for air

12,000 is the conversion for Btu/hr per ton AC, and

ΔT is the temperature drop across the cooling coil, or the mixed air temperature minus the supply air temp.

The average RTU coil load based on the logged data was found to be 3.9 tons.

Instantaneous power data from the UPS system (see appendix) was obtained from Mr. Richard White Sr., the city Systems Support Supervisor, to help validate the internal gains used for modeling purposes. Assuming all energy supplied to the UPS system (located inside the server room) is eventually dissipated as heat, the implied gain was found to be 4.3 tons. Because the UPS load is known to vary, the 3.9 ton load value calculated from the loggers was determined a conservative average gain value which was then applied to the eQuest model.

Savings were calculated by applying two changes to the simulation model. First the RTU EER was increased from the baseline of 9.0 to 11.5. Second, an economizer was added for the new RTU. The capacity of the RTU was not changed in the model, nor was the internal gain increased. The city has requested a larger RTU to accommodate future server load growth. However, they have agreed with JCI that the savings calculations should neglect future increased in server loads.

PA-25 Calculation Methodology

Energy Savings will be obtained from an increase in efficiency in the new cooling equipment. Savings calculations are outlined as follows:

Energy usage savings = [Existing operating hours*Existing cooling load*existing RTU efficiency ($kW/Ton_{Existing}$)]- [Proposed operating

hours*Proposed cooling load*Proposed RTU efficiency (kW/Ton_{Future})]

Energy cost savings = energy usage savings * energy unit cost

Where

$kW/Ton_{Existing}$ = Based upon Equipment Installation and Operation Manuals table for equipment energy use, or name plate energy component energy draw information such as EER or SEER

kW/Ton_{Future} = Based upon Equipment manufacture certified equipment rating information at the elevation of installation such as EER or SEER

In the usage savings calculations, the operating hours and unit cost of energy are equivalent for existing condensing units. Operating hours are TMY2-based BIN data for the combined hours of the building's occupied periods and allows for the associated RTU's economizing mode operation. No natural gas combustion efficiency improvement is included in the calculations. The unit cost of electricity is based on the Xcel's C Energy rate. The cooling load is equal to the condensing unit's full-load output. Since this rate schedule has no demand component, there are no demand savings.

The agreed upon values include the baseline RTU (S)EER efficiencies, the City Hall server room internal gain, and the correlation between outdoor air temperature and RTU loading at the Parks Admin. Building. Post-installation RTU nameplate efficiencies will be verified under the M&V plan.

The following table summarizes the calculated energy savings for replacing the RTU. Refer to Appendix 4 for the detailed calculations.

FIM Number	Building Name	Electrical Energy Savings (kWh/yr)	Electrical Demand Savings (kW/yr)	Energy Cost Savings ($/yr)	Demand Cost Savings ($/yr)	Total Annual Cost Savings ($/yr)
CH-25	City Hall	19,826	28	$1,068	$414	$1,482
PA-25	Parks Admin.	1,518	0	$255	$0	$255

4.6 POOL

The savings calculation methodology for the pool improvement measures are noted below.

4.6.1 FIM-39 LIQUID POOL COVERS

Heatsavr™ liquid pool cover systems will be utilized at the following locations to reduce the boiler load associated with surface evaporation:

- LPMP-39: Lincoln Park Moyer Pool

Calculation Methodology

Annual gas savings were estimated using the following relation:

$$Gas\_Svgs = \frac{A_{pool} \cdot 2{,}298(Btu/sf/day) \cdot DPY \cdot \%Saved}{10^6(btu/DTh)}$$

where:

Gas_Svgs is the Annual Gas Savings (DTh/yr),

A_{pool} is the pool surface area (ft²),

DPY is the number of days per year the pool is heated,

$\%Saved$ is the percentage of gas savings achieved using Heatsavr,

Manufacturer's literature suggests that the percentage of heat saved ranges between 16.2% and 40% with an average savings of 25%. The percentage of gas savings used in the above calculation was 18%.

The value 2,298 (btu/ft²/day) is the daily boiler gas load per unit area based on a case study of a 1,200 square foot indoor pool with 82% efficient boiler.

Pool areas of 5,790 ft² and 14,740 ft² for the Orchard Mesa and Lincoln Park Moyer pools respectively, are based on site surveys.

Individual pool schedules were used to get the days per year each pool was heated. The Orchard Mesa Pool is heated year round (365 days/yr) and the Lincoln Park Moyer pool is heater 101 days per year.

The annual cost of Heatsavr was calculated as:

$$ACC = \frac{Cost_{oz} \cdot A_{pool} \cdot DPY}{400\left(\frac{oz}{ft^2 \cdot day}\right)}$$

where:

ACC is the Annual Chemical Cost of Heatsavr ($/yr),

$Cost_{oz}$ is the Heatsavr cost per fluid ounce ($/oz), and

the constant *1/400* is based on the chemical usage rate of one ounce of Heatsvr is required per 400 ft² of pool area per day (oz/(ft²*day)).

The cost of Heatsavr used in the above calculation is $.357/oz, based on a bulk purchase of the annual chemical requirement for both pools at $200/case. Without the volume discount, the cost of Heatsavr is $270/case.

Gas cost savings were calculated as the product of the gas savings and the site gas rate. The annual savings for the liquid pool cover system was calculated as the gas cost savings less the annual cost of the Heatsavr chemical.

At the LP Moyer Pool, the savings will be verified by utility bill comparison and noted in the M&V plan.

The table below summarizes the gas cost savings for this measure. See Appendix 7 for the actual calculations.

FIM Number	Building Name	Gas Energy Savings (dTh/yr)	Gas Cost Savings ($/yr)
LPMP-39	Lincoln Park Moyer Pool	566.8	$3,659

4.7 SOLAR

The savings calculation methodology for the solar improvement measures are presented below.

4.7.1 FIM-37 PHOTOVOLTAIC SYSTEMS

Grid-tied solar photovoltaic (PV) systems will be installed at the following locations:

- TRCC-37: Two Rivers Convention Center, 5 kW window awing plus 10 kW ballasted array on flat roof.
- VC-37: Visitors Center, 5 kW array on pitched roof.

Utility Incentives

The electric utility, Xcel Energy, provides PV system incentives in the form of A) rebates and B) renewable energy credits (RECs). The PV rebate program provides a one-time payment of $2.00 per rated watt of installed array capacity, regardless of system size. The REC program however is dependent on system size.

The proposed array at the Visitors Center is considered a "small system" (10kW and smaller) where the REC is a one time payment of $1.50 per rated watt of installed array capacity. The proposed array at the Convention Center is considered a "medium system" (between 10kW and 100kW) where the REC is a monthly production credit of $115 per MWh of AC system output over a 20 year term.

For both PV system locations, the $2.00/watt rebate is credited to the project as a one-time rebate. For the one-time REC payment on the small array at the Visitor's Center, the $1.50/watt incentive is also credited to the project as a one time rebate. At the Convention Center, the $115/MWh REC payment for the medium sized system is credited to the project as annual utility savings over the 15 year project term. The PV savings summary tables below also illustrate how the utility incentives for the PV systems have been applied to the project business case analysis.

Calculation of PV System Output

Because the PV systems will be net metered systems, the energy savings at both locations were assessed by estimating the AC energy production of the PV arrays and reducing the billed kWh to each building by the same amount. The energy output for each array was estimated using the *PV Watts* program which was developed by the National Renewable Energy Lab and is available online at http://rredc.nrel.gov/solar/codes_algs/PVWATTS.

The PV Watts program calculates the electrical energy produced for grid-tied PV systems based on the following parameters.

- Weather and solar resource data for the system site
- Nominal DC capacity of the array
- DC to AC derate factor
- Array Type (tracking or fixed)
- Array Orientation

Both PV system models utilized Grand Junction weather data for the project location, the program default of 77% for the DC to AC derate factor, and a fixed (non-tracking) array.

At the Visitors center, the 5.1 kW array will be mounted on a pitched roof with an elevation angle of 16.3 degrees above the horizon and an azimuth angle of 194 degrees (slightly West of South).

There are two sub-arrays at the TRCC. Both were modeled independently in PV Watts to account for differences in system size and orientation. The window awning sub-array will consist of 5.1 kW system mounted at 50 degrees above the horizon and an azimuth angle of 180 degrees (due South). The ballasted sub-array located on the flat roof will consist of a 10.1 kW system mounted at 30 degrees above the horizon and an azimuth angle of 180 degrees.

The agreed upon values include the location (weather data) and DC to AC derate factors. The installed array capacities and fixed array orientations will be verified under the M&V plan. Please refer to Appendix 6 for the detailed calculations.

TRCC-37 PV System	Awning	Roof	Total	units
Array Size	5,070	10,140	15,210	watts
Rebate @ $2/watt	$ 10,140	$ 20,280	$ 30,420	$
one-time REC payment	$ -	$ -	$ -	$
Total of one-time credits	$ 10,140	$ 20,280	$ 30,420	$
Annual AC Production	7,571	15,454	23,025	kWh/yr
Elec. Bill Savings	$ 409	$ 835	$ 1,243	$/yr
Annual REC payment	$ 871	$ 1,777	$ 2,645	$/yr
Total Annual Utility Savings	$ 1,279	$ 2,612	$ 3,888	$/yr

VC-37 PV System	Total	units
Array Size	5,070	watts
Rebate @ $2/watt	$ 10,140	$
one-time REC payment	$ 7,605	$
Total of one-time credits	$ 17,745	$
Annual AC Production	7,332	kWh/yr
Elec. Bill Savings	$ 395	$/yr
Annual REC payment	$ -	$/yr
Total Annual Utility Savings	$ 395	$/yr

4.8 WATER CONSERVATION

The savings calculation methodology for the water conservation improvement measures are noted below. See Appendix 8 for the detailed water conservation savings calculations.

4.8.1 FIM-28 ICE MACHINE RETROFITS

Ice machines at the following locations will be retrofitted with Maximicer heat exchangers to pre-cool incoming water to reducing cooling load and improve ice maker performance:

- TRC-28: Tiara Rado Clubhouse
- TRCC-28: Two Rivers Convention Center

Calculation Methodology

By pre-cooling the incoming water supply with the existing chilled water discharge, the refrigeration time, and thus electrical energy consumed, is lowered. The reduced energy usage is based on manufacturer supplied savings range specific to the make and model of the existing ice machines. The electrical energy savings was calculated as:

$$kWh\_Svgs = Ice_{day} \cdot kW_{lb} \cdot SF \cdot 365\frac{days}{yr} \cdot \%Saved$$

where:

kWh_Svgs is the Annual Electrical consumption savings (kWh/yr),

Ice_{day} is the ice machine's daily production capacity (1000 lbs/day)

kW_{lb} is the machine's energy consumption rate per pound of ice produced(.417 kW/lb_{ice}),

SF is the machine's service factor or average run-time percentage (40%), and

$\%Saved$ is the percentage of run-time savings achieved using Maximicer product based on manufacture's literature (18%).

The agreed upon values include the ice machine production capacity, consumption rate, service factor, and run-time savings percentage.

The electrical cost savings was calculated as the product of the consumption savings and the consumption rate. See Appendix 8 (FIM-40) for the detailed calculations.

The table below summarizes the calculated savings for this FIM.

FIM Number	Building Name	Electric Energy Savings (kWh/yr)	Electric Cost Savings ($/yr)
TRC-28	Tiara Rado Clubhouse	4,205	$227
TRCC-28	Two Rivers Convention Center	8,410	$453

4.8.2 FIM-40 Water Conservation-Low Flow Fixtures

Low flow plumbing fixtures will be installed at the following locations:

- CV-40: Canyon View Maintenance Building
- FS3-40: Fire Station #3
- FS4-40: Fire Station #4
- FS5-40: Fire Station #5
- FS5T-40: Fire Station #5 Training Building
- LPAB-40: Lincoln Park Auditorium Barn
- LPMP-40: Lincoln Park Moyer Pool
- PA-40: Parks Admin. Building
- RC-40: Recycling Center
- SC-40: Service Center
- TTRCC-40: Two Rivers Convention Center
- TRC-40: Tiara Rado Clubhouse
- TE-40: Transportation Engineering
- VC-40: Visitors Center

Calculation Methodology-Restrooms

Restroom fixtures were sampled for existing flow volumes stated either in gallons per flush (GPF) or gallons per minute (GPM). GPF data was collected by either measuring actual flow volume per flush for toilets and urinals, timing flushing events, or utilizing manufacturer

specifications on fixtures appearing to be in good working condition. GPM data on existing faucets and showerheads was collected by via flow bag measurements of sampled fixtures.

Baseline annual water usage amounts were determined by multiplying building population times EPA standard usage rates per days of annual occupancy per fixture type times existing GPF and GPM averages.

Projected water usage amounts were derived utilizing same calculations noted above with the exception of substituting existing GPF and GPM averages with new averages based on installing more efficient fixtures.

Projected annual savings is difference between baseline and projected annual water usages.

The agreed to values include the pre-retrofit fixture flow rates, and the usage rates per person per day. The post-retrofit fixture flow rates will be verified as noted in the M&V plan.

Calculation Methodology-Hot Water

Hot Water Heating Savings – projected annual savings of water utilized in faucets and showers assumes a 35% hot water component. Based on that conservative assumption the amount of hot water gallons savings can be calculated as the difference in Baseline and Projected hot water gallon usage.

Gas Savings are calculated from the annual gallons of hot water saved utilizing an equation which determines number of therms required to raise the water temperature from 65 to 130 degrees with a 78 percent heating efficiency.

The agreed to values include the pre-retrofit fixture flow rates, the usage rates per person per day, the fraction of hot water used per fixture, the DHW temperature rise, and the water heater efficiency. The post-retrofit fixture flow rates will be verified as noted in the M&V plan.

The table below summarizes the calculated savings for this FIM.

FIM Number	Building Name	Gas Savings (DTh/yr)	Gas Cost Savings ($/yr)	Water Savings (kgal/yr)	Water Cost Savings ($/yr)	Total Annual Cost Savings ($/yr)
CV-40	Canyon View Maint. Bldg	256 (kWh/yr)	$14	4.7	$11	$25
FS3-40	Fire Station #3	1.4	$14	18.0	$44	$58
FS4-40	Fire Station #4	0.1	$9	58.9	$143	$152
FS5-40	Fire Station #5	11.2	$96	46.4	$113	$209
FS5T-40	Fire Station #5 Training Building	Included in FS5-40 savings above				
LPAB-40	LP Auditorium/Barn	6.3	$54	26.0	$63	$117
LPMP-40	LP Moyer Pool	5.1	$44	182.6	$443	$487
PA-40	Parks Admin Office	1.5	$13	22.8	$55	$68
RC-40	Recycling Center	2.1	$18	8.7	$21	$39
SC-40	Service Center	8.9	$76	95.7	$232	$308
TRC-40	Tiara Rado Clubhouse	7.1	$61	178.3	$433	$494
TE-40	Transportation Eng.	1.5	$13	6.2	$15	$28
TRCC-40	Two Rivers Conv. Center	11.2	$97	34.3	$83	$180
VC-40	Visitors Center	2.1	$18	10.7	$26	$44

5 ANNUAL SAVINGS ESTIMATES.

The table below presents the estimated energy and cost savings expected to be realized for all FIMs each year of the contract performance period. Cost savings values are escalated annually beginning in Year 2 at a rate of 2.7%.

Year	Annual Energy Savings	Annual Operational Savings	Total Annual Savings
Installation	$0	$0	
1	$74,307	$10,098	$84,405
2	$76,313	$10,371	$86,684
3	$78,373	$10,651	$89,024
4	$80,489	$0	$80,489
5	$82,663	$0	$82,663
6	$84,895	$0	$84,895
7	$87,187	$0	$87,187
8	$89,541	$0	$89,541
9	$91,958	$0	$91,958
10	$94,441	$0	$94,441
11	$96,991	$0	$96,991
12	$99,610	$0	$99,610
13	$102,299	$0	$102,299
14	$105,061	$0	$105,061
15	$107,898	$0	$107,898
16	$0	$0	$0
17	$0	$0	$0
18	$0	$0	$0
19	$0	$0	$0
20	$0	$0	$0
Totals	$1,352,026	$31,119	$1,383,146

ALLOWED SAVINGS

The City of Grand Junction has directed Johnson Controls to draw savings from the following sources

- Electrical Energy and Demand
- Natural Gas Energy
- Water
- Material Spend Reduction Savings

No other savings streams were included in this project.

5.1 PERCENT COST-AVOIDANCE PROJECTED.

The cost avoided amount identified by the City of Grand Junction to this point for this project is approximately $419,000. Several capital improvement measures (FIM-25 RTU replacements, FS#4 Boiler Replacement, and FIM-20 MAU replacements) take credit for avoided capital costs in the business case analysis. The City will consider increasing their down payment to the project for capital equipment improvements.

Please reference Table 5.3.1 column "Sum of Avoided Capital" for cost avoided amounts identified per FIM type. For individual cost avoided amounts identified by FIM reference Section 5.4.

Table 5.3.1 Summary Measures including Cost and Savings

FIM Type	Sum of Utility Save	Sum of O&M Save	Sum of Avoid Cap	Sum of Total Rebate	Sum of Const. Cost
Controls	$ 1,117	$ -	$ -	$ -	$ 8,737
Education	$ -	$ -	$ -	$ -	$ 25,300
Electrical	$ 2,142	$ -	$ -	$ 1,750	$ 17,193
Envelope	$ 16,586	$ -	$ -	$ -	$ 247,285
Lighting	$ 39,916	$ 10,098	$ -	$ 44,337	$ 496,858
Mechanical	$ 4,841	$ -	$ 129,132	$ 4,750	$ 237,496
Mechanical MAUs*	$ 1,144	$ -	$ 290,404	$ -	$ 290,404
Pool	$ 2,744	$ -	$ -	$ -	$ 5,194
Solar	$ 3,855	$ -	$ -	$ 48,165	$ 212,060
Water Conservation	$ 1,963	$ -	$ -	$ -	$ 28,210
Other Project Costs**	$ -	$ -	$ -	$ -	$ 477,607
Grand Total	**$ 74,307**	**$ 10,098**	**$ 419,536**	**$ 99,002**	**$ 2,046,342**

* The construction costs for MAU replacemnts are loaded with the project implementaton costs associated with this FIM.

** This is the total of other project implementaton costs that apply to all FIMs except MAU replacements

5.2 DESCRIPTION AND CALCULATIONS FOR ANY PROPOSED RATE CHANGES.

All FIM's considered did not warrant rate change consideration. Therefore no calculations for any proposed rate changes are included.

5.3 EXPLANATION OF HOW SAVINGS INTERACTIONS BETWEEN RETROFIT OPTIONS ARE ACCOUNTED FOR IN CALCULATIONS.

Lighting Interactions

Savings calculations for the lighting FIM's consider the effects of reduced lighting loads on the buildings' HVAC systems. Energy usage savings are apportioned to either heating (penalty) or cooling (savings) by multiplying the energy usage savings by the number months of heating or cooling and dividing by twelve months in a year. The amount of heat from the fixtures that contributes to space heating/cooling loads is assumed to be 80% per ASHRAE recommendations. Finally, the heating penalty is calculated by multiplying the heating portion by the appropriate conversion factors and dividing by the heating plant efficiency. Likewise, the cooling savings (in kWh) is calculated by multiplying the cooling portion by the appropriate conversion factors and multiplying by the cooling plant efficiency in kW/ton. Lighting use is assumed not to experience seasonal variations. The lighting effects on the HVAC systems are calculated as follows:

Heating Penalty (DTh) = #months htg/12 * lighting savings (kWh) * 80% * 3413(btu/kWh) / 10^6(btu/DTh) / heating plant efficiency (%)

Cooling Penalty (kWh) = #months cooling/12 * lighting savings (kWh) * 80% * 3413(btu/kWh) / 12000(btu/ton) * cooling plant efficiency (kW/ton)

Pool Boiler Load Interactions

Both the liquid pool covers (FIM-39) and the boiler replacements (FIM-18) at both pools will reduce the boiler gas usage. To account for interaction between these two measures, the baseline boiler loads in the FIM-18 calculations were reduced by the gas savings achieved from the liquid covers before the increased boiler efficiencies were applied. In this manner, the gas savings from theses to improvement measures were not double counted.

5.4 Operation and Maintenance Savings

The operation and maintenance savings details are presented below. Maintenance savings are only applied in the applicable years and only during the lifetime of the particular equipment.

FIM-25 RTU Replacements:

Currently, no O&M Savings have been credited to the project for the RTU replacements at the at City Hall or Parks Administration buildings.

FIM-20 MAU Replacements:

Currently, no O&M Savings have been credited to the project for the MAU replacements at the Locker Rooms or Service Center buildings.

FIM-1 Lighting Retrofits:

The Lighting retrofit program will provide all new lamps and ballasts replacing old equipment. As such the need for replacement of lamps and ballasts will be deferred for several years. The avoided cost of purchasing replacement lamps and ballast will be saved. Labor savings is not included. As part of the lighting savings calculation, the annual average lighting material savings is captured for the first three years of the 15 year contract term. The average annual amount of material replacement cost avoided is included and is estimated at $13,357 per year. Please refer to Appendix 2 for further considerations of lighting maintenance cost savings.

5.5 COMPUTER SIMULATIONS

An eQuest computer simulation was generated for FIM CH-25, the replacement of RTU-3 at the City Hall. See section 4.5.4 in this chapter for a description of the model and state key input data. See Appendix 4 for a summary of the simulation results.

If requested by the City of Grand Junction or the State of Colorado Governor's Energy Office, access will be provided to the program and all assumptions and inputs used, and/or printouts will be provided of all input files and important output files and included in the Technical Energy Audit with documentation that explains how the final savings figures are derived from the simulation program output printouts.

5.6 MANUAL CALCULATIONS

Formula's, assumptions, and key data are listed and included by individual FIM type in section 4 of this chapter entitled "Savings Estimates including analysis methodology, supporting calculations and assumptions used".

6 CONCLUSIONS AND OBSERVATIONS.

The energy conservation measures captured within the Technical Energy Audit are recommended for installation by Johnson Controls

6) MEASUREMENT & VERIFICATION PLAN

Preliminary measurement and verification plan, following the International Performance Measurement and Verification Protocol (IPMVP), explaining how savings from each measure is to be measured and verified (stipulated by Contract, utility bill analysis, end-use measurement and calculation). The preliminary measurement and verification plan shall follow the format provided in the Measurement and Verification for Energy Performance Contracts through Rebuild Colorado, Exhibit C

1 MEASUREMENT & VERIFICATION PLAN PROCEDURES

Following are JCI's recommended Measurement and Verification Plans for the various recommended improvements proposed with this report.

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
Envelope	CV-33, CH-33, EL-33, FO-33, FE-33, FS3-33, FS4-33, FS5-33, FS5T-33, LR-33, LPAB-33, PA-33, RC-33, SC-33, TRC-33, TRM-33, TE-33, TRCC-33, VC-33, TRCC-34	Calculated	Spreadsheet calculations were created for the affected buildings using detailed survey information and site utility meter data. Documented through installation customer sign-offs and further supported through photographs, the newly installed improvement measure will undergo a limited Post-Installation exercise. Supplier-provided performance data will be reviewed and visual confirmation will be performed to verify that the newly installed measure meets or exceeds the performance goals set forth herein. Results of these operational observations will be summarized in the Post-Installation Report. Project benefit calculations will not be updated provided that these initial observations demonstrate proper and intended implementation. Based on verified observation of optimal and/or intended implementation, the project benefit values derived from calculations used to quantify the expected FIM-specific project benefits will be stipulated for the entire duration of the Performance Contract and will be restated in all reports Unless otherwise agreed to in writing, if a newly installed component intended to augment the building envelope is not permitted to perform as intended due to undesirable conditions that it creates or as a result of occupant changes to the improvement's performance, the annual ECM-specific cost savings amounts as outlined in this document shall be deemed achieved. Furthermore, these savings shall be stipulated for the duration of the performance contract and restated in all Performance Period Reports. If for any other reason, the improvement is observed not to be performing as intended during the initial Post-Installation inspection, necessary adjustments will be made to the improvement's installed condition and the savings calculations will be modified to reflect the resulting installed conditions. The modified savings amounts will be provided in the

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			Post-Installation Report.
Lighting	CV-1, CH-1, EL-1, FO-1, FE-1, FS3-1, FS4-1, FS5-1, FS5T-1, LPAB-1, LPMP-1, PA-1, RC-1, SC-1, TRC-1, TRM-1, TE-1, TRCC-1, VC-1, P-1	A – One-Time Installation Verification	Spreadsheet calculations based upon a comprehensive lighting fixture inventory and recorded operating hours of representative usage groups were created in determining the expected project benefits likely to result from a comprehensive lighting retrofit. For both the pre and proposed post-installation condition, fixture electrical demand (kW) values based upon Xcel Energy designated wattages via its 2004 published lighting study were used in establishing the expected project benefit results. The lighting systems will undergo a limited Post-Installation verification process, in which the subcontractor supplied as-built lighting replacement schedule will be used to update the proposed fixture/bulb replacement spreadsheet contained herein with regard to fixture type and quantity. The pre and post-installation lighting burn hours, as supported by previously recorded operation, will remain as identified during the Pre-Installation lighting audit. Fixture wattages will be updated with values consistent with those reported in the 2004 Xcel Energy study for use in its Lighting Efficiency rebate application. The lighting spreadsheet calculated project benefits refined through this post-installation validation activity will represent the final Post-Installation project benefits, prorated based on the installation schedule reported. Details of these updated lighting calculations and resulting project benefits will be documented in the Post-Installation Report. After submission and mutual acceptance of the Post-Installation Report, no further measurement or verification activities will take place, nor will modified or updated spreadsheet calculations be documented in future reports. The annual equivalent of project benefit values documented in the Post-Installation Report will be stipulated for the remaining duration of the Performance Period and restated in future reports.
Time Of Use Controls	CV-8, FS5T-8, TRC-8, TRC-10, TRM-8	A – Periodic Spot Observation	Spreadsheet calculations were created for the affected equipment using detailed survey data, existing plant logs, instantaneous mechanical equipment metering, short-term temporary data loggers, and site utility meter data. The newly installed equipment will undergo a comprehensive Post-Installation commissioning process. Manufacturer-provided performance data will be reviewed; control algorithms, schedules and set points will be verified; and operational tests will performed to ensure that the new equipment and programming meets or exceeds the performance goals set forth herein. Savings calculations will not be updated provided that these initial observations demonstrate proper equipment operation. Provided that proper operation is initially demonstrated, the associated annual FIM-specific project benefit amounts will be stipulated for the entire duration of the

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			Performance Contract and will be restated in all reports. Results of these visual and operational observations will be summarized in the Post-Installation Report. Unless otherwise agreed to in writing, if the newly installed equipment is not permitted to operate as intended due to undesirable conditions that it creates or as a result of occupant changes and/or overrides to the equipment's operation, the annual estimated FIM-specific cost savings amounts as outlined in this document shall be deemed achieved. Furthermore, these savings shall be stipulated for the duration of the performance contract and restated in all Performance Period Reports. If for any other reason, the equipment is observed not to be performing as intended during the initial Post-Installation inspection, necessary adjustments will be made to equipment operation and the project benefit calculations will be modified to reflect the resulting installed conditions. The modified project benefit amounts will be provided in the Post-Installation Report. Other than annual visual observation of the performance aspects described herein, ongoing measurement and verification activities will not be performed beyond the initial installation and commissioning procedures described. Nonetheless, where feasible, via customer supplied single 1-week trends of points monitored for and reported on in the Post-Installation Report, performance will be reviewed annually to ensure that the equipment and control sequences are operating as intended. The physical condition of the installed equipment will also be visually inspected annually. The findings of the review will be reported in the Annual Report. Regardless of the nature of any observed improper or deficient operation, if the equipment or its controls fail to perform as intended or changes have been made that adversely affect the expected project benefits, remedies to minimize the potential for lost benefits will be proposed in each annual report.
Mechanical – Ongoing Measure	CH-16	A – 1-Year Continuous Data Collection	Spreadsheet calculations were created for the affected equipment using detailed survey data, existing plant logs, instantaneous mechanical equipment metering, short-term temporary data loggers, and site utility meter data. The newly installed equipment will undergo a comprehensive Post-Installation commissioning process. Manufacturer-provided performance data will be reviewed; control algorithms, schedules and set points will be verified; and operational tests will performed to ensure that the new equipment and programming meets or exceeds the performance goals set forth herein. Visual verification of performance supported by customer sign-off acceptance will constitute the full extent of Post-Installation performance and project benefit validation. Results of these operational observations will be summarized in the Post-Installation Report.

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			Unless otherwise agreed to in writing, if the newly installed equipment is not permitted to operate as intended due to undesirable conditions that it creates or as a result of occupant changes and/or overrides to the equipment's operation, the annual estimated FIM-specific project benefit amounts as outlined in this document shall be deemed achieved. Furthermore, these project benefits shall be stipulated for the duration of the performance contract and restated in all Performance Period Reports. Corresponding with the beginning of Year 1 of the Performance Period, six distinct spot measurements of motor kW taken at different VFD speeds ranging from 30% to 100% full speed will be gathered using a Fluke kW meter to develop a performance curve representative of VFD operation. VFD speed and outside air temperature (OA-T) data recorded every 15 minutes and continuously logged within the customer maintained DDC system database will be gathered simultaneously over a period of 1-year. The speed data correlated with the previously developed performance curve will be used to derive the VFD's annual kW consumption. The comparison between the calculated baseline consumption and the trend derived VFD consumption will represent the Year 1 verified project benefits. Annual FIM-specific project benefit amounts verified in Year 1 will be stipulated for the entire duration of the Performance Contract and will be restated in all reports. The project benefits derived and reported in Year 1 to be restated in all future Performance Period reports will increase at a rate consistent with the corresponding annual escalation factor. Following Year 1, other than visual observation performed once annually of VFD controllability, ongoing measurement and verification activities will not be performed. Specifically, via a customer supplied single 1-week trend of points monitored for and reported on in the Year 1 Report, performance will be reviewed annually to ensure that the VFD and control sequences are operating as intended. The physical condition of the installed equipment will also be visually inspected annually. The findings of the review will be reported in the Annual Report. Regardless of the nature of any observed improper or deficient operation, if the equipment or its controls fail to perform as intended or changes have been made that adversely affect the expected benefits, remedies to minimize the potential for lost savings will be proposed in each annual report.
Mechanical – Spot Measure	FS4-18	A – One-Time Spot Measurement	Spreadsheet calculations were created for the affected equipment using detailed survey data, existing plant logs, instantaneous mechanical equipment metering, short-term temporary data loggers, and site utility meter data. The newly installed equipment will undergo a comprehensive Post-Installation commissioning process. Manufacturer-provided performance data will be reviewed; control algorithms, schedules and

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			set points will be verified; and operational tests will performed to ensure that the new equipment and programming meets or exceeds the performance goals set forth herein. Results of a one-time Post-Installation combustion analysis taken of the flue gas exhausted shall be compared to the manufacturer-stated combustion efficiencies. Project benefit calculations will be updated with the system efficiency values arrived at via the manufacturers published or stated opinion regarding its correlation to measured combustion efficiency values. This updated calculation will be reported in the Post-Installation Report. Furthermore, the calculated BIM-specific project benefit amounts will be stipulated for the entire duration of the Performance Contract and will be restated in all reports. Other than annual visual observation of the performance aspects described below, ongoing measurement and verification activities will not be performed beyond the initial installation and commissioning procedures described. The physical condition of the installed equipment will be visually inspected and the findings will be reported annually.
Mechanical – Observe	CH-25, LPAB-21, PA-25	A – One-Time Spot Observation	Spreadsheet calculations were created for the affected equipment using site survey data, short-term temporary data loggers, and site utility meter data. The newly installed mechanical equipment will undergo a limited Post-Installation commissioning process. Manufacturer-provided performance data will be reviewed and compared to installed nameplate information to ensure that the new equipment meets or exceeds the performance goals set forth herein. Supported with photographs, results of these observations will be summarized in the Post-Installation Report. The means by which this equipment produces its expected project benefits is straightforward and subject to minimal operational risk. Additionally, direct operational performance cannot be cost effectively measured. Therefore, ongoing measurement and verification will not be performed beyond the initial observations described. Subject to the city's approved sign-off of proper implementation of the installed equipment, the estimated project benefit values set forth herein will be stipulated for the duration of the Performance Period and will be restated in all reports. Unless otherwise agreed to in writing, if the newly installed equipment is not permitted to operate as intended due to undesirable conditions that it creates or as a result of occupant changes and/or overrides to the equipment's operation, the annual FIM-specific project benefit amounts as outlined in this document shall be deemed achieved. Furthermore, these savings shall be stipulated for the duration of the performance contract and restated in all Performance

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			Period Reports. If for any other reason, the equipment is observed not to be performing as intended during the initial Post-Installation inspection, necessary adjustments will be made to equipment operation and the project benefit calculations will be modified to reflect the resulting installed conditions. The modified project benefit amounts will be provided in the Post-Installation Report.
Misc. Electrical - Observe	CH-17, CH-24, FE-24, TE-24, TRC-28, TRCC-28	Calculated	Spreadsheet calculations were created for the affected equipment using site survey data, short-term temporary data loggers, and site utility meter data. The newly installed energy recovery/timers/vending controls will undergo a comprehensive Post-Installation commissioning process. Manufacturer-provided performance data will be reviewed and operational tests will performed to ensure that the new equipment meets or exceeds the performance goals set forth herein. Operational tests will be performed during unoccupied periods to ensure the intended mode of operation during such times is apparent. Results of the operational observations will be summarized in the Post-Installation Report. The means by which this equipment produces its expected project benefits is straightforward and subject to minimal operational risk. Additionally, direct operational performance cannot be cost effectively measured. Therefore, ongoing measurement and verification will not be performed beyond the initial installation and commissioning procedures described. Subject to the city's approved sign-off of the proper initial operation of the installed equipment, the estimated project benefit values set forth herein will be stipulated for the duration of the Performance Period and will be restated in all reports. Unless otherwise agreed to in writing, if the newly installed equipment is not permitted to operate as intended due to undesirable conditions that it creates or as a result of occupant changes and/or overrides to the equipment's operation, the annual FIM-specific project benefit amounts as outlined in this document shall be deemed achieved. Furthermore, these savings shall be stipulated for the duration of the performance contract and restated in all Performance Period Reports. If for any other reason, the equipment is observed not to be performing as intended during the initial Post-Installation inspection, necessary adjustments will be made to equipment operation and the project benefit calculations will be modified to reflect the resulting installed conditions. The modified project benefit amounts will be provided in the Post-Installation Report.
Water Conserve	FS4-40, FS5-40, FS5T-40, LPAB-	A – One-Time Sample Spot Measurement	Spreadsheet calculations based upon a comprehensive fixture inventory and industry standard usage patterns were created in determining the expected project benefits likely to result from a comprehensive water fixture retrofit. Restroom fixtures were

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
	40, LPMP-40, PA-40, RC-40, SC-40, TRC-40, TE-40, TRCC-40, VC-40		sampled for existing flow volumes stated either in gallons per flush (GPF) or gallons per minute (GPM). GPF data was collected by either measuring actual flow volume per flush for toilets and urinals, timing flushing events, or utilizing manufacturer specifications on fixtures appearing to be in good working condition. GPM data on existing faucets and showerheads was collected by via flow bag measurements of sampled fixtures. Current annual water usage amounts were determined by multiplying building population times EPA standard usage rates per days of annual occupancy per fixture type times existing GPF and GPM averages Water fixtures will undergo a limited Post-Installation measurement and verification process, in which the subcontractor will flow test 5% of toilet and urinal valves utilizing a flush "bucket" test method or a T5 measurement gun. This test utilizes a 5 gallon bucket specifically marked for the gallons of water it will capture. The existing flush valve is removed from the china and flushed into the bucket to measure gallons per flush. The subcontractor will flow test 5% of faucet utilizing a time flow bag. This test consists of measuring the faucet flow based on time with a measured flow bag marked for gallons per minute. Additionally, the subcontractor supplied as-built fixture replacement schedule will be used to update the proposed fixture replacement spreadsheet contained herein with regard to fixture type and quantity. The pre and post-installation occupancy hours and usage patterns, as supported by previously recorded use, will remain as identified during the Pre-Installation fixture audit. The water conservation spreadsheet calculated project benefits refined through this post-installation validation activity will represent the final Post-Installation project benefits, prorated based on the installation schedule reported. Details of these updated water conservation calculations and resulting project benefits will be documented in the Post-Installation Report. After submission and mutual acceptance of the Post-Installation Report, no further measurement or verification activities will take place, nor will modified or updated spreadsheet calculations be documented in future reports. The annual equivalent of project benefit values documented in the Post-Installation Report will be stipulated for the remaining duration of the Performance Period and restated in future reports.
Solar – Observed Verification	VC-37	A – Periodic Spot Observation	Detailed site survey and utility meter data was incorporated into an industry standard PV equipment design and development software program, to produce calculations and derive the expected project benefits for the proposed equipment. The newly installed equipment will undergo a limited Post-Installation verification process. Manufacturer-provided performance data will be reviewed and operational tests will performed to ensure that the new equipment meets or exceeds the performance goals set

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			forth herein. Project benefit calculations will not be updated provided that these initial observations demonstrate proper equipment operation. Provided that proper operation is initially demonstrated, the associated annual FIM-specific project benefit amounts will be stipulated for the entire duration of the Performance Contract and will be restated in all reports. Results of these operational observations will be summarized in the Post-Installation Report. Unless otherwise agreed to in writing, if the newly installed equipment is not permitted to operate as intended due to undesirable conditions that it creates or as a result of occupant changes and/or overrides to the equipment's operation, the annual FIM-specific project benefit savings amounts as outlined in this document shall be deemed achieved. Furthermore, these benefits shall be stipulated for the duration of the performance contract and restated in all Performance Period Reports. If for any other reason, the equipment is observed not to be performing as intended during the initial Post-Installation inspection, necessary adjustments will be made to equipment operation and the benefit calculations will be modified to reflect the resulting installed conditions. The modified benefit amounts will be provided in the Post-Installation Report. Ongoing M&V activities shall entail annual inspections of the physical condition and operation of the installed equipment. The findings of these observations will be reported in the Annual Report. Regardless of the nature of any observed improper or deficient operation, if the equipment or its controls fail to perform as intended or changes have been made that adversely affect the expected project benefits, remedies to minimize the potential for lost savings will be proposed in each annual report.
Solar – Measured Verification	TRCC-37	C – 1-Year Utility Bill Comparison	The newly installed equipment will undergo a comprehensive Post-Installation commissioning process. Manufacturer-provided performance data will be reviewed and operational tests will performed to ensure that the new equipment meets or exceeds the performance goals set forth herein. Visual verification of performance supported by customer sign-off acceptance will constitute the full extent of Post-Installation performance and project benefit validation. Results of these operational observations will be summarized in the Post-Installation Report. kWh values reported in Year 1, used by Xcel for determination of Renewable Energy Credits (RECs), from the site's monthly utility bills will be used to verify the Year 1 project benefits derived from this FIM. Project benefits identified in Year 1 will be stipulated in all future performance years based on the performance verified during year 1 with agreed upon escalation rates applied. Following Year 1, other than visual observation performed once annually of PV system generation, ongoing measurement and

FIM Type	FIM #'s	M&V Option Used	M&V Plan Procedures
			verification activities will not be performed, nor will project benefit quantities be altered. Via customer supplied quarterly accumulated kWh generation quantities, performance will be reviewed annually to assess PV system performance. The physical condition of the installed equipment will also be visually inspected annually. The findings of these reviews will be reported in the Annual Report. Regardless of the nature of any observed improper or deficient operation, if the equipment or its controls fail to perform as intended or changes have been made that adversely affect the expected benefits, remedies to minimize the potential for lost savings will be proposed in each annual report.
Pool – Measured Natural Gas Savings	LPMP-18 & LPMP-39	C – Utility Bill Comparison	Project benefits derived from reduction in natural gas will be performed annually via utility bill comparison.

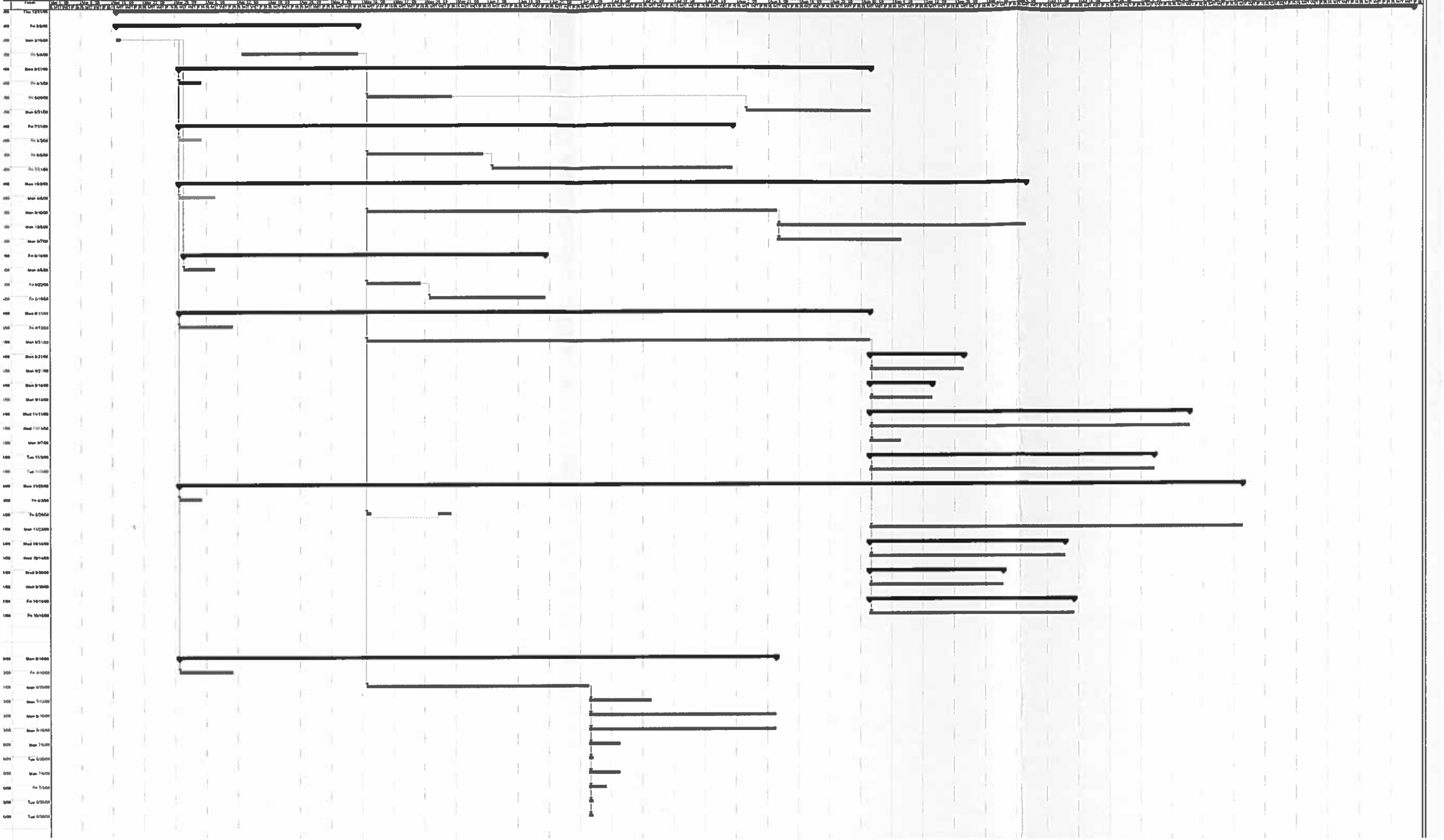
SCHEDULE G:
CONSTRUCTION AND INSTALLATION SCHEDULE

Reference Microsoft Project Schedule on the following page. Construction will be installed to minimize interruptions to customers operations.

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

City of Grand Junction Preliminary Schedule for ECM Duration



SCHEDULE H

SYSTEMS START-UP AND COMMISSIONING; OPERATING PARAMETERS OF INSTALLED EQUIPMENT

1.0 INTRODUCTION

Johnson Controls, Inc is providing this Commissioning Plan that is designed to comply with and achieve the requirements set forth in the Contract with the Client. The Johnson Controls Commissioning Program is a full service commissioning process that includes Technical and Quality activities in an interactive and interrelated relationship that, when effectively executed, will ensure the success of the Energy Savings Performance Contract.

The Johnson Controls Commissioning Program is defined herein and will be implemented as part of all Contract and specification requirements. This Draft Commissioning Plan defines the requirements for the commissioning Program and how it will be achieved. It identifies the organization and describes procedures, and program tools that constitute the Draft Commissioning Plan implementation.

The Draft Commissioning Plan will be finalized in conjunction with the final project scope of work and the Final Commissioning Plan submitted to the Owner for review.

2.0 PURPOSE

The purpose of the Commissioning Plan is to define a formal commissioning program that ensures that the Facility Improvement Measures (FIM's) are properly implemented, measured and met in accordance with the Contract requirements.

3.0 SCOPE

It is the responsibility of Johnson Controls to provide and maintain an effective Commissioning Plan throughout the duration of the Contract. To accomplish the goal of proper implementation to provide the desired facilities upgrades, Johnson Controls, Inc ensures effective commissioning processes, inspections and tests of in place work, including that of subcontractors, will be performed per the requirements of this plan. The commissioning process ensures proper system implementation, system function, and system performance as required by the Energy Savings Performance Contract requirements.

4.0 PROCEDURE

4.1 ORGANIZATION

The Commissioning Plan for all FIM's will be managed and implemented by the Project Manager. The Project Manager is responsible for the overall implementation and oversight of the Commissioning Plan and all commissioning activities associated with the delivery of the Project. The Project Manager administratively reports to the Johnson Controls, Inc. Project QA/QC Manager. To ensure project requirements are maintained, the Project Manager reports to the Johnson Controls, Inc. QA/QC Manager for day-to-day implementation and coordination of Commissioning Plan and related activities. Based on the intricacy and size of a given project, the Commissioning Plan Team Leader may be a dedicated position or one that is held as a dual/multiple role by a qualified individual. Additional Commissioning Plan support personnel may be required for the efforts of a given project and that support will report directly to the Commissioning Plan Team Leader.

4.2 RESPONSIBILITIES AND AUTHORITY

The project Commissioning Plan Team Leader's duties include the development, oversight and implementation of the Commissioning Plan and related procedures and policies as applicable to a particular project. Duties include the coordination, implementation, and documentation of the project commissioning activities ensuring the process is performed in a timely and quality manner.

4.3 QUALITY and SUBCONTRACTORS

Johnson Controls is committed to providing The City of Grand Junction with a complete Commissioning program. Our corporate mission is that of continually exceeding our customers increasing expectations. It is achieved, in part, through continuous improvements in quality and service, whether performing directly or when using subcontractors in a "partnering" environment. Through mentoring, training, and the utilization of proper testing and inspections, a quality product is assured. Proceduralized inspections, testing and system commissioning is performed at the required project phase. Subcontractors are completely aware of the requirements and are actively involved with the Commissioning process as required thus assuring a timely and quality installation. Installations performed either by subcontractor or self-installation is subject to the same rigorous validation processes.

4.4 INSPECTION PROCESS

The Project Quality Team is actively involved with all phases of the project implementation including commissioning. Johnson Controls, Inc utilizes a Phased Inspection program to aid in the assurance of a quality delivery. Each phase of system installation undergoes various Quality inspections, as does the commissioning process.

4.5 TESTING AND COMMISSIONING

Johnson Controls, Inc. will perform system start-up and commissioning per the Johnson Controls, Inc. Final Commissioning Plan Johnson Controls Inc. will provide the services of technically competent and qualified technicians for the commissioning and start-up of each system. Four sets of Operations and maintenance manuals as applicable for the systems being provided will be provided to the City of Grand Junction's Representative within 30 days following system testing and acceptance.

4.5.1 Component Testing: Johnson Controls Inc. will perform component testing of new and reconfigured systems in accordance with the Final Commissioning Plan as provided herein.

4.5.2 Operational Testing: Johnson Controls Inc. will provide the services of technically competent and qualified technicians at startup to check out the system and input required data and place the system in operation. Johnson Controls Inc. will check out each system for function through the entire sequence and will verify proper operation of each item in the sequences of operation, including all hardware and software.

4.5.3 FIM Testing:

4.5.3.1 The purpose and goal of the FIM System test is to verify the compliance of all system devices to meet the intent set forth in the Contract.

4.5.3.2 Devices shall be tested for operation under normal and emergency power if applicable, or as directed by the authority having jurisdiction. Testing of the system on auxiliary power may require the assistance of applicable facility operation or maintenance personnel to insure proper operation. Coordination for that effort shall be in advance of testing to ensure timely system testing. As-built drawings shall be verified against actual to assure compliance.

4.5.3.3 All hardware and devices shall be checked, in the normal course of the inspection, for proper labeling and proper designation.

4.6 DOCUMENTATION

A System / FIM Acceptance-Commissioning Inspection sheet shall be maintained as permanent project documentation in the project record system. The project record system is maintained under the direction of the Project QA/QC Manager.

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

Schedule H – Commissioning Forms

System / FIM Acceptance-Commissioning Inspection

FIM 1 - Lighting Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Multiple buildings	Room(s):	See systems inspected

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**Canyon View Maintenance Bldg** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
b)	**City Hall** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
c)	**Engineering Lab** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
d)	**Facilities Office** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
e)	**Field Engineering Lab / Office** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
f)	**Fire Station #3** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
g)	**Fire Station #4** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
h)	**Fire Station #5** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

i)	**Fire Station #5 Fitness Bldg** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
j)	**LP Moyer Pool** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
k)	**Parks Admin Office** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
l)	**Recycling Center Building** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
m)	**Service Center** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
n)	**Tiara Rado Clubhouse** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
o)	**Tiara Rado Golf Maintenance** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
p)	**Transportation Engineering** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
q)	**Two Rivers Convention Center** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
r)	**Visitors & Convention Center** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____
s)	**Parks – City Wide** Lighting retrofit is installed per the Lighting Scope of Work Tables.	sat	_____	unsat	_____

C. **Remarks:**

All measures have been installed and commissioned to meet FINAL approved design and specifications.

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

D. **Signatures:**

Project Manager: Craig Plomondon _____ **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 8 – Basic Programmable Thermostat Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Canyon View Maint, Fire Fitness Trng Bldg, Tiara Rado Clubhouse, Tiara Rado Maint Bldg	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**Canyon View Maint Bldg** Installation of programmable T-Stats per scope	sat	_____	unsat	_____
b)	**Fire Fitness Training Bldg** Installation of programmable T-Stats per scope	sat	_____	unsat	_____
c)	**Tiaro Rado Clubhouse** Installation of programmable T-Stats per scope	sat	_____	unsat	_____
d)	**Tiara Rado Maintenance Bldg** Installation of programmable T-Stats per scope	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 10 – OA Lockout / Reset Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Tiara Rado Clubhouse	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**Tiaro Rado Clubhouse** Installation of OA lockout per scope. Verify functionality.	sat	____	unsat	____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: Craig Plomondon **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 16 – AHU VFD's Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	City Hall	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**City Hall** Installation of VFD's per scope. Functionality in terms of energy savings will be verified in the M&V portion of the commissioning.	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 17 - Vending Misers Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	City Hall	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**City Hall CH4** Installation of vending misers per scope	sat	____	unsat	____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 18 – High Efficiency Boiler Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	LP Moyer Pool, Fire Station #4	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**LP Moyer Outdoor Pool** Installation of new boiler per scope	sat	_____	unsat	_____
a)	**Fire Station #4** Installation of new boiler per scope	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 21 – High Efficiency Furnaces Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	LP Auditorium Barn	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**LP Auditorium/ Barn** Installation of new furnaces per scope	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 25 - RTU Replacement Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

_____

_____

_____

Building:	City Hall (1 unit) & Parks Admin Office (2 units)	Room(s)	Roof

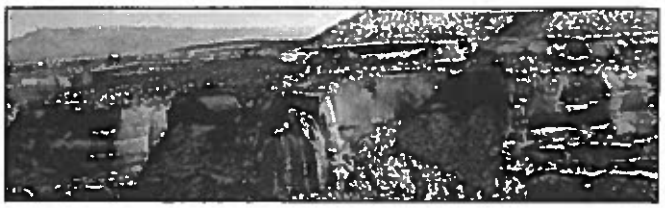
A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction

B Inspection:

System(s) Inspected

a)	**City Hall** New rooftop unit is installed on roof. Roof, RTU and curb is sealed.	sat	_____	unsat	_____
b)	**City Hall** Roof top unit is wired and connected to the gas line.	sat	_____	unsat	_____
c)	**City Hall** Economizers are installed on RTU per scope.	sat	_____	unsat	_____
d)	**City Hall** Existing duct detectors are connected to shunt RTU. Note it was assumed Duct detectors and FA system are existing.	sat	_____	unsat	_____
e)	**City Hall** Thermostat is connected, programmed and controlling equipment for setpoints, night setback and occupied/unoccupied times as required per the contractual documents.	sat	_____	unsat	_____
f)	**Parks Admin Office (2 units)** New rooftop unit is installed on roof. Roof, RTU and curb is sealed.	sat	_____	unsat	_____
g)	**Parks Admin Office (2 units)** Roof top unit is wired and connected to the gas line.	sat	_____	unsat	_____
h)	**Parks Admin Office (2 units)** Economizers are installed on RTU per scope.	sat	_____	unsat	_____



Performance Contract - Schedules

i)	**Parks Admin Office (2 units)** Existing duct detectors are connected to shunt RTU. Note it was assumed Duct detectors and FA system are existing.	sat	_____	unsat	_____
k)	**Parks Admin Office (2 units)** Thermostat is connected, programmed and controlling equipment for setpoints, night setback and occupied/unoccupied times as required per the contractual documents.	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 28 – Ice Machine HTX Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Two Rivers Convention Center	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**TRCC** Installation of new Icemaker HTX per scope (by CRG)	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 33 - Bldg Envelope Improvements Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Multiple buildings	Room(s):	See systems inspected

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**Canyon View Maintenance Bldg** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	_____	unsat	_____
b)	**City Hall** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	_____	unsat	_____
c)	**Engineering Lab** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	_____	unsat	_____
d)	**Facilities Office** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	_____	unsat	_____
e)	**Field Engineering Lab / Office** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	_____	unsat	_____
f)	**Fire Station #3** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	_____	unsat	_____

Performance Contract - Schedules

g)	**Fire Station #4** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
h)	**Fire Station #5** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
i)	**Fire Station #5 Fitness Bldg** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
j)	**Parks Admin Office** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
k)	**Service Center** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
l)	**Tiara Rado Clubhouse** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
m)	**Tiara Rado Golf Maintenance** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
n)	**Transportation Engineering** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
o)	**Two Rivers Convention Center** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____
p)	**Visitors & Convention Center** Bldg Envelope Improvement is installed per the Bldg Envelope Improvement Scope of Work.	sat	____	unsat	____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

CITY OF Grand Junction COLORADO

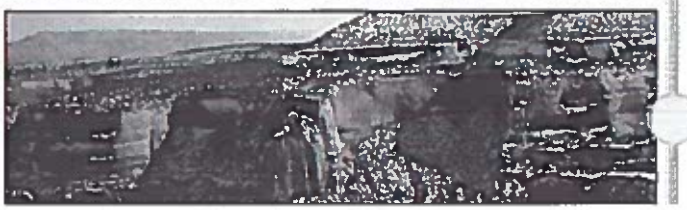
Performance Contract - Schedules

D. **Signatures:**

Project Manager:	**Craig Plomondon**	**Date**	
	Signatures:		
City of Grand Junction Representative		**Date**	
	Signatures:		

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO



Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 34 - Added Insulation Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Two Rivers Convention Center	Room(s):	Parking

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**Two Rivers Convention Center** Added insulation is installed per the Scope of Work.	sat	____	unsat	____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: Craig Plomondon **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 37 – Photovoltaic (PV) Systems Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Visitors Center & Two Rivers Convention Cetner	Room(s):	NA

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	TRCC - Installation of PV panels to provide 15 KW DC watts per scope.	sat	_____	unsat	_____
b)	TRCC - Installation of conduit wiring and inverters for connection to building system.	sat	_____	unsat	_____
c)	TRCC - Startup and commission PV Electric Generation system.	sat	_____	unsat	_____
d)	TRCC - Customer Training on PV Electric Generation system..	sat	_____	unsat	_____
e)	VCB - Installation of PV panels to provide 5 KW DC watts per scope.	sat	_____	unsat	_____
f)	VCB - Installation of conduit wiring and inverters for connection to building system.	sat	_____	unsat	_____
g)	VCB - Startup and commission PV Electric Generation system.	sat	_____	unsat	_____
h)	VCB - Customer Training on PV Electric Generation system..	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

Performance Contract - Schedules

D. Signatures:

Project Manager:	**Craig Plomondon**	**Date**	
	Signatures:		
City of Grand Junction Representative		**Date**	
	Signatures:		

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 39 – Liquid Chemical Pool Cover Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

_____

_____

_____

Building:	Lincoln Park Moyer Pool	Room(s):	Pool Chemical Room

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	Provide and install new injection systems.	sat	_____	unsat	_____
b)	Calibrate new injection system for pool.	sat	_____	unsat	_____
c)	Test new injection pump	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

Project Manager: Craig Plomondon **Date** _____

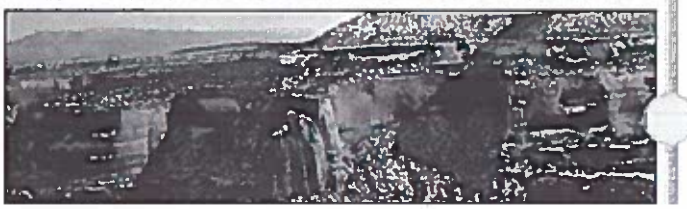
Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

CITY OF Grand Junction COLORADO



Performance Contract - Schedules

System / FIM Acceptance-Commissioning Inspection

FIM 40 - Water Conservation Measures Date: _____

Contract No.: City of Grand Junction JCI Contract No.:

Subcontractor(s): Johnson Controls

Building:	Multiple buildings	Room(s):	See systems inspected

A. Personnel Present:

	Name	Position	Company
1.	Craig Plomondon	Project Manager	Johnson Controls
2.		City of Grand Junction Representative	City of Grand Junction
3.			

B Inspection:

System(s) Inspected

a)	**Canyon View Maintenance Bldg** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
b)	**Engineering Lab** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
c)	**Facilities Office** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
d)	**Field Engineering Lab / Office** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
e)	**Fire Station #3** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
f)	**Fire Station #4** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
g)	**Fire Station #5** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

h)	**Fire Station #5 Fitness Bldg** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
i)	**Parks Admin Office** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
j)	**Service Center** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
k)	**Tiara Rado Clubhouse** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
l)	**Transportation Engineering** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
m)	**Two Rivers Convention Center** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____
n)	**Visitors & Convention Center** Water Conservation FIM's is installed per the Water Conservation FIM's Scope of Work.	sat	_____	unsat	_____

C. Remarks:

All measures have been installed and commissioned to meet FINAL approved design and specifications.

D. Signatures:

Project Manager: **Craig Plomondon** **Date** _____

Signatures:

City of Grand Junction Representative _____ **Date** _____

Signatures:

Date FIM is substantially complete _____

SCHEDULE I:
STANDARDS OF COMFORT

This section is organized by FIM's, with the applicable bldgs. and schedules detailed. Unless detailed in the following FIM calcs, typical business hours and typical temperature hours are assumed. Fire stations are manned 24 X 7 typically.

No temperature changes during occupied hours have been modeled in this project. Any temperature changes associated with night-time setbacks are for unoccupied times only. Unoccupied times have been determined on a case be case basis either by field measurement (temperature loggers) or staff interview. For calculations such as building envelope savings, the current temperatures during occupied hours were again determined either by staff interview or temperature logger data, and used in the savings calculations, again with no changes to temperature set points during occupied hours.

FIM-8 Programmable Thermostats.

Stand-alone programmable thermostats will be installed at the following locations:

- CV-8: Canyon View Maintenance Building
- FS5T-8: Fire Station #5 Training Building
- TRC-8: Tiara Rado Clubhouse
- TRM-8: Tiara Rado Maintenance Building

FIM ID/ Bldg Name	Season	Occupied / Unoccupied	Time	Temperature Setpoints
CV-8 Canyon View Maint. Bldg	All Year	Occupied	6 am –4 pm, Mon. – Friday	Heat: 68 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A
FS5T-8 Fire Station #5 Training Building	All Year	Occupied	5 am –8 pm, Sun. – Sat.	Heat: 68 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A
TRC-8 Tiara Rado Clubhouse	All Year	Occupied	6 am –5 pm, Sun. – Sat.	Heat: 65 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A
TRM-8: Tiara Rado Maintenance Building	All Year	Occupied	6 am –5 pm, Mon. – Friday	Heat: 66 °F Cool: N/A
		Unoccupied	All hours not indicated	Heat: 60° F Cool: N/A

Lighting

ASSUMPTIONS and CLARIFICATIONS

The following assumptions are made regarding current operating conditions:

- Lighting burn hours are based on interviews with facility personnel.
- Heating and cooling interactions were only credited (+ or -) where appropriate. Namely the cooling interaction as many of bldgs. evaluated have either evaporative cooling (minimal electrical usage) or none at all. See following table which details where heating and cooling interactions are accounted for.

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

Johnson Controls - City of Grand Junction Usage Groups									
Use Group Code	Use Group Description	M_F Hours _ Day	Days _ Week	Week Day Total Hours	Sat _ Sun Hours _ Day	_Days _ Week	Weekend Total Hours	Weeks _ Year	Hours
H	Hallways, lobby, stairwells, (usually 24/7)	24	5	120	24	2	48	52.14	8760
H-S	Hallways, lobby, stairwells - Propose Sensor	24	5	120	24	2	48	52.14	8760
CL	Classrooms, Open Offices, labs, conference, library, (8/5)	8	5	40	0	2	0	52.14	2086
CL-S	Classrooms, Open Offices, labs, conference, library - Propose Sensor	8	5	40	0	2	0	52.14	2086
247	24 x 7	24	5	120	24	2	48	52.14	8760
ST	Storage, closets, janitors, mechanical, (2/5)	2	5	10	0	2	0	52.14	521
ST-S	Storage, closets, janitors, mechanical - Propose Sensor	2	5	10	0	2	0	52.14	521
OFF	Private offices, study rooms, Bedrooms, (8/5)	8	5	40	0	2	0	52.14	2086
OFF-S	Private offices, study rooms, Bedrooms - Propose Sensor	8	5	40	0	2	0	52.14	2086
RR	Rest rooms, locker rooms, (6/5)	6	5	30	0	2	0	52.14	1564
RR-S	Rest rooms, locker rooms - Propose Sensor	6	5	30	0	2	0	52.14	1564
MLP	Garages, Gyms, Auditoriums, Stages, (8/5)	8	5	40	0	2	0	52.14	2086
MLP-S	Garages, Gyms, Auditoriums, Stages - Propose Sensor	8	5	40	0	2	0	52.14	2086
APP	Appliances-stove hoods and fridge lights, (1hr per week)	0.2	5	1	0	2	0	52.14	52
EXT	exterior, (12/7)	12	5	60	12	2	24	52.14	4380
RR-H	Restrooms on 24/7	24	5	120	24	2	48	52.14	8760
M	Meeting Rooms	8	5	40	0	2	0	52.14	2086
RR-LR	Rest rooms at Locker Rooms, (4/2)	8	3	24	0	2	0	21.7	521
ST-LR	Storage at Lorcker Rooms(2/2)	2	3	6	0	2	0	21.7	130

Performance Contract - Schedules

Site Code	Site Name	Total Heating Penalty $	Cooling Savings
BA	Barn/Auditorium	$ 45.48	$ -
CVC	Canyon View Complex	$ 4.01	$ -
CGJVC	CGJ Visitors Center	$ 38.28	$ 22.76
CH	City Hall	$ 235.02	$ 106.84
FH4	Fire House #4	$ 15.82	$ -
FS3	Fire Station #3	$ 25.08	$ -
FH5	FireHouse #5	$ 50.59	$ 39.77
FH5-TC	Fire House #5 Training Center	$ 11.14	$ -
FC-EL	Fleet Complex - Engineering Lab	$ 0.60	$ 0.78
FC-FO	Fleet Complex - Facilities Office	$ 7.31	$ 3.64
FC-FE	Fleet Complex - Field Engineering	$ 37.48	$ 48.21
FC-RC	Fleet Complex - Recycling Center	$ 3.88	$ -
FC-SC	Fleet Complex - Service Center	$ 263.19	$ -
FC-TE	Fleet Complex - Transportation Engineering	$ 17.28	$ 15.31
MPBE	Moyer Pool Bathroom/Equip.	$ 2.48	$ -
MPSE	Moyer Pool Shower/Equip.	$ 20.99	$ -
P	Parks	$ 33.00	$ -
PAO	Parks Administration Office	$ 39.02	$ -
TGC-MB	Tierra Golf Course - Maintenance Building	$ 7.82	$ -
TGC-C	Tierra Golf Course - Clubhouse	$ 58.49	$ -
TRCC	Two Rivers Convention Center	$ 417.12	$ 273.80

FIM-20 Replace Makeup Air Units

New replacement MAUs will be installed at the following locations:

- SC-20: Service Center, 3 ea. MAUs

The table below lists the MAU operating schedules used in the calculations, which were based on staff interviews.

MAU ID	Building	Run Schedule (hrs/wk)	Run Schedule (months/yr)	Run Schedule (hrs/yr)
MAU-1	Service Center	50	12	2600
MAU-2	Service Center	50 summer 5 winter	12	1333
MAU-3*	Service Center	0	0	0

* MAU-3 is currently out of service.

SCHEDULE J:
CONTRACTOR'S MAINTENANCE RESPONSIBILITIES

Johnson Controls shall have operations or maintenance responsibilities to initially demonstrate, upon completion, through its commissioning activities that FIM-specific equipment and/or modifications are operating as intended. All ongoing operations and maintenance shall be the customer's responsibility. Refer to Schedules F and H for details concerning FIM-specific commissioning activities.

SCHEDULE K:
AGENCY'S MAINTENANCE RESPONSIBILITIES

1. Maintenance Responsibilities

The City of Grand Junction directly maintains or manages service providers to maintain existing facilities, systems and equipment. This will continue to be the approach as a result of this project. Johnson Controls, Inc. will have no maintenance responsibilities for the installed systems.

2. Existing equipment and systems

It is understood and agreed to that the City will continue to maintain its existing equipment and systems over the term of this agreement to the standards set forth in the operations and maintenance manuals for the existing equipment and systems.

3. New equipment and systems

It is understood and agreed to that the City will continue to maintain new equipment and systems installed as part of this project as instructed in the operations and maintenance procedures and manuals that will be provided to the City as part of the construction process. Johnson Controls, Inc. will provide the City operations and maintenance manuals as part of the standard construction process for this project. Correct maintenance is required to ensure the performance of the equipment and systems is kept at the expected level.

SCHEDULE L:
FACILITY MAINTENANCE CHECKLIST

Johnson Controls shall provide the City of Grand Junction with a maintenance checklist as part of the Operation and Maintenance Manual provided upon project completion. Johnson Controls, Inc. does not require the City to provide this check list to our team on any basis as part of the performance contracting agreement. As part of the performance guarantee measurement and verification services provided, our team will perform its own review of equipment installed to ensure performance. If an issue arises where the Johnson Controls, Inc. team notices that equipment is not being maintained as instructed in the operations and maintenance manuals, then Johnson Controls, Inc. will notify the City of this situation and provide this information in written format as part of the performance guarantee measurement and verification reports.

SCHEDULE M:
CONTRACTOR'S TRAINING RESPONSIBILITIES

1. Training Responsibilities

Johnson Controls, Inc. will be required to review the start-up and initial performance of the equipment with City of Grand Junction maintenance personnel as part of our installation process. This training will also include submittal and review of the operation and maintenance manual. The fee for this training service has been included in the guaranteed maximum price of the contract.

2. Ongoing Training Responsibilities

Johnson Controls, Inc. has no responsibility for ongoing training of City personnel or City service provider personnel once the training described in paragraph 1 above – Training Responsibilities is complete.

SCHEDULE N

GENERAL CONDITIONS

General conditions have been incorporated into Articles 1 through 24 of this contract. Specific to the billing method, the project will be billed on a percent complete basis. See Schedule O for the AIA forms to be utilized.

SCHEDULE O:
PAYMENT SCHEDULE AND SCHEDULE OF VALUES

Project billing will be on a percent of completion billing method. Contractor will utilize standard AIA documents. Typical AIA billing documents utilized will be G702 & G703, both dated 1992.

APPLICATION AND CERTIFICATION FOR PAYMENT *AIA DOCUMENT G702*

TO OWNER: PROJECT: APPLICATION NO: 0
PROJECT MGR: FEDERAL ID 39-0380010

PERIOD TO:
FROM CONTRACTOR: VIA ARCHITECT: INVOICE NO:
REMIT TO INVOICE DATE:
PROJECT NOS:
P.O. NO:
CONTRACT FOR: control systems CONTRACT DATE:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM $ 0.00
2. Net change by Change Orders $ 0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2) $ 0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) $ 0.00
5. RETAINAGE:
   a. 0 % of Completed Work (Column D + E on G703) $ 0.00
   b. 0 % of Stored Material (Column F on G703) $ 0.00
   Total Retainage (Lines 5a + 5b or Total in Column I of G703) $ 0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total) $ 0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) $ 0.00
8. CURRENT PAYMENT DUE $ 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6) $ 0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	$0.00	$0.00
Total approved this Month	$0.00	$0.00
TOTALS	$0.00	$0.00
NET CHANGES by Change Order	$0.00	

The undersigned Contractor certifies that to the best of the Contractor's information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown

CONTRACTOR: Johnson Controls, Inc.

By: ____________________

State of: Wisconsin County of:
Subscribed and sworn to before me this 24 day of
Notary Public:
My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED ....

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform)

ARCHITECT:

By: ____________________

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

This document was produced under AIA Order No. [illegible] and is not for resale.

CITY OF Grand Junction COLORADO

Performance Contract - Schedules

CONTINUATION SHEET *AIA DOCUMENT G703*

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing
Contractor's signed certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

JCI PROJECT NO:
JCI INVOICE NO:

APP#5
APPLICA

ARCHITECT'S P

A	B	C	D	E	F	G		
			WORK COMPLETED					
ITEM NO	DESCRIPTION OF WORK	SCHEDULED VALUE	FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G÷C)	B T
	CHANGE ORDER TOTALS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	

This document was produced under AIA Order No. [illegible] on [illegible] and is not for resale.

AIA DOCUMENT G703 CONTINUATION SHEET FOR G702 1992 EDITION AIA ® 1992
THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVENUE, N.W., WASHINGTON, D.C. 20006-5292

G703-1992

SCHEDULE P:
PRE-EXISTING SERVICE AGREEMENTS

1. Pre-Existing Service Agreements

For any pre-existing service agreements for maintenance of HVAC and control systems the City of Grand Junction may have for any City facilities, Johnson Controls, Inc. does not require the City to provide copies of these agreements in the contract. As indicated in **Schedule K – City's Maintenance Responsibilities** of this Contract, the City shall maintain any new equipment and systems to the level specified in the operation and maintenance manual for each piece of equipment and/or system.

2. Savings from Existing Service Agreements

As stated in Schedule C of this contract, Johnson Controls, Inc. and the City of Grand Junction have agreed to stipulate any maintenance savings for this project. As part of our technical energy audit, we reviewed these contracts with the City, estimated a reduction in maintenance from each relevant service contract and gained acceptance from the service provider and the City facility management team for these savings.

SCHEDULE Q:
CURRENT AND KNOWN CAPITAL PROJECTS AT FACILITY

1. Current Capital Projects

There are currently no capital projects to be installed in any facility that will impact this project. If any projects arise during construction, Johnson Controls will work closely with the City of Grand Junction to manage through this situation so that both projects are successful.

2. Future Capital Projects

The City has several future capital improvement projects to further improve, expand or change its existing facilities. However, since the performance guarantee for this project is IPMVP Option A: Partial Isolation Retrofit, stipulated and only uses IPMVP Option C: Utility Bill Comparison for the LP Moyer outdoor pool, future facility changes should not impact the guarantee nor the result of the project.

3. Capital Project Impact, Questions or Dispute

In the event that a capital project implemented by the City during or after installation of this project does impact the savings expectations of the installed scope of work of this project, the City of Grand Junction and Johnson Controls, Inc. agree to work collaboratively to resolve such issues in accordance with Article 12 and Article 14 of this Contract.

SCHEDULE R:
PROJECTED FINANCIAL PERFORMANCE

1. Existing Utility Usage Consumption for the City of Grand Junction

The table below summarizes the financial performance of this project. The Project Cost is $2,046,342. Additional information regarding the financial performance of this project can be found in the City of Grand Junction Technical Energy Audit dated 2/4/2009.

Savings Summary	
Energy Savings	$74,307
Operational Savings	$10,098
Total	$84,405

Project Analysis Inputs	
Discount Rate (Hurdle Rate)	3.00%
Term of Financing (Years)	15
Rate of Financing	0.00%
Cash Flow Term (Years)	15
Material Savings Term	3
M&V Term	3
Annual Escalation Rate	2.7%

Project Financial Summary	
Project Cost (Contract Amount)	$2,046,342
Previous JC Fin. (JC Payoff)	$0
Grants (PV & SEEC Funding)	$225,000
Energy Rebate/ Incentives	$99,002
Net Project Cost	$1,722,339
Down Payment/Capital Avoidance	$419,536
Simple Payback (yrs) with grants, capital cost avoidance, rebates	15.4
Net Present Value (NPV)	$27,431

Financing Overview	
Installation Term (Months)	9
Approx. Interim Finance Cost	$0
Total Project Cost (Financed Amount)	$2,046,342
Prev. Financing (JC Payoff)	$0
Grants	$225,000
Energy Rebate / Incentives	$99,002
Estimated Down Payment / Capital Avoidance	$419,536
Net Balance	$1,302,803

2. Existing Utility Usage Consumption for the City of Grand Junction

The table below captures the existing usage for the building and systems impact by the performance contract for the period of September 1, 2007 to August 31, 2008.

Base Year Energy Use & Cost
September 1, 2007 to August 31, 2008*

* Unless otherwise noted in Section 2.2 Tables

	Electrical					Natural Gas		Water		
	Demand		Energy**		Total Elect. Cost***	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	2,379	$21,268	123,040	$4,285	$25,551	0	$0	32	$156	$25,707
City Hall	2,224	$19,705	788,120	$28,409	$48,114	1269	$10,036	0	$0	$58,151
Engineering Lab	0	$0	70,709	$4,345	$4,345	231	$515	0	$0	$4,860
Facilities Offices	194	$1,654	28,840	$1,206	$2,861	380	$2,943	0	$0	$5,804
Field Engineering	0	$0	70,793	$4,544	$4,544	231	$1,868	0	$0	$6,412
Fire Station #3	302	$2,052	72,080	$2,489	$4,540	491	$3,955	0	$0	$8,495
Fire Station #4	0	$0	47,262	$5,675	$5,675	378	$3,045	0	$0	$8,720
Fire Station #5	0	$0	64,720	$4,145	$4,145	503	$4,013	0	$0	$8,158
Fire Station #5 Training Bldg	0	$0	5,431	$352	$352	104	$849	0	$0	$1,200
LP Auditorium Barn	283	$2,479	94,000	$3,194	$5,673	738	$5,746	37	$96	$11,515
LP Moyer Pool	482	$4,398	189,960	$7,336	$11,734	2300	$22,958	3360	$8,214	$42,907
Parks Admin Office	0	$0	57,928	$3,898	$3,898	89	$688	0	$0	$4,586
Recycling Center	0	$0	27,212	$1,773	$1,773	0	$0	0	$0	$1,773
Service Center	1,239	$10,943	341,600	$12,136	$23,079	1933	$15,259	0	$0	$38,338
Tiara Rado Clubhouse meter 1	0	$0	77,440	$5,105	$5,105	0	$0	0	$0	$5,105
Tiara Rado Clubhouse meter 2	446	$4,007	57,713	$2,273	$6,280	572	$4,616	0	$0	$10,896
Tiara Rado Clubhouse (combined)	446	4,007	135,153	7,378	$11,385	572	4,616	0	0	$16,001
Tiara Rado Maint. Bldg.	659	$5,916	90,696	$3,480	$9,395	96	$658	0	$0	$10,054
Transportation Eng.	0	$0	39,333	$4,897	$4,897	205	$1,613	0	$0	$6,510
Two Rivers Conv. Center	3,612	$32,111	1,208,640	$43,327	$75,438	4888	$40,250	0	$0	$115,688
Visitors Center	289	$2,560	81,160	$2,842	$5,402	1624	$1,304	1624	$0	$6,705
Parks (Multiple Sites)										
TOTAL	12,110	$ 107,090	3,537,677	$ 145,709	252,800	16,012	$ 120,316	5,053	$ 8,467	$381,583

** includes "ECA" charges listed in the Section 2.2 Tables

***excludes "Other" charges listed in the Section 2.2 Tables

3. Energy Savings in Utility Usage Consumption for the City of Grand Junction

The table below captures the existing guaranteed energy savings as defined is Schedule C of the contract. The energy savings shown represent the 1st year savings.

Post-Retrofit Guaranteed Energy & Cost Savings
Fist Year Performance Period

	Electrical					Natural Gas		Water		
	Demand		Energy*		Total Elect. Cost**	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	148	$2,154	59,682	$3,214	$5,368	0	$0	3	$8	$5,376
City Hall	253	$3,704	119,551	$5,972	$9,676	-15	-$147	0	$0	$9,530
Engineering Lab	0	$0	498	$48	$48	13	$110	0	$0	$158
Facilities Offices	10	$148	3,057	$146	$294	3	$24	0	$0	$318
Field Engineering Lab/Office	0	$0	8,660	$866	$866	46	$391	0	$0	$1,258
Fire Station #3	32	$460	5,961	$321	$781	40	$340	14	$33	$1,154
Fire Station #4	0	$0	8,266	$656	$656	58	$499	44	$107	$1,263
Fire Station #5	0	$0	11,413	$766	$766	28	$239	35	$85	$1,090
Fire Station #5 Training Building	0	$0	2,061	$216	$216	21	$176	0	$0	$392
LP Auditorium/Barn	51	$747	9,878	$533	$1,280	119	$1,028	20	$47	$2,355
LP Moyer Pool	44	$648	10,848	$585	$1,232	679	$4,925	137	$332	$6,489
Parks Admin Office	0	$0	9,581	$996	$996	4	$35	17	$41	$1,073
Recycling Center	0	$0	4,179	$438	$438	1	$10	7	$16	$463
Service Center	296	$4,327	72,237	$3,669	$7,996	145	$1,226	72	$174	$9,396
Tiara Rado Clubhouse	67	969	17,334	922	$1,891	73	639	134	325	$2,855
Tiara Rado Maint. Bldg.	8	$123	1,607	$78	$201	21	$180	0	$0	$382
Transportation Eng.	0	$0	4,260	$369	$369	10	$85	5	$11	$465
Two Rivers Conv. Center	299	$4,359	130,483	$9,389	$13,748	1337	$11,493	26	$62	$25,213
Visitors Center	42	$618	15,859	$823	$1,441	15	$127	8	$20	$1,588
Parks (Multiple Sites)	0	0	37,097	3,517	3,517	-3	30	0	0	$3,487
TOTAL	1,251	$18,257	530,511	$33,522	$51,780	2,595	$21,262	520	$1,262	$74,303

* includes "ECA" charges listed in the Section 2.2 Tables

**excludes "Other" charges listed in the Section 2.2 Tables

4. Future Utility Usage Consumption for the City of Grand Junction

The table below captures the projected future energy usage and cost for reference only. The guaranteed savings is defined in the guaranteed savings documentation in Schedule C and the Measurement and Verification is Schedule F. The values represent the Existing utility usage less the 1st year Energy Savings.

Post-Retrofit Energy Use & Cost
Fist Year Performance Period

	Electrical					Natural Gas		Water		
	Demand		Energy*		Total Elect. Cost**	Consumption		Use		Total
Building	kW/yr	kW $	kWh	kWh $	$	Dth	Dth $	kgal	kgal $	$
Canyon View Maint. Bldg	2,231	$18,112	63,358	$1,071	$20,183	0	$0	29	$148	$20,331
City Hall	1,971	$16,000	669,589	$22,437	$38,438	1264	$10,183	0	$0	$48,621
Engineering Lab	0	$0	70,211	$4,297	$4,297	219	$405	0	$0	$4,702
Facilities Offices	184	$1,507	25,783	$1,060	$2,567	357	$2,919	0	$0	$5,486
Field Engineering	0	$0	62,133	$3,678	$3,678	186	$1,477	0	$0	$5,154
Fire Station #3	270	$1,592	66,119	$2,167	$3,759	451	$3,615	-14	$33	$7,341
Fire Station #4	0	$0	40,996	$5,019	$5,019	320	$2,545	-44	$107	$7,457
Fire Station #5	0	$0	53,307	$3,379	$3,379	475	$3,773	-35	$85	$7,058
Fire Station #5 Training Bldg	0	$0	3,370	$136	$136	84	$673	0	$0	$808
LP Auditorium Barn	232	$1,732	84,122	$2,661	$4,393	619	$4,718	18	$49	$9,160
LP Moyer Pool	438	$3,751	179,112	$6,751	$10,502	1621	$18,033	3223	$7,882	$36,417
Parks Admin Office	0	$0	48,347	$2,902	$2,902	85	$653	-17	$41	$3,513
Recycling Center	0	$0	23,013	$1,336	$1,336	-1	$10	-7	$16	$1,310
Service Center	943	$6,616	269,363	$8,467	$15,083	1788	$14,033	-72	$174	$28,942
Tiara Rado Clubhouse (combined)	380	3,038	117,818	6,456	$9,494	499	3,977	134	-325	$13,146
Tiara Rado Maint. Bldg	651	$5,792	89,089	$3,402	$9,194	73	$478	0	$0	$9,672
Transportation Eng.	0	$0	35,073	$4,528	$4,528	195	$1,528	5	$11	$6,045
Two Rivers Conv. Center	3,313	$27,752	1,078,157	$33,938	$61,690	3551	$28,847	26	$62	$90,475
Visitors Center	246	$1,941	65,301	$2,019	$3,960	1609	$1,177	1616	-$20	$5,117
Parks (Multiple Sites)	0	0	-37,097	-3,517	-3,517	3	-30	0	0	-$3,487
TOTAL	10,859	$88,833	3,007,166	$112,187	$201,020	13,418	$99,055	4,533	$7,205	$307,280

* Includes "ECA" charges listed in the Section 2.2 Tables
**excludes "Other" charges listed in the Section 2.2 Tables

5. Energy Unit Savings Projections per building

The tables below capture the projected future energy usage for reference only. The guaranteed savings is defined in the guaranteed savings documentation in Schedule C and the

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Performance Contract - Schedules

Measurement and Verification is Schedule F. The values represent the 1st year annual energy savings units projected over the term of the contract with the Schedule C applied escalation value. A projection of units saved is included for each of the following buildings systems.

			Calculated Savings Units					Guaranteed Savings Units			
ECM #	Building	Energy Conservation Measure	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)	Guaran-tee Factor	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)
FIM-41	City Wide	SEEC (Education Funding)	0.0	0.0	0.0	0.0	100%	0.0	0.0	0.0	0.0
CV-1	Canyon View Maint	Lighting Retrofits	0.0	58,071.2	164.2	0.0	90%	0.0	52,264.1	147.7	0.0
CV-8	Canyon View Maint	Basic Programmable Thermostat (NS	0.0	1,442.0	0.0	0.0	85%	0.0	1,225.7	0.0	0.0
CV-33	Canyon View Maint	Envelope Sealing/Improvements	0.0	7,500.0	0.0	0.0	80%	0.0	6,000.0	0.0	0.0
CV-40	Canyon View Maint	Water Conservation-Low flow fixtures	0.0	256.0	0.0	4.7	75%	0.0	192.0	0.0	3.5
CH-1	City Hall	Lighting Retrofits	-24.7	66,351.0	242.8	0.0	90%	-22.2	59,715.9	218.5	0.0
CH-24	City Hall	Elect. Water Cooler Timers	0.0	828.0	0.0	0.0	90%	0.0	745.2	0.0	0.0
CH-16	City Hall	Variable Frequency Drives (2 VFDs &	0.0	41,116.0	10.8	0.0	90%	0.0	37,004.4	9.7	0.0
CH-25	City Hall	High SEER RTU Replacement w/ ecc	0.0	19,826.0	27.5	0.0	90%	0.0	17,843.4	24.8	0.0
CH-33	City Hall	Envelope Sealing/Improvements	9.4	0.0	0.0	0.0	80%	7.5	0.0	0.0	0.0
CH-17	City Hall	Vending Miser	0.0	4,713.0	0.0	0.0	90%	0.0	4,241.7	0.0	0.0
EL-1	Engineering Lab	Lighting Retrofits	-0.1	553.0	0.0	0.0	90%	-0.1	497.7	0.0	0.0
EL-33	Engineering Lab	Envelope Sealing/Improvements	16.0	0.0	0.0	0.0	80%	12.8	0.0	0.0	0.0
FO-1	Facilities Offices	Lighting Retrofits	-0.8	3,397.0	11.3	0.0	90%	-0.7	3,057.3	10.2	0.0
FO-33	Facilities Offices	Envelope Sealing/Improvements	4.4	0.0	0.0	0.0	80%	3.5	0.0	0.0	0.0
FE-1	Field Engineering L	Lighting Retrofits	-3.9	9,415.0	0.0	0.0	90%	-3.5	8,473.5	0.0	0.0
FE-33	Field Engineering L	Envelope Sealing/Improvements	61.6	0.0	0.0	0.0	80%	49.3	0.0	0.0	0.0
FE-24	Field Engineering L	Elect. Water Cooler Timers	0.0	207.0	0.0	0.0	90%	0.0	186.3	0.0	0.0
FS3-1	Fire Station #3	Lighting Retrofits	-2.6	6,623.0	35.0	0.0	90%	-2.3	5,960.7	31.5	0.0
FS3-33	Fire Station #3	Envelope Sealing/Improvements	51.1	0.0	0.0	0.0	80%	40.9	0.0	0.0	0.0
FS3-40	Fire Station #3	Water Conservation-Low flow fixtures	1.4	0.0	0.0	18.0	75%	1.1	0.0	0.0	13.5
FS4-1	Fire Station #4	Lighting Retrofits	-1.7	6,962.0	0.0	0.0	90%	-1.5	6,265.8	0.0	0.0
FS4-33	Fire Station #4	Envelope Sealing/Improvements	43.6	0.0	0.0	0.0	80%	34.9	0.0	0.0	0.0
FS4-40	Fire Station #4	Water Conservation-Low flow fixtures	0.1	0.0	0.0	58.9	75%	0.1	0.0	0.0	44.2
FS4-18	Fire Station #4	High efficiency boilers w/ OA reset	27.0	0.0	0.0	0.0	90%	24.3	0.0	0.0	0.0
FS5-1	Fire Station #5	Lighting Retrofits	-5.3	12,681.0	0.0	0.0	90%	-4.8	11,412.9	0.0	0.0
FS5-33	Fire Station #5	Envelope Sealing/Improvements	30.9	0.0	0.0	0.0	80%	24.7	0.0	0.0	0.0
FS5-40	Fire Station #5	Water Conservation-Low flow fixtures	11.2	0.0	0.0	46.4	75%	8.4	0.0	0.0	34.8
FS5T-1	Fire Station #5 Trai	Lighting Retrofits	-1.2	2,290.0	0.0	0.0	90%	-1.1	2,061.0	0.0	0.0
FS5T-8	Fire Station #5 Trai	Basic Programmable Thermostat (NS	8.8	0.0	0.0	0.0	90%	7.9	0.0	0.0	0.0
FS5T-33	Fire Station #5 Trai	Envelope Sealing/Improvements	17.2	0.0	0.0	0.0	80%	13.7	0.0	0.0	0.0
FS5T-40	Fire Station #5 Trai	Water Conservation- (see FS#5)	0.0	0.0	0.0	0.0	75%	0.0	0.0	0.0	0.0
LPAB-1	LP Auditorium/Barn	Lighting Retrofits	-4.8	10,976.0	57.0	0.0	90%	-4.3	9,878.4	51.3	0.0
LPAB-21	LP Auditorium/Barn	High efficiency furnaces	116.0	0.0	0.0	0.0	90%	104.4	0.0	0.0	0.0
LPAB-33	LP Auditorium/Barn	Envelope Sealing/Improvements	18.3	0.0	0.0	0.0	80%	14.7	0.0	0.0	0.0
LPAB-40	LP Auditorium/Barn	Water Conservation-Low flow fixtures	6.3	0.0	0.0	26.0	75%	4.7	0.0	0.0	19.5

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			Calculated Savings Units					Guaranteed Savings Units			
ECM #	Building	Energy Conservation Measure	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)	Guaran-tee Factor	Natural Gas Svgs (Dth/yr)	Electric Energy Svgs (kWh/yr)	Electric Demand Svgs (kW/yr)	Water Svgs (kgal/yr)
LPMP-1	LP Moyer Pool	Lighting Retrofits	-2.5	12,053.0	49.4	0.0	90%	-2.3	10,847.7	44.5	0.0
LPMP-18	LP Moyer Pool	High efficiency boiler	280.0	0.0	0.0	0.0	90%	252.0	0.0	0.0	0.0
LPMP-39	LP Moyer Pool	Liquid Pool Cover (includes 1st yr che	566.8	0.0	0.0	0.0	75%	425.1	0.0	0.0	0.0
LPMP-40	LP Moyer Pool	Water Conservation-Low flow fixtures	5.1	0.0	0.0		75%	3.8	0.0	0.0	0.0
PA-1	Parks Admin Office	Lighting Retrofits	-4.1	9,128.0	0.0		90%	-3.7	8,215.2	0.0	0.0
PA-33	Parks Admin Office	Envelope Sealing/Improvements	8.8	0.0	0.0		80%	7.1	0.0	0.0	0.0
PA-40	Parks Admin Office	Water Conservation-Low flow fixtures	1.5	0.0	0.0		75%	1.1	0.0	0.0	0.0
PA-25	Parks Admin Office	New high eff. RTU (4 & 3 ton unit)	0.0	1,518.0	0.0		90%	0.0	1,366.2	0.0	0.0
RC-1	Recycling Center	Lighting Retrofits	-0.4	4,643.0	0.0		90%	-0.4	4,178.7	0.0	0.0
RC-33	Recycling Center	Envelope Sealing/Improvements	0.0	0.0	0.0		10%	0.0	0.0	0.0	0.0
RC-40	Recycling Center	Water Conservation-Low flow fixtures	2.1	0.0	0.0		75%	1.6	0.0	0.0	0.0
SC-1	Service Center	Lighting Retrofits	-27.7	65,139.0	298.7		90%	-24.9	58,625.1	268.8	0.0
SC-33	Service Center	Envelope Sealing/Improvements	204.0	0.0	0.0		80%	163.2	0.0	0.0	0.0
SC-40	Service Center	Water Conservation-Low flow fixtures	8.9	0.0	0.0		75%	6.7	0.0	0.0	0.0
SC-20	Service Center	MAU's 1,2,3 - 2 Large, 1 Small Heatir	0.0	15,124.0	30.0		90%	0.0	13,611.6	27.0	0.0
TRC-1	Tiara Rado Clubhou	Lighting Retrofits	-6.2	15,704.0	73.9		90%	-5.6	14,133.6	66.5	0.0
TRC-8	Tiara Rado Clubhou	Basic Programmable Thermostat (NS	49.7	0.0	0.0		90%	44.7	0.0	0.0	0.0
TRC-10	Tiara Rado Clubhou	Boiler & Pump OA Lockout/Reset	13.3	1,636.0	0.0		80%	10.6	1,308.8	0.0	0.0
TRC-33	Tiara Rado Clubhou	Envelope Sealing/Improvements	22.1	0.0	0.0		80%	17.6	0.0	0.0	0.0
TRC-40	Tiara Rado Clubhou	Water Conservation-Low flow fixtures	7.1	0.0	0.0		75%	5.3	0.0	0.0	0.0
TRC-28	Tiara Rado Clubhou	Ice Machine Retrofit	0.0	2,102.0	0.0		90%	0.0	1,891.8	0.0	0.0
TRM-1	Tiara Rado Maint. B	Lighting Retrofits	-0.8	1,786.0	9.4		90%	-0.7	1,607.4	8.4	0.0
TRM-8	Tiara Rado Maint. B	Basic Programmable Thermostat (NS	14.2	0.0	0.0		90%	12.8	0.0	0.0	0.0
TRM-33	Tiara Rado Maint. B	Envelope Sealing/Improvements	11.3	0.0	0.0		80%	9.0	0.0	0.0	0.0
TE-1	Transportation Eng.	Lighting Retrofits	-1.8	4,526.0	0.0		90%	-1.6	4,073.4	0.0	0.0
TE-33	Transportation Eng.	Envelope Sealing/Improvements	13.2	0.0	0.0		80%	10.6	0.0	0.0	0.0
TE-40	Transportation Eng.	Water Conservation-Low flow fixtures	1.5	0.0	0.0		75%	1.1	0.0	0.0	0.0
TE-24	Transportation Eng.	Elect. Water Cooler Timers	0.0	207.0	0.0		90%	0.0	186.3	0.0	0.0
TRCC-1	Two Rivers Conv. C	Lighting Retrofits	-43.9	99,599.0	332.4		90%	-39.5	89,639.1	299.2	0.0
TRCC-33	Two Rivers Conv. C	Envelope Sealing/Improvements	203.7	0.0	0.0		80%	162.9	0.0	0.0	0.0
TRCC-37	Two Rivers Conv. C	Photo Voltaic (PV) Elec - 15.6 kW (DC	0.0	23,025.0	0.0		90%	0.0	20,722.5	0.0	0.0
TRCC-40	Two Rivers Conv. C	Water Conservation-Low flow fixtures	11.2	0.0	0.0		75%	8.4	0.0	0.0	0.0
TRCC-28	Two Rivers Conv. C	Ice Machine Retrofit (2)	0.0	4,205.0	0.0		90%	0.0	3,784.5	0.0	0.0
TRCC-34	Two Rivers Conv. C	Added Insulation to Garage Ceiling	1,418.0	19,220.0	0.0		85%	1,205.3	16,337.0	0.0	0.0
VC-1	Visitors Center	Lighting Retrofits	-4.0	10,289.0	47.2		90%	-3.6	9,260.1	42.4	0.0
VC-33	Visitors Center	Envelope Sealing/Improvements	21.5	0.0	0.0		80%	17.2	0.0	0.0	0.0
VC-37	Visitors Center	Photo Voltaic (PV) Elec - 5 kW DC	0.0	7,332.0	0.0		90%	0.0	6,598.8	0.0	0.0
VC-40	Visitors Center	Water Conservation-Low flow fixtures	2.1	0.0	0.0		75%	1.6	0.0	0.0	0.0
P-1	Parks (Multiple Site	Lighting Retrofits	-3.5	41,219.0	0.0		90%	-3.2	37,097.1	0.0	0.0

SCHEDULE S
Certificate

See the following pages.

JCI Branch No Location

MARSH USA INC.

CERTIFICATE OF INSURANCE

DATE 02/16/2009

PRODUCER **

Marsh USA Inc.
111 East Wisconsin Avenue
Suite 1600
Milwaukee, Wisconsin 53202-4419
Attn: CPU, Phone (414) 290-4912 Fax (414) 290-4953
CPU_Milwaukee@marsh.com

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER OTHER THAN THOSE PROVIDED IN THE POLICY. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES DESCRIBED HEREIN.

INSURED

Johnson Controls, Inc.
Johnson Controls Battery Group, Inc.
Johnson Controls Interiors, L.L.C.
JCIM US LLC
Cal-Air, Inc.
GES America, L.L.C.
Metro Mechanical, Inc.
Optima Batteries, Inc.
USI Companies Inc.
York International Corporation

Attn: Corp. Risk Mgmt. X-92
P.O. Box 591
Milwaukee, WI 53201

COMPANIES AFFORDING COVERAGE		AM Best Rating (As of 09/04/08) *See Below
Company A	ACE American Insurance Company P.O. Box 41484, Philadelphia, PA 19101	A+ XV
Company B	Sentry Insurance A Mutual Co. 1800 North Point Drive, Stevens Point, WI 54481	A+ XV
Company C	Indemnity Insurance Company of North America and for CA, WI and EX WC : ACE American Insurance Company P.O. Box 41484, Philadelphia, PA 19101	A+ XV
Company D	ACE Property & Casualty Insurance Company 436 Walnut Street, Philadelphia, PA 19106	A+ XV

COVERAGES This certificate supersedes and replaces any previously issued certificate.

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE DESCRIBED HEREIN HAVE BEEN ISSUED TO THE INSURED NAMED HEREIN FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THE CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, CONDITIONS AND EXCLUSIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY (1) (3) (4) X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR OWNER'S & CONTRACTOR'S PROT X Contractual X X,C,U (Explosion, Collapse, Underground) X Additional Insured-Owners Lessees or Contractors See Below	HDOG23746396	10-1-2008	10-1-2009	GENERAL AGGREGATE PRODUCTS-COMP/OP AGG PERSONAL & ADV INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person)	$ 5,000,000 $ 5,000,000 $ 5,000,000 $ 5,000,000 $ 5,000,000 $ 50,000
B	AUTOMOBILE LIABILITY (2) (3) (4) X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	90-04606-01	10-1-2008	10-1-2009	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	$ 5,000,000
	GARAGE LIABILITY ANY AUTO				AUTO ONLY-EA ACCIDENT OTHER THAN AUTO ONLY: EACH ACCIDENT	
D	EXCESS LIABILITY X UMBRELLA FORM OTHER THAN UMBRELLA FORM	XOO G23865014	10-1-2008	10-1-2009	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY (4) THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: X INCL / EXCL	WLR42850585 – AOS WLRC42850573 – CA SCFC42850615 – WI WCUC42850627 – EX WC	10-1-2008	10-1-2009	X WC STATU-TORY LIMITS / OTH-ER EL EACH ACCIDENT EL DISEASE-POLICY LIMIT EL DISEASE-EACH EMPLOYEE	 $ 1,000,000 $ 1,000,000 $ 1,000,000

OTHER
(1) ADDITIONAL INSURED: If required by contract, includes coverage for Additional Insureds per attached endorsement.
(2) ADDITIONAL INSURED: If required by contract, includes coverage for Additional Insureds and Loss Payee as required by contract.
(3) PRIMARY COVERAGE: Where required by lease or contract, this coverage is primary and not excess of or contributing with other insurance or self-insurance.
(4) WAIVER OF SUBROGATION: Insured waives subrogation to the extent required by contract.

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS JCI Contract No.
Project Name:
Customer PO Number:

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ~~ENDEAVOR TO~~ MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, ~~BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES.~~

MARSH USA INC. BY:

Kathleen E Nixon

*A.M. Best ratings of insurers are provided for information purposes only and are based upon information with respect to such ratings available to Marsh USA Inc. on the date set forth herein with respect to such ratings. Marsh USA Inc. will not, and will have no responsibility or obligation to, inform the certificate holder or any person relying upon this certificate of any changes in such A.M. Best ratings occurring after such date. Marsh USA Inc. will have no liability with respect to the solvency or future ability to pay claims of any of the insurance companies which have issued the insurance policies referenced herein.

**The Auto Liability placement was made by Risk Management Resources, Inc., 205 W. Wacker Dr., Suite 822, Chicago, IL 60606. Marsh USA Inc. acts in the role of consultant to the Insured with respect to this placement, which is indicated here for your convenience.

POLICY NUMBER: HDOG23746396 **COMMERICAL GENERAL LIABILITY**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE
Name of Additional Insured Person(s) Or Organization(s):
If required by contract,
Location(s) Of Covered Operations
As required by contract,
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Endorsement #A2

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

A. **Section II – Who is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused solely by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Endorsement #A2A

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS – NAMED INSURED'S ACTS OR OMISSIONS ONLY

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused solely by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard."

EXHIBIT I
PERFORMANCE BOND

To be provided after the execution of this Contract.

EXHIBIT II
LABOR AND MATERIAL PAYMENT BOND

To be provided after the execution of this Contract.

EXHIBIT III (ii)
Notice of Substantial Completion

Notice of Substantial Completion

Notice of Substantial Completion

Date of Notice _____

Notice is hereby given that ***Customer*** accepts the installed equipment and establishes a performance period start date of _____.

City of Grand Junction, Colorado

By _____

Date

When completely executed, this form is to be sent by certified mail to the Contractor by the City of Grand Junction, Colorado.

EXHIBIT IV
EQUIPMENT WARRANTIES

The Equipment warranties will be obtained and transferred to the customer as part of the installation completion process.

EXHIBIT V
MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES

N/A

EXHIBIT VI
CERTIFICATION THAT LIFETIME OF EQUIPMENT EXCEEDS FINANCING TERM

N/A – Project will not be financed (Self Funded by the City)

APPENDIX A:
LEASE AGREEMENTS AND DOCUMENTS

N/A – the City will self fund this project.

APPENDIX B: RFP AND PROPOSAL FOR CONTRACTOR SOLICITATION

Johnson Controls, Inc., (JCI) has generated Requests for Proposals (RFP's) to obtain contractor pricing to perform the Work required by the Agreement. JCI has attempted to obtain a minimum of three competitive proposals for each component of work with the exception of the building envelope improvement scope.

Contracts shall be awarded to the lowest responsive and responsible respondent. In making such determination, the factors to be considered include, but are not limited to, the ability, capacity and skill of the respondent, whether the respondent can perform the required services within the required time, the integrity, reputation, experience and character of the respondent, sufficiency of the respondent's financial resources, quality and availability of materials and services, ability to provide maintenance or service as applicable and any other circumstances which affect respondent's performance of the contract. Additionally, preference shall be given to qualified respondent's located within the City of Grand Junction.

JCI shall, as part of the process, provide the City copies of all RFP documents and responses, for its review prior to JCI's entering into a contract with the lowest responsive and responsible respondent.

APPENDIX C:

CONTRACTOR PROPOSAL

The Technical Energy Audit document dated February 4th, 2009 is hereby incorporated into this contract by reference. The Notice of Final Acceptance of Technical Energy Audit Report dated February 5, 2009, follows this page as evidence of the City of Grand Junction's acceptance of this Report.

02/05/2009 11:22 9702552550 FACILITIES PAGE 01

Notice of Acceptance of Technical Energy Audit Report
City of Grand Junction, Colorado

City of Grand Junction, Colorado

Notice of Acceptance

Date of Notice 2/5/09

Notice is hereby given that *the City of Grand Junction, Colorado* accepts the Technical Energy Audit and Project Development Proposal by Johnson Controls, Inc.

Accepted by
Name: James D. Spehar
Title: Facilities Manager
Signature:
Date: 2-5-09