

DRAFT 2.0

July 14, 2008

PERFORMANCE CONTRACT

**PARTIES:** JOHNSON CONTROLS, INC. (JCI)  
N22 W22922 Nancys Court  
Waukesha, WI 53186

CITY OF MILWAUKEE  
841 N. Broadway  
Milwaukee, WI 53202

**AGREEMENT DOCUMENTS:** In addition to the terms and conditions of this Performance Contract, incorporated into this Agreement are the following (check as applicable). In the event of any conflict between this Performance Contract and any Schedule or other Agreement Document, the terms of this Performance Contract will control. Terms and conditions of this Agreement take precedence over the terms and conditions of any other agreement between JCI and the Customer as it relates to the Scope of Work described herein.

- ☒ Schedule 1--Scope of Work Schedule
- ☒ Schedule 2--Assured Performance Guarantee Schedule
- ☒ Schedule 3--Services Schedule
  - ☒ Schedule 3 -Exhibit 1
- ☒ Schedule 4A--Price and Payment Terms Schedule
  - ☒ ~~Schedule 4b--Lease/Purchase Payment Schedule~~
- X Schedule 5 – Department of Public Works, City of Milwaukee, General Specifications (January 31, 1992)
- X Schedule 6 – JCI Audit (February 25, 2008) and supplements

- 1. SCOPE OF THE AGREEMENT.** JCI agrees to install identifiable improvement measures as delineated in Scope of Work Schedule (Schedule 1) which will result in Project Benefits as set forth in the Assured Performance Guarantee (Schedule 2). After installation of the improvement measures, JCI agrees to provide the services identified in Services Schedule (Schedule 3), that include services that are necessary to monitor, measure, and achieve the identified Project Benefits, subject to the terms of the Assured Performance Guarantee (Schedule 2). The Customer agrees to take all actions identified in this Agreement that are necessary to achieve the Project Benefits identified. JCI shall supervise and direct the Work and Services and shall be solely responsible for all construction means, methods, techniques, sequences, and

procedures and for coordinating all portions of the Work and Services under this Agreement. JCI 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, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work and Services. The Customer's payments to JCI and its interest in the Equipment will be based upon the terms of Schedule 4.

**2. TERM.** The Term of this Agreement for each phase of the Work shall begin on the Commencement Date, which shall be ~~July 1, 2008 or, if no date is included, the date of this Agreement or the date a Notice to Proceed is issued by the Customer, whichever is later.~~ If the Work is divided into phases or individual projects for which individual prices have been negotiated, then separate Commencement Dates shall apply to each phase or individual project. The Work for each phase shall be completed by the Substantial Completion Date, which shall be the earlier of:

- (a) the date on which the Customer executes a Certificate of Substantial Completion; or
- (b) 12 months after the Commencement Date, subject to adjustments as set forth in Paragraph 3 below.

~~If the Work is divided into phases or individual projects for which individual prices have been negotiated, then separate Substantial Completion Dates shall apply to each phase or individual project.~~ Substantial Completion means that JCI has provided sufficient materials and services to permit the Customer to operate the Equipment or achieve the intended Project Benefits. The Services shall commence on the Substantial Completion Date and shall continue for the periods stated in Schedule 3, unless terminated earlier by the Customer, 36 months. The term of the Assured Performance Guarantee (see Schedule 2) shall coincide with the term of the Services Schedule (see Schedule 3). If for any reason, the Customer cancels or breaches this Agreement, including but not limited to the Service Schedule, the Assured Performance Guarantee shall automatically terminate. The Payment Term shall be defined in Price and Payment Term Schedule (Schedule 4).

**3. DELAYS.** If JCI is delayed in the commencement or completion of the Work and/or Services by causes beyond its control and without its fault or negligence, including but not limited to inability to access property, fire, flood, labor disputes, unusual delays in deliveries, abnormal adverse weather conditions, acts of God, acts of war and acts of terrorism or by failure by the Customer to perform its obligations under the Performance Contract and

Schedules or failure by the Customer to cooperate with JCI in the timely completion of the Work, then JCI shall provide written notice to the Customer of the existence, extent of, and reason for such delays. An equitable adjustment in Substantial Completion Date, Payment Terms and Assured Performance Guarantee shall be made as a result, or JCI shall be relieved of such delayed obligation, at the option of the Customer.

**ACCESS.** Customer is responsible to provide JCI, its subcontractors and/or its agents reasonable and safe access to all facilities and properties that are in the Customer's control which are subject to the Work and Services contained in this Agreement. Customer further agrees to assist JCI, its subcontractors and/or its agents to gain access to facilities and properties that are not controlled by the Customer which are subject to the Work and Services contained in this Agreement. An equitable adjustment in Substantial Completion Date, Payment Terms and Assured Performance Guarantee shall be made as a result of any failure to grant such access, or JCI shall be relieved of such denied obligation at the option of the Customer.

4. **CERTIFICATE OF SUBSTANTIAL COMPLETION.** The Certificate of Substantial Completion to be executed by the Customer shall include:
- a. an acknowledgement by the Customer of the buildings or Improvement Measures substantially completed and the Substantial Completion Date for each building or Improvement Measure;
  - b. an acknowledgment by the Customer of receipt of manuals and training provided by JCI under the Agreement;
  - c. an acknowledgement by the Customer of the warranty start date and warranty period;
  - d. a punchlist of items remaining to be completed by JCI and,
  - e. an acknowledgement by the Customer that
    - (i) changes of fire or alarm control points may significantly alter a life safety system, and contribute to a dangerous or life-threatening situation.
    - (ii) changes to fire or alarm points may also require approval of local fire authority; changes to other control points may be linked to the life safety system and affect it; and after each such change, the life safety system should be exercised to see that its integrity has not been violated and it functions properly, as was intended.

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- (iii) JCI does not warrant against system malfunction caused by improper use, misuse or wrong entry of data by the customer, and JCI shall not be liable for situations or damages that are the direct result of user-generated databases.

5. **TAXES, PERMITS, AND FEES.** JCI shall be responsible for obtaining all permits and related permit fees associated with the Work and Services. JCI shall pay sales, consumer, use, and other similar taxes and shall secure and pay for the building permit and other permits and governmental fees, licenses, and inspections necessary for proper execution. The Customer shall be responsible for securing any necessary approvals, easements, assessments, or zoning changes and shall be responsible for real estate and personal property taxes where applicable. JCI makes no representations regarding the tax implications or Customer's accounting treatment of this Agreement.
6. **WARRANTY.** JCI warrants that materials and equipment furnished by JCI will be of good quality and new; that the Work will be free from defects not inherent in the quality required or permitted; and that the Work and Services will conform to the requirements of the Agreement Documents. JCI warrants that the Work shall be free from defects in material and workmanship arising from normal usage for a period of one year from the Substantial Completion Date and that its Services will be free from defects in workmanship, design, and material until the end of the Term, or for one year, whichever is earlier. Upon written notice from the Customer, JCI shall, at its option, repair or replace the defective Work or re-perform defective Services. These warranties do not extend to any Work or Services that have been abused, altered, misused, or repaired by the Customer or third parties without the supervision of and prior written approval of JCI; or if JCI serial numbers or warranty date decals have been removed or altered. The Customer must promptly report any failure of the Equipment to JCI in writing. All replaced Equipment or parts become JCI's property. All warranties, terms and conditions as set forth in City of Milwaukee Specification 12c-F-31 and 12c-F-32 dated September 18, 2007 for Light Emitting Diode (LED) vehicular and pedestrian traffic signal modules shall be in effect for all LED traffic signal indications installed under this contract.

~~THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY AND FITNESS FOR A SPECIFIC PURPOSE.~~

~~Customer understands that JCI is a provider of services under this Agreement. JCI shall not be considered a merchant or a vendor of goods. If~~

~~JCI installs or furnishes a piece of equipment under this Agreement, and that equipment is covered by a warranty from the manufacturer, JCI will transfer the benefits of that manufacturer's warranty to Customer if this Agreement with Customer terminates before the equipment manufacturer's warranty expires.~~

7. **CLEANUP.** JCI shall keep the premises and the surrounding area free from accumulation of waste materials or rubbish caused by the Work and, upon completion of the Work, JCI shall remove all waste materials, rubbish, tools, construction equipment, machinery, and surplus materials.
8. **SAFETY.** JCI shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Work or Services. JCI shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities related to safety of persons or property. The following requirements shall be in effect during the retrofit of traffic signal indications:
  - A. During LED indication installation, traffic signals shall remain operational.
  - B. No closure of any traffic lane or obstruction of any roadway shall occur on weekdays between the hours of 6 AM and 9 AM, and 2:30 PM and 6:30 PM.
  - C. Maintain a minimum of one eleven-foot wide traffic lane in each direction on the proper side of the roadway at all times during working hours. All traffic lanes must be open and clear of obstruction during non-working hours.
  - D. Appropriate Traffic Control is to be provided for any lane closure or other roadway obstruction, and is to be consistent with the requirements for work zone traffic control as set forth in Par 6 of the Manual on Uniform Traffic Control Devices for Streets and Highways.
9. **HAZARDOUS MATERIALS.** Unless specifically noted in Schedule 1, JCI's obligations expressly exclude any Work or Services of any nature associated or connected with the identification, abatement, cleanup, control, removal, or disposal of hazardous materials or substances, including but not limited to asbestos, lead or PCBs, in or on the premises in which JCI will be required to perform Work. ~~The Customer warrants and represents that, to the best of the Customer's knowledge, there is no asbestos or other hazardous materials in the Customer's building(s) or other premises in which JCI will be required to perform Work that will in any way affect JCI's~~ Work. Should JCI become aware of or suspect the presence of asbestos or other hazardous materials, JCI shall have the right to stop work in the affected area immediately and notify the Customer. The Customer will be responsible for doing whatever is necessary to correct the condition in accordance with all

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applicable statutes and regulations. The Customer agrees to assume responsibility for any claims arising out of or relating to the presence of asbestos or other hazardous materials in the Customer's buildings or any premises in which JCI will be required to perform Work.

10. **INSURANCE.** Prior to commencing the Work, JCI shall provide a certificate of insurance with Contractor showing its insurance coverage's, and JCI shall maintain such insurance in full force and effect at all times until the Work and Services have been completed, in the following minimum amounts:

| COVERAGES  | LIMITS OF LIABILITY                                      |
|--|--|
| Workmen's Compensation Insurance or self insurance, including Employer's Liability | Statutory  |
| Comprehensive General Liability Insurance, including Contractual.                  | \$5,000,000 One Occurrence<br>\$5,000,000 Each Aggregate |
| Comprehensive Automobile Liability Insurance                                       | \$5,000,000 Combined Single Limit                        |

The above limits are obtained through primary and excess policies.

~~The Customer shall be responsible for obtaining any builder's risk insurance and shall assume full responsibility for any risk of loss to the Work. In all other respects, JCI shall comply with the Liability and Insurance provisions of the DPW General Specifications (Schedule 5).~~

11. **INDEMNITY.** The Customer assumes all risk and liability for the use, operation, and storage of the Equipment, and for injuries or death to persons or damage to property arising out of the use, operation, or storage of the Equipment, except for any injuries or death to persons or damage to property caused by the negligence of JCI, its employees, agents or assigns. The Customer shall indemnify and hold harmless JCI, its employees, agents, and assigns from and against all claims, actions, damages, liabilities, and expenses, including attorney's fees, that they may incur, pay or sustain as a result of any negligent, intentional, or wrongful act, error or omission of the City in the performance of this Agreement arising out of or related to this Agreement, except for injuries or death to persons or damage to property caused by the negligence of JCI, its employees, agents or assigns.

JCI shall indemnify and hold harmless the Customer, its employees, agents, and assigns against all claims, actions, damages, liabilities, and expenses, including attorney's fees, arising out of or related to any claims of patent infringement and any claims of construction or material man's lien made by any subcontractor or material man. JCI and the Customer agree that JCI shall be responsible only for such injury, loss, or damage caused by the intentional misconduct or the negligence act or omission of JCI. The obligations of JCI and of the Customer under this paragraph are further subject to paragraph 12 below.

**12. LIABILITY AND FORCE MAJEURE.** JCI shall not be liable under this Agreement in an amount in excess of its primary general comprehensive policy limits, with the exception of claims relating to personal injury, death or property damage. Neither JCI nor the Customer will be responsible to the other for any special, indirect, or consequential damages arising in any manner from the Work or Services. Neither party will be responsible to the other for damages, loss, injury, or delay caused by conditions that are beyond the reasonable control, and without the intentional misconduct or negligence, of that party. Such conditions include, but are not limited to: acts of God; acts of Government agencies; strikes; labor disputes; fire; explosions or other casualties; thefts; vandalism; riots or war; acts of terrorism; or unavailability of parts, materials or supplies. If this Agreement covers fire safety or security equipment, the Customer understands that JCI is not an insurer regarding those services. JCI shall not be responsible for any damage or loss that may result from fire safety or security equipment that fails to perform properly or fails to prevent a casualty loss. JCI is also not responsible for any injury, loss, or damage caused by equipment that is not Covered Equipment, as defined in Schedule 3.

**13. JCI'S PROPERTY.** All materials furnished by and used by JCI personnel and/or JCI authorized subcontractors or agents at the installation site, including documentation, schematics, test equipment, software, and associated media, which are not deliverables under this Agreement remain the exclusive property of JCI. The Customer agrees not to use such materials for any purpose at any time. The Customer agrees to allow JCI personnel and/or JCI authorized subcontractors or agents to retrieve and to remove all such materials remaining after installation or maintenance operations have been completed. The Customer acknowledges that all JCI software included is proprietary and will be delivered only under the provisions of an appropriate Software License Agreement that will limit its use to the system purchased under this Agreement.

14. **DISPUTES.** If a dispute arises under this Agreement, the parties shall promptly attempt in good faith to resolve the dispute by negotiation. If negotiation is unsuccessful, litigation venued in Wisconsin may be commenced. ~~All disputes not resolved by negotiation shall be resolved in accordance with the Commercial Rules of the American Arbitration Association in effect at that time, except as modified herein. All disputes shall be decided by a single arbitrator. A decision shall be rendered by the arbitrator no later than nine months after the demand for arbitration is filed, and the arbitrator shall state in writing the factual and legal basis for the award. No discovery shall be permitted. The arbitrator shall issue a scheduling order that shall not be modified except by the mutual agreement of the parties. Judgment may be entered upon the award in the highest state or federal court having jurisdiction over the matter. The prevailing party shall recover all costs, including attorney's fees, incurred as a result of the dispute. If the Customer is a state or local governmental entity, then this paragraph may not apply.~~
15. **MODIFICATIONS.** Additions, deletions, and modifications to this Agreement may be made upon the mutual agreement of the parties in writing. The parties contemplate that such modifications may include but are not limited to the installation of additional improvement measures, energy conservation measures, facility improvement measures, and operational efficiency improvements or furnishing of additional services within the identified facilities, as well as other facilities owned or operated by the Customer. These modifications may take the form of additional phases of work or modifications to the original scope of Work or Services.
16. **NOTICES.** All notices or communications related to this Agreement shall be in writing and shall be deemed served if and when sent by facsimile or mailed by certified or registered mail to JCI at the address listed on page 1 of this Performance Contract and to JCI, ATTN: General Counsel - Controls, 507 East Michigan Street, Milwaukee, Wisconsin, 53202, and to Customer at the address listed on page 1 of this Performance Contract.
17. **ADDITIONAL TERMS.**
- A. Any failure of JCI to require strict performance by the Customer, or any waiver by JCI of any requirement under this Agreement, does not consent to or waive any subsequent failure or breach by the Customer.
  - B. If any provision of this Agreement is invalid under any applicable law, that provision shall not apply, but the remaining provisions shall apply as written.
  - C. Pursuant to Wis. Stats. § 66.0131(6), JCI must provide payment and performance bonds in an amount equivalent to the maximum amount of



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any payments due under this Agreement. Bond forms acceptable to the Customer are attached hereto, and must be returned by JCI with an executed copy of this Agreement.

D. JCI will comply with applicable minimum wage laws and file required time reports. The minimum wage scale is attached to this Agreement.

E. Both parties understand that the Customer is bound by the Wisconsin Public Records Law, and as such, all of the terms of this Agreement are subject to and conditioned on the provisions of Wis. Stat. § 19.21 et. seq. JCI acknowledges that it is obligated to assist the Customer in retaining and producing records that are subject to Wisconsin Public Records Law, and that the failure to do so shall constitute a material breach of this Agreement, and that JCI must defend and hold the Customer harmless from liability under that law. Except as otherwise authorized, those records shall be maintained for a period of seven years after receipt of final payment under this Agreement.

F. JCI acknowledges that, notwithstanding anything to the contrary contained in this Agreement, it must comply with City of Milwaukee Specification 12-c-F-31 and 12-c-F-32 (September 18, 2007), relating to LED traffic signal modules.

G. JCI acknowledges that the EBE requirement for this work is 18%. Instructions and required forms are attached to this Agreement.

H. The City of Milwaukee's prompt-payment policy applies to this Agreement: The Customer strives to make timely payment on all invoices. Payment to JCI will be deemed timely if the payment is mailed, delivered, or transferred within 60 calendar days after receipt of a properly completed invoice. If the Customer does not make payment by the 60<sup>th</sup> calendar day, it shall pay simple interest beginning with the 31<sup>st</sup> calendar day at the rate of one percent (1%) per month (unless the Customer disputes the amount of the invoice). Reference Common Council File No. 900859 adopted October 16, 19909. Provisions of state statute 66.285 and 66.286.

I. Payments are subject to annual appropriation of funds by the Common Council. Wisconsin Statute Section 66.0133(6).

I-J. The captions and titles in this Agreement are for convenience only and shall not affect the interpretation or meaning of this Agreement.

J-K. This Agreement is the full Agreement between JCI and the Customer as of the date it is signed. All previous conversations, correspondence, agreements, or representations related to this Agreement (including any Project Development Agreement) are not part of the Agreement between JCI and the Customer and are superseded by this Agreement.

K-L. This Agreement shall be construed in accordance with the laws of the state of the principal place of Business of the Customer at the time of the execution of this Agreement.

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L.M. If there is more than one Customer named in this Agreement, the liability of each shall be joint and several.

**NOTICE**

**JCI MAKES NO WARRANTIES AS TO THE EQUIPMENT EXCEPT  
AS SET FORTH ABOVE.**

Dated July 1, 2008

\_\_\_\_\_  
CITY OF MILWAUKEE

\_\_\_\_\_  
COMMISSIONER OF PUBLIC WORKS

\_\_\_\_\_  
Dated: \_\_\_\_\_

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COUNTERSIGNED:

\_\_\_\_\_  
W. Martin Morics, Comptroller

\_\_\_\_\_  
Dated:

\_\_\_\_\_  
JOHNSON CONTROLS, INC.

\_\_\_\_\_  
By:

\_\_\_\_\_  
Dated:

Approved as to form and execution  
this        of        , 2008.

\_\_\_\_\_  
Deputy City Attorney

JOHNSON CONTROLS, INC.

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

## SCOPE OF WORK SCHEDULE

1. **SUMMARY OF WORK:** The following summarizes the Work to be provided by JCI under this Agreement, as further defined below:

| Scope Of Work Summary:  |
|---|
| 1. Boiler Replacement (Safety Academy)                        |
| 2. Condition "A" assessment Unit Ventilators (Safety Academy) |
| 3. Control System retrofits (Safety Academy)                  |
| 4. Lighting Retrofits (Safety Academy)                        |
| 5. Water Conservation Retrofits (Safety Academy)              |
| 6. LED Traffic Signal Retrofits                               |

1. **Boiler Replacement (Safety Academy)**

Mechanical scope: Johnson Controls Supply and install four (4) high efficiency hot water modular boilers.

- Remove two (2) Weil McLain cast sectional boilers 3770-MBH hot water boilers, boiler circulating pumps, expansion tank, air separator and associated beaching in boiler room.
- Provide and install four (4) 2-MMBTU/hr high efficiency modular hot water boilers combined with four (4) boiler circulating pumps.
- Provide and install natural gas piping for the four (4) 2-MMBTU gas fired boilers.
- Provide and install other heating ancillary devices that include air separator, bladder expansion tank and A1294C stainless breaching.
- The combustion air for the boilers will be tied into the existing riser stacks.
- Provide and install pipe insulation
- Provide modifications to the existing housekeeping pads to meet the footprint of the new heating plant.
- Furnish and install three (3) wells for secondary hot water control and monitoring.

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- Provide all required permits for new boilers.
- All asbestos removal will be done by the City of Milwaukee.

### Electrical:

- Provide all required electrical power wiring, disconnects, starters and interlocks for four (4) new gas fired modular boilers, boiler circulating pumps, and boiler control panel.

### Controls:

- Provide DDC control for the (4) four new hot water boilers.
- Sequence the boilers, modulate the burners and reset the hot water supply temperature.
- Interlock the four boiler circulating pumps.
- Provide start/stop & status to the existing secondary hot water pump.
- Connect N2 communication cable to the new DDC controller.

Note: The existing heating and cooling piping and pumping associated with the two pipe heating/cooling system will remain intact.

One time operational savings at the Safety Academy represents the pending repair cost associated with the two existing cast sectional boilers, noting that one unit is currently down and not operating. The estimated cost of this repair will be avoided by implementing the proposed heating plant improvement measures as part of the proposed project. Additional annual operational savings were determined based upon review of two years of Buildings & Fleet Work Order history and identification of unscheduled repairs/maintenance of heating and control system related issues. The associated labor and material costs were accumulated and averaged for the two year period sampled. These savings are counted in only the first five years.

## 2. Condition "A" assessment Unit Ventilators (Safety Academy)

Scope: Johnson Controls will perform a condition "A" assessment of (34) thirty four Unit Ventilators.

- Perform a condition "A" assessment of the (34) thirty four Unit Ventilators. The assessment will involve a detailed inspection of the unit ventilators including, mechanical operations (e.g. motor condition, motor mounts, belts, bearings, coil condition) and controls (hot water valve, damper actuator, thermostat). Johnson Controls will make recommendations for mechanical repairs of each unit as necessary. Recommended unit ventilator repairs are not included in the scope of this contract.
- Johnson Controls will calibrate the existing controls for the (34) thirty four Unit Ventilators. It is expected that the Unit Ventilators will be able to maintain space temperature, setback in winter to a cooler room temperature, switch automatically from heating to cooling based on central plant configuration and operate with the economizer mode during winter operation.

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Existing Unit Ventilator calibration for rooms with unit ventilators include:

- Space thermostats
- Switching from heating to cooling
- Space Temperature Setback operation
- Pressure electric switch

### 3. Control System Retrofits (Safety Academy)

Controls Scope: Johnson Controls will upgrade following control systems.

- Network system using N2 communication bus:
- Replace the existing NCM panel with a NAE panel.
- Extend N2 communication trunk within the building.
- Provide Safety Academy dynamic graphics on the City of Milwaukee existing central Metasys server.

Replace the pneumatic controllers to DDC controllers:

- Air Handlers AHU-1, 2, 3, 6, 13, 14, B1, B15.
- Reuse existing valve and damper pneumatic actuation.
- Provide an override timer by the room temperature sensor (AHU-1 will have two room temperature sensors with override timers to allow the Police rooms and the Fire Dept rooms to override individually).
- Connect N2 communication cable to the new DDC controllers.

Replace the pneumatic controllers to DDC controllers for Air Handler AHU-5:

- Replace valve and damper pneumatic actuation with electric actuation.
- Provide an override timer by the room temperature sensor.
- Connect N2 communication cable to the new DDC controller.

Replace the pneumatic actuation with electric actuation Air Handler AHU-8:

- Replace valve and damper pneumatic actuation with electric actuation.
- This controller is DDC and connected to the N2 communication bus already.

Controls for stand-alone water cooled air handler Air Handler AHU-B2:

- Replace pneumatic PE switch with a DDC enable/disable relay.
- Provide an override timer by the room temperature sensor.
- Schedule the unit enable/disable via the N2 communication network.

Replace the standalone thermostat to a networked thermostat rooftop unit serving Room 308 Police Office:

- Replace thermostat with a DDC thermostat.
- Connect N2 communication cable to the new DDC thermostat.

Provide a DDC lockout to a standalone thermostat for the rooftop unit serving Room 325 Police Room:

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- Schedule the rooftop unit to disable via a relay on the N2 communication network.

Provide temporary override timer to turn on the fans that already utilize DDC.

- Provide override timer switches that will provide a temporary override to the DDC schedule for Air Handlers AHU-4, 8, 9, 10, 11, 12, 15.
- Reuse the existing room temperature sensor and mount the new timer override next to the temperature sensor.
- Wire extra cable to associated air handler DDC control panels.

Upgrade the Domestic Hot Water Controls to utilize direct digital control.

- Provide DDC control for the existing domestic water heater, pumps and 3-way automatic valve.
- Reuse existing pneumatic actuation that resides on Domestic Converter.
- Connect N2 communication cable to the new DDC controller.

Digitally switch the existing Unit Vent North & South Zone Controls for time of day scheduling.

- Provide DDC control for the two unit vent zones.
- Reuse existing pneumatic switching valves.
- Schedule the two valves via the N2 communication bus.
- Provide two new Metastat room temperature sensors and an override timer on the 2nd floor (one in a north room, one in a south room).
- Remove existing pneumatic occupied/unoccupied switches from the equipment room.
- Monitor the status of the day/night switchline for both zones.
- Monitor the status of the heating/cooling switchline.

Provide and install a DDC lockout for the existing chiller.

- Schedule the chiller to disable via the N2 communication network.

### **Other required tasking.**

- Startup of control systems.
- Training – 16 hours of on-site training by Johnson Controls.
- Co-ordination with the Johnson Controls project manager for scheduling requirements.
- Complete installation drawings and As-built drawings.
- All required software for energy saving sequences.
- Setup all scheduling, alarming, and totalization for the M&V requirements.

### **4. Upgrade the following Lighting fixtures to high efficiency Lighting (Safety Academy)**

Annual Operational Savings relating to the lighting fixtures upgrade were determined based upon a review of two years of Buildings & Fleet Work Order history and identified

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unscheduled repairs/maintenance of room lighting bulbs and/or fixtures. Associated lighting material savings were also estimated and included as operational savings with the lighting upgrade.

Lighting Scope: Johnson Controls will furnish and install retrofits for the following lighting fixtures.

| Room # | Floor | Room Type and Number | Existing Lighting System Description                    | Upgraded Lighting System Description               | Quantity of Fixtures |
|--------|-------|----------------------|---|--|----------------------|
| 101    | 1     | OFFICE               | Existing (2) lamp T8 lay-in parabolic cube fixture.     | Reflector Kit: 2' T8 lamp and electronic ballast.  | 9                    |
| 101    | 1     | OFFICE               | Existing (3) lamp T8 lay-in parabolic fixture.          | Reflector Kit: T8 lamp and electronic ballast.     | 2                    |
| 101    | 1     | OFFICE               | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1                    |
| 103    | 1     | OFFICE               | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18                   |
| 103    | 1     | OFFICE               | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1                    |
| 104    | 1     | OFFICE               | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 8                    |
| 105    | 1     | OFFICE               | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18                   |
| 105    | 1     | OFFICE               | No existing lighting                                    | NEW: Occupancy                                     | 1                    |



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|     |   |           | control.  | Sensor  |    |
|-----|---|-----------|---|---|----|
| 106 | 1 | OFFICE    | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 20 |
| 106 | 1 | OFFICE    | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 2  |
| 107 | 1 | LOUNGE    | Existing (2) 60 watt incandescent drum fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1  |
| 107 | 1 | LOUNGE    | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 108 | 1 | OFFICE    | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 18 |
| 108 | 1 | HALL      | Existing 100 watt incandescent, lay-in fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1  |
| 108 | 1 | OFFICE    | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 109 | 1 | CLASSROOM | Existing (2) lamp T8 lay-in parabolic cube fixture.     | Reflector Kit: 2' T8 lamp and electronic ballast.           | 10 |
| 110 | 1 | COPY      | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |

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|     |   |         |   |   |    |
|-----|---|---------|---|---|----|
| 110 | 1 | COPY    | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 113 | 1 | STORAGE | Existing (1) lamp T12 strip Fixture.                    | Retrofit with 4' T8 lamps and electronic ballast..          | 8  |
| 113 | 1 | STORAGE | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 116 | 1 | OFFICE  | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |
| 116 | 1 | OFFICE  | Existing 100 watt incandescent can fixture.             | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1  |
| 116 | 1 | OFFICE  | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 117 | 1 | OFFICE  | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 1  |
| 117 | 1 | OFFICE  | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |
| 117 | 1 | OFFICE  | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 16 |
| 117 | 1 | OFFICE  | Existing 100 watt incandescent                          | Compact Fluorescent Lamp:                                   | 1  |

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|     |   |        |   |   |   |
|-----|---|--------|---|---|---|
|     |   |        | can fixture.  | Screw-in Compact Fluorescent Lamp                           |   |
| 117 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1 |
| 118 | 1 | OFFICE | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 2 |
| 118 | 1 | OFFICE | Existing 100 watt incandescent can fixture.             | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 118 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1 |
| 119 | 1 | OFFICE | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 2 |
| 119 | 1 | OFFICE | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 1 |
| 119 | 1 | OFFICE | Existing 100 watt incandescent can fixture.             | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 119 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1 |
| 120 | 1 | OFFICE | Existing (2) lamp T12                                   | Retrofit with 4' T8   | 2 |

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|     |   |        |   |  |   |
|-----|---|--------|---|--|---|
|     |   |        | wraparound fixture.                                     | lamps and electronic ballast..                     |   |
| 120 | 1 | OFFICE | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 2 |
| 120 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 120 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 121 | 1 | OFFICE | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast.. | 4 |
| 121 | 1 | OFFICE | Existing (3) 13 watt compact florescent fixture.        | DON'T DO: not included in project                  | 6 |
| 121 | 1 | OFFICE | Existing (4) lamp T12 box fixture.                      | Reflector Kit: T8 lamp and electronic ballast.     | 1 |
| 121 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 124 | 1 | OFFICE | Existing (4) lamp T12 box fixture.                      | Reflector Kit: T8 lamp and electronic ballast.     | 2 |
| 124 | 1 | OFFICE | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 125 | 1 | OFFICE | Existing (4) lamp T12 box fixture.                      | Reflector Kit: T8 lamp and electronic              | 2 |

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|     |   |                |   |   |   |
|-----|---|----------------|---|---|---|
|     |   |                |   | ballast.  |   |
| 125 | 1 | OFFICE         | No existing lighting control.               | NEW: Occupancy Sensor                                       | 1 |
| 127 | 1 | JANITOR CLOSET | Existing 200 watt incandescent fixture.     | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 128 | 1 | LOUNGE         | Existing (4) lamp T12 lay-in fixture.       | Reflector Kit: T8 lamp and electronic ballast               | 2 |
| 128 | 1 | LOUNGE         | Existing 100 watt incandescent can fixture. | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 128 | 1 | LOUNGE         | No existing lighting control.               | NEW: Occupancy Sensor                                       | 1 |
| 129 | 1 | OFFICE         | Existing (4) lamp T12 lay-in fixture.       | Reflector Kit: T8 lamp and electronic ballast.              | 2 |
| 129 | 1 | OFFICE         | Existing 100 watt incandescent can fixture. | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 129 | 1 | OFFICE         | No existing lighting control.               | NEW: Occupancy Sensor                                       | 1 |
| 131 | 1 | HALL           | Existing (2) 13 watt compact                | DON'T DO: not included in project                           | 7 |

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|     |   |                |  |   |   |
|-----|---|----------------|--|---|---|
|     |   |                | fluorescent fixture.                             |   |   |
| 131 | 1 | HALL           | Existing 100 watt incandescent, lay-in fixture.  | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2 |
| 131 | 1 | JANITOR CLOSET | Existing 42 watt compact fluorescent lamp.       | DON'T DO: not included in project                           | 2 |
| 131 | 1 | HALL           | Existing LED fixture.                            | DON'T DO: not included in project                           | 1 |
| 132 | 1 | RESTROOM       | Existing (2) 60 watt incandescent vanity fixture | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 132 | 1 | LOUNGE         | Existing (2) lamp T12 lay-in fixture.            | Retrofit with 4' T8 lamps and electronic ballast..          | 4 |
| 132 | 1 | RESTROOM       | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1 |
| 132 | 1 | LOUNGE         | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1 |
| 136 | 1 | RESTROOM       | Existing (2) 60 watt incandescent vanity fixture | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 136 | 1 | RESTROOM       | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1 |

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|     |   |          |   |   |    |
|-----|---|----------|---|---|----|
| 137 | 1 | RESTROOM | Do not retrofit these Fixtures.                         | DON'T DO: not included in project                           | 1  |
| 137 | 1 | RESTROOM | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 4  |
| 137 | 1 | RESTROOM | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |
| 137 | 1 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 8  |
| 137 | 1 | OFFICE   | Existing 100 watt incandescent, lay-in fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1  |
| 137 | 1 | RESTROOM | Existing 100 watt incandescent, lay-in fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 16 |
| 137 | 1 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 137 | 1 | RESTROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 3  |
| 138 | 1 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 8  |
| 138 | 1 | OFFICE   | No existing   | NEW:  | 1  |

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|     |   |          |   |   |   |
|-----|---|----------|---|---|---|
|     |   |          | lighting control.                                       | Occupancy Sensor  |   |
| 139 | 1 | RESTROOM | Existing (2) 60 watt incandescent vanity fixture        | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 139 | 1 | RESTROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1 |
| 140 | 1 | RESTROOM | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 1 |
| 140 | 1 | RESTROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1 |
| 141 | 1 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 8 |
| 141 | 1 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1 |
| 142 | 1 | OFFICE   | Existing (2) lamp T12 lay-in fixture.                   | Reflector Kit: 2' T8 lamp and electronic ballast.           | 7 |
| 142 | 1 | OFFICE   | Existing 100 watt incandescent, lay-in fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 148 | 1 | STORAGE  | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic                       | 1 |



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|     |   |         |   |  |   |
|-----|---|---------|---|--|---|
|     |   |         |   | ballast  |   |
| 148 | 1 | STORAGE | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 149 | 1 | OFFICE  | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 4 |
| 149 | 1 | OFFICE  | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 150 | 1 | OFFICE  | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 6 |
| 150 | 1 | OFFICE  | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 151 | 1 | OFFICE  | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast.     | 5 |
| 151 | 1 | OFFICE  | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast.     | 1 |
| 151 | 1 | OFFICE  | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 151 | 1 | OFFICE  | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 152 | 1 | OFFICE  | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast.     | 1 |
| 152 | 1 | OFFICE  | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |

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|     |   |           |   |  |    |
|-----|---|-----------|---|--|----|
| 153 | 1 | OFFICE    | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast.     | 1  |
| 153 | 1 | OFFICE    | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 158 | 1 | CLASSROOM | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast.     | 4  |
| 158 | 1 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 159 | 1 | CLASSROOM | Existing (2) lamp T8 box fixture.                       | Retrofit with 4' T8 lamps and electronic ballast.. | 25 |
| 159 | 1 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 2  |
| 161 | 1 | OFFICE    | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast.     | 4  |
| 161 | 1 | OFFICE    | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 162 | 1 | STORAGE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 4  |
| 162 | 1 | STORAGE   | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 164 | 1 | RESTROOM  | Existing (2) 60 watt incandescent vanity fixture        | Compact Fluorescent Lamp: Screw-in                 | 1  |

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|     |   |          |   |   |    |
|-----|---|----------|---|---|----|
|     |   |          |   | Compact<br>Fluorescent<br>Lamp  |    |
| 164 | 1 | RESTROOM | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1  |
| 164 | 1 | RESTROOM | No existing<br>lighting<br>control.                       | NEW:<br>Occupancy<br>Sensor   | 1  |
| 164 | 1 | RESTROOM | No existing<br>lighting<br>control.                       | NEW:<br>Occupancy<br>Sensor   | 1  |
| 166 | 1 | OFFICE   | Existing (4)<br>lamp T12 lay-<br>in fixture.              | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast.                    | 12 |
| 175 | 1 | RESTROOM | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1  |
| 175 | 1 | OFFICE   | Existing (2)<br>lamp T12 lay-<br>in fixture.              | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 38 |
| 175 | 1 | OFFICE   | Existing (2)<br>lamp T12 lay-<br>in fixture.              | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 7  |
| 175 | 1 | HALL     | Existing (2)<br>lamp T12 lay-<br>in fixture.              | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4  |
| 175 | 1 | OFFICE   | Existing (2)  | Retrofit  | 1  |

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|     |   |           |  |  |    |
|-----|---|-----------|--|--|----|
|     |   |           | lamp T12 wraparound fixture.                 | with 4' T8 lamps and electronic ballast..          |    |
| 175 | 1 | OFFICE    | Existing (4) lamp T12 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast.     | 1  |
| 175 | 1 | RESTROOM  | Existing 26 watt compact florescent fixture. | DON'T DO: not included in project                  | 1  |
| 175 | 1 | HALL      | Existing LED fixture.                        | DON'T DO: not included in project                  | 1  |
| 175 | 1 | OFFICE    | No existing lighting control.                | NEW: Occupancy Sensor                              | 2  |
| 175 | 1 | RESTROOM  | No existing lighting control.                | NEW: Occupancy Sensor                              | 1  |
| 182 | 1 | CLASSROOM | Existing (4) lamp T12 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast.     | 23 |
| 182 | 1 | CLASSROOM | Existing (4) lamp T12 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast.     | 28 |
| 182 | 1 | CLASSROOM | Existing vending machine. Soda.              | NEW: Occupancy Sensor                              | 2  |
| 182 | 1 | CLASSROOM | No existing lighting control.                | NEW: Occupancy Sensor                              | 3  |
| 189 | 1 | RESTROOM  | Existing (2) lamp T12 lay-in fixture.        | Retrofit with 4' T8 lamps and electronic ballast.. | 2  |

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|     |   |           |   |   |    |
|-----|---|-----------|---|---|----|
| 189 | 1 | RESTROOM  | Existing (2)<br>lamp T12 lay-<br>in fixture.                        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 1  |
| 191 | 1 | OFFICE    | Existing (1)<br>lamp T12<br>strip Fixture.                          | Retrofit with<br>4' T8 lamps<br>and<br>electronic<br>ballast..                | 18 |
| 191 | 1 | OFFICE    | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1  |
| 197 | 1 | STORAGE   | Existing (2)<br>60 watt<br>incandescent<br>drum fixture.            | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 2  |
| 201 | 2 | CLASSROOM | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 18 |
| 201 | 2 | CLASSROOM | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1  |
| 202 | 2 | CLASSROOM | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 18 |
| 202 | 2 | CLASSROOM | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1  |
| 203 | 2 | CLASSROOM | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 18 |
| 203 | 2 | CLASSROOM | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1  |

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|     |   |           |   |  |    |
|-----|---|-----------|---|--|----|
| 204 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 204 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 205 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 30 |
| 205 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 206 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 206 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 207 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 207 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 208 | 2 | OFFICE    | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 4  |
| 208 | 2 | OFFICE    | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 1  |
| 208 | 2 | OFFICE    | No existing lighting                                    | NEW: Occupancy                                     | 1  |

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|     |   |                  |   |   |   |
|-----|---|------------------|---|---|---|
|     |   |                  | control.  | Sensor  |   |
| 209 | 2 | OFFICE           | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 8 |
| 209 | 2 | OFFICE           | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 210 | 2 | OFFICE           | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| 210 | 2 | OFFICE           | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 212 | 2 | RESTROOM         | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture           | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| 212 | 2 | RESTROOM         | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 213 | 2 | LOUNGE<br>WOMENS | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture           | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| 213 | 2 | LOUNGE<br>WOMENS | Existing (3)<br>60 watt<br>incandescent<br>lamp.                    | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 4 |
| 213 | 2 | LOUNGE<br>WOMENS | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 2 |

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|-----|---|-----------|---|---|----|
| 218 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 42 |
| 218 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 2  |
| 222 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 30 |
| 222 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 223 | 2 | CLASSROOM | Existing (2) lamp T12 lay-in fixture.                   | Reflector Kit: 2' T8 lamp and electronic ballast.           | 5  |
| 223 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 224 | 2 | CLASSROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 18 |
| 224 | 2 | CLASSROOM | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| 225 | 2 | CLASSROOM | Existing (2) lamp T8 wraparound fixture.                | Retrofit with 4' T8 lamps and electronic ballast..          | 36 |
| 225 | 2 | CLASSROOM | Existing 200 watt incandescent fixture.                 | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 6  |



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|     |   |            |   |  |    |
|-----|---|------------|---|--|----|
| 225 | 2 | CLASSROOM  | No existing lighting control.               | NEW: Occupancy Sensor                              | 1  |
| 225 | 2 | CLASSROOM  | No existing lighting control.               | NEW: Occupancy Sensor                              | 1  |
| 227 | 2 | MECHANICAL | Existing 200 watt incandescent fixture.     | NEW: T8 fixture                                    | 4  |
| 235 | 2 | LIBRARY    | Existing (2) lamp T8 lay-in fixture.        | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 235 | 2 | LIBRARY    | Existing (2) lamp T8 lay-in fixture.        | Retrofit with 4' T8 lamps and electronic ballast.. | 2  |
| 235 | 2 | LIBRARY    | Existing (2) lamp T8 lay-in fixture.        | Retrofit with 4' T8 lamps and electronic ballast.. | 5  |
| 235 | 2 | LIBRARY    | Existing (2) lamp T8 wraparound fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 1  |
| 235 | 2 | LIBRARY    | Existing (2) lamp T8 wraparound fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 3  |
| 235 | 2 | LIBRARY    | Existing (4) lamp T8 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast.     | 32 |
| 235 | 2 | LIBRARY    | Existing 100 watt incandescent can fixture. | Compact Fluorescent Lamp: Screw-in                 | 15 |

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|     |   |            |   |  |   |
|-----|---|------------|---|--|---|
|     |   |            |   | Compact<br>Fluorescent<br>Lamp                                 |   |
| 235 | 2 | LIBRARY    | Existing LED<br>fixture.  | DON'T DO:<br>not included<br>in project                        | 2 |
| 236 | 2 | MECHANICAL | Existing 200<br>watt<br>incandescent<br>fixture.                    | NEW: T8<br>fixture   | 2 |
| 237 | 2 | CLASSROOM  | Existing (2)<br>lamp T12<br>wraparound<br>fixture.                  | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 8 |
| 237 | 2 | CLASSROOM  | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor                                    | 1 |
| 238 | 2 | CLASSROOM  | Existing (2)<br>lamp T12<br>wraparound<br>fixture.                  | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 4 |
| 238 | 2 | CLASSROOM  | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor                                    | 1 |
| 239 | 2 | CLASSROOM  | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 8 |
| 239 | 2 | CLASSROOM  | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 2 |
| 239 | 2 | CLASSROOM  | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 1 |
| 239 | 2 | CLASSROOM  | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor                                    | 2 |

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|     |   |            |   |  |    |
|-----|---|------------|---|--|----|
| 239 | 2 | CLASSROOM  | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 302 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 302 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 1  |
| 302 | 3 | OFFICE     | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 303 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 303 | 3 | OFFICE     | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 305 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 14 |
| 305 | 3 | OFFICE     | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 306 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| 306 | 3 | OFFICE     | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 307 | 3 | MECHANICAL | Existing 200 watt incandescent fixture.                 | NEW: T8 fixture                                    | 1  |

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|     |   |          |   |  |    |
|-----|---|----------|---|--|----|
| 308 | 3 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 30 |
| 308 | 3 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 313 | 3 | RESTROOM | Existing (2) lamp T12 lay-in fixture.                   | Retrofit with 4' T8 lamps and electronic ballast.. | 6  |
| 314 | 3 | STORAGE  | Existing 42 watt compact fluorescent lamp.              | DON'T DO: not included in project                  | 2  |
| 315 | 3 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 2  |
| 315 | 3 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 316 | 3 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 4  |
| 316 | 3 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 3  |
| 316 | 3 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 317 | 3 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 24 |
| 317 | 3 | OFFICE   | No existing   | NEW:   | 2  |

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|     |   |                 |   |  |    |
|-----|---|-----------------|---|--|----|
|     |   |                 | lighting control.                                       | Occupancy Sensor                                   |    |
| 319 | 3 | OFFICE          | Existing (3) lamp T8 lay-in parabolic fixture.          | Reflector Kit: T8 lamp and electronic ballast.     | 3  |
| 319 | 3 | OFFICE          | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 320 | 3 | OFFICE          | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 4  |
| 320 | 3 | OFFICE          | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 321 | 3 | OFFICE          | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 30 |
| 321 | 3 | OFFICE          | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| 324 | 3 | CONFERENCE ROOM | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 36 |
| 324 | 3 | CONFERENCE ROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 2  |
| 325 | 3 | OFFICE          | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 25 |
| 325 | 3 | OFFICE          | No existing lighting control.                           | NEW: Daylight Harvesting Control                   | 1  |
| 326 | 3 | OFFICE          | Existing (2)  | Retrofit   | 4  |

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|     |   |            |   |  |   |
|-----|---|------------|---|--|---|
|     |   |            | lamp T12 wraparound pendant mount fixture.              | with 4' T8 lamps and electronic ballast..          |   |
| 326 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 2 |
| 326 | 3 | OFFICE     | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 327 | 3 | OFFICE     | Existing (1) lamp T12 strip Fixture.                    | Retrofit with 4' T8 lamps and electronic ballast.. | 3 |
| 327 | 3 | OFFICE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 2 |
| 327 | 3 | OFFICE     | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 328 | 3 | MECHANICAL | Existing 200 watt incandescent fixture.                 | NEW: T8 fixture                                    | 2 |
| 328 | 3 | MECHANICAL | Existing 42 watt compact fluorescent lamp.              | DON'T DO: not included in project                  | 3 |
| 329 | 3 | MECHANICAL | Existing (1) lamp T12 strip Fixture.                    | Retrofit with 4' T8 lamps and electronic ballast.. | 2 |
| 329 | 3 | MECHANICAL | Existing 200 watt incandescent fixture.                 | NEW: T8 fixture                                    | 1 |
| 329 | 3 | MECHANICAL | Existing 42 watt compact                                | DON'T DO: not included                             | 1 |

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|     |   |            |   |  |    |
|-----|---|------------|---|--|----|
|     |   |            | fluorescent lamp.                       | in project   |    |
| 330 | 3 | MECHANICAL | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 2  |
| 330 | 3 | MECHANICAL | Existing 200 watt incandescent fixture. | NEW: T8 fixture                                    | 2  |
|     | 1 | HALL       | Do not retrofit these Fixtures.         | DON'T DO: not included in project                  | 32 |
|     | 1 | HALL       | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 15 |
|     | 1 | HALL       | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 3  |
|     | 2 | ELEVATOR   | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 1  |
|     | 2 | HALL       | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 4  |
|     | 3 | HALL       | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 8  |
|     | 3 | HALL       | Existing (1) lamp T12 strip Fixture.    | Retrofit with 4' T8 lamps and electronic ballast.. | 1  |

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|  |   |           |   |   |     |
|--|---|-----------|---|---|-----|
|  | 1 | BACKSTAGE | Existing (2)<br>60 watt<br>incandescent<br>drum fixture.          | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1   |
|  | 1 | RESTROOM  | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture         | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 4   |
|  | 1 | RESTROOM  | Existing (2)<br>lamp T12 lay-<br>in fixture.                      | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 6   |
|  | 2 | RESTROOM  | Existing (2)<br>lamp T12 lay-<br>in fixture.                      | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 6   |
|  | 1 | STORAGE   | Existing (2)<br>lamp T12<br>vanity<br>wraparound<br>fixture.      | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4   |
|  | 1 | STORAGE   | Existing (2)<br>lamp T12<br>vanity<br>wraparound<br>fixture.      | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2   |
|  | 1 | BACKSTAGE | Existing (2)<br>lamp<br>fixture T12<br>slimline strip<br>fixture. | NEW: T8<br>fixture  | 2   |
|  | 1 | GYM       | Existing (4)<br>lamp T8 lay-<br>in fixture.                       | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast                     | 136 |



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|  |   |      |  |   |    |
|--|---|------|--|---|----|
|  | 1 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 6  |
|  | 1 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 2  |
|  | 1 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 32 |
|  | 1 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 5  |
|  | 2 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 14 |
|  | 2 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 18 |
|  | 3 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 20 |
|  | 3 | HALL | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast | 8  |
|  | 1 | GYM  | Existing 100<br>watt<br>incandescent<br>can fixture. | Compact<br>Fluorescent<br>Lamp:<br>Screw-in               | 84 |

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|  |   |                   |  |   |    |
|--|---|-------------------|--|---|----|
|  |   |                   |  | Compact<br>Fluorescent<br>Lamp  |    |
|  | 2 | HALL              | Existing 100<br>watt<br>incandescent<br>can fixture.     | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1  |
|  | 1 | HALL              | Existing 100<br>watt<br>incandescent,<br>lay-in fixture. | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 6  |
|  | 1 | HALL              | Existing 26<br>watt compact<br>florescent<br>fixture.    | DON'T DO:<br>not included<br>in project                                       | 30 |
|  | 1 | BACKSTAGE         | Existing 26<br>watt compact<br>florescent<br>fixture.    | DON'T DO:<br>not included<br>in project                                       | 1  |
|  | 1 | HALL              | Existing 26<br>watt compact<br>florescent<br>fixture.    | DON'T DO:<br>not included<br>in project                                       | 4  |
|  | 1 | BACKSTAGE         | Existing 42<br>watt compact<br>fluorescent<br>lamp.      | DON'T DO:<br>not included<br>in project                                       | 5  |
|  | 1 | HALL              | Existing 42<br>watt compact<br>fluorescent<br>lamp.      | DON'T DO:<br>not included<br>in project                                       | 2  |
|  | 2 | JANITOR<br>CLOSET | Existing 42<br>watt compact<br>fluorescent<br>lamp.      | DON'T DO:<br>not included<br>in project                                       | 2  |
|  | 1 | HALL              | Existing LED<br>fixture.                                 | DON'T DO:<br>not included<br>in project                                       | 4  |

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|      |   |          |   |  |   |
|------|---|----------|---|--|---|
|      | 1 | GYM      | Existing LED fixture.                                   | DON'T DO: not included in project                  | 6 |
|      | 1 | HALL     | Existing LED fixture.                                   | DON'T DO: not included in project                  | 6 |
|      | 2 | HALL     | Existing LED fixture.                                   | DON'T DO: not included in project                  | 4 |
|      | 3 | HALL     | Existing LED fixture.                                   | DON'T DO: not included in project                  | 3 |
|      | 1 | RESTROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 2 |
|      | 1 | RESTROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
|      | 2 | RESTROOM | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 102A | 1 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 8 |
| 102A | 1 | OFFICE   | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 1 |
| 102A | 1 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 102A | 1 | OFFICE   | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1 |
| 102B | 1 | OFFICE   | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast.. | 1 |
| 102B | 1 | OFFICE   | No existing lighting                                    | NEW: Occupancy                                     | 1 |

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|      |   |          |   |   |   |
|------|---|----------|---|---|---|
|      |   |          | control.  | Sensor  |   |
| 102C | 1 | RESTROOM | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture           | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| 102C | 1 | RESTROOM | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 104A | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| 104A | 1 | OFFICE   | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 104B | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| 104B | 1 | OFFICE   | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 104C | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| 104C | 1 | OFFICE   | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |
| 104D | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 6 |
| 104D | 1 | OFFICE   | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1 |

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|       |   |           |  |   |   |
|-------|---|-----------|--|---|---|
| 1-101 | 1 | VESTIBULE | Existing (4) lamp T12 lay-in fixture.            | Reflector Kit: T8 lamp and electronic ballast               | 2 |
| 1-101 | 1 | VESTIBULE | Existing 100 watt incandescent, lay-in fixture.  | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 4 |
| 1-101 | 1 | VESTIBULE | Existing LED fixture.                            | DON'T DO: not included in project                           | 2 |
| 1-101 | 1 | VESTIBULE | Existing vending machine. Soda.                  | NEW: Occupancy Sensor                                       | 1 |
| 1-101 | 1 | VESTIBULE | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1 |
| 1-104 | 1 | OFFICE    | Existing (2) lamp T12 wraparound fixture.        | Retrofit with 4' T8 lamps and electronic ballast..          | 2 |
| 1-104 | 1 | OFFICE    | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1 |
| 1-105 | 1 | RESTROOM  | Existing (2) 60 watt incandescent vanity fixture | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
| 1-105 | 1 | RESTROOM  | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1 |
| 1-108 | 1 | RESTROOM  | Existing (2) 60 watt incandescent vanity fixture | Compact Fluorescent Lamp: Screw-in                          | 1 |

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|       |   |          |  |   |   |
|-------|---|----------|--|---|---|
|       |   |          |  | Compact<br>Fluorescent<br>Lamp  |   |
| 1-108 | 1 | RESTROOM | Existing 100<br>watt<br>incandescent<br>can fixture. | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| 1-108 | 1 | RESTROOM | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 1-109 | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2 |
| 1-109 | 1 | OFFICE   | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 1-110 | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2 |
| 1-110 | 1 | OFFICE   | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 1-113 | 1 | OFFICE   | Existing (4)<br>lamp T12 lay-<br>in fixture.         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast.                    | 4 |
| 1-113 | 1 | OFFICE   | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 1-114 | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2 |
| 1-114 | 1 | OFFICE   | Existing 100<br>watt                                 | Compact<br>Fluorescent  | 1 |

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|              |   |         |  |   |   |
|--------------|---|---------|--|---|---|
|              |   |         | incandescent<br>can fixture.                         | Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp                           |   |
| 1-114        | 1 | OFFICE  | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 1-115        | 1 | OFFICE  | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2 |
| 1-115        | 1 | OFFICE  | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | NEW: T8<br>fixture  | 1 |
| 1-115        | 1 | OFFICE  | Existing 100<br>watt<br>incandescent<br>can fixture. | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| 1-115        | 1 | OFFICE  | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 1-139        | 1 | STORAGE | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| 1-139        | 1 | STORAGE | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2 |
| 1-139        | 1 | STORAGE | No existing<br>lighting<br>control.                  | NEW:<br>Occupancy<br>Sensor   | 1 |
| 122--<br>123 | 1 | OFFICE  | Existing (2)<br>lamp T12<br>wraparound<br>fixture.   | Retrofit<br>with 4' T8<br>lamps and<br>electronic                             | 4 |

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|              |   |          |   |   |   |
|--------------|---|----------|---|---|---|
|              |   |          |   | ballast..   |   |
| 122--<br>123 | 1 | OFFICE   | Existing 100<br>watt<br>incandescent<br>can fixture.      | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 4 |
| 122--<br>123 | 1 | OFFICE   | No existing<br>lighting<br>control.                       | NEW:<br>Occupancy<br>Sensor   | 2 |
| 125-<br>126  | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>fixture.        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| 125-<br>126  | 1 | OFFICE   | Existing 100<br>watt<br>incandescent<br>can fixture.      | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 2 |
| 125-<br>126  | 1 | OFFICE   | No existing<br>lighting<br>control.                       | NEW:<br>Occupancy<br>Sensor   | 2 |
| 127-<br>128  | 1 | RESTROOM | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| 127-<br>128  | 1 | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>fixture.        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 8 |
| 127-<br>128  | 1 | OFFICE   | Existing 100<br>watt<br>incandescent<br>fixture.          | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent         | 1 |



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|         |   |          |  | Lamp  |    |
|---------|---|----------|--|---|----|
| 127-128 | 1 | OFFICE   | Existing 40 watt incandescent fixture.       | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 6  |
| 127-128 | 1 | OFFICE   | No existing lighting control.                | NEW: Occupancy Sensor                                       | 1  |
| 127-128 | 1 | RESTROOM | No existing lighting control.                | NEW: Occupancy Sensor                                       | 1  |
| 166-158 | 1 | HALL     | Existing (4) lamp T12 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast               | 6  |
| 166-191 | 1 | HALL     | Existing (2) lamp T12 lay-in fixture.        | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |
| 166-191 | 1 | HALL     | Existing (4) lamp T12 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast               | 15 |
| 166-191 | 1 | HALL     | Existing (4) lamp T12 lay-in fixture.        | Reflector Kit: T8 lamp and electronic ballast               | 2  |
| 166-191 | 1 | HALL     | Existing 26 watt compact florescent fixture. | DON'T DO: not included in project                           | 4  |
| 166-191 | 1 | HALL     | Existing LED fixture.                        | DON'T DO: not included in project                           | 2  |
| 170-171 | 1 | STORAGE  | Existing 200 watt incandescent               | Compact Fluorescent Lamp:                                   | 2  |

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|              |   |           |   |  |    |
|--------------|---|-----------|---|--|----|
|              |   |           | fixture.  | Screw-in<br>Compact<br>Fluorescent<br>Lamp                     |    |
| 170-<br>171  | 1 | STORAGE   | Existing 42<br>watt compact<br>fluorescent<br>lamp.                 | DON'T DO:<br>not included<br>in project                        | 1  |
| 220-<br>221  | 2 | CLASSROOM | Existing (2)<br>lamp T12<br>wraparound<br>fixture.                  | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 4  |
| 220-<br>221  | 2 | CLASSROOM | Existing (2)<br>lamp T12<br>wraparound<br>fixture.                  | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 1  |
| 220-<br>221  | 2 | CLASSROOM | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 4  |
| 220-<br>221  | 2 | CLASSROOM | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor                                    | 2  |
| 301-<br>301A | 3 | OFFICE    | Existing (2)<br>lamp T8 egg<br>crate fixture.                       | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 18 |
| 301-<br>301A | 3 | OFFICE    | Existing (2)<br>lamp T12<br>strip fixture.                          | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 2  |
| 301-<br>301A | 3 | OFFICE    | Existing (2)<br>lamp T12<br>vanity<br>wraparound<br>fixture.        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast.. | 1  |
| 301-<br>301A | 3 | OFFICE    | Existing (2)<br>lamp T12<br>wraparound                              | Retrofit<br>with 4' T8<br>lamps and                            | 26 |

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|              |          |          |   |   |    |
|--------------|----------|----------|---|---|----|
|              |          |          | pendant<br>mount fixture.   | electronic<br>ballast..   |    |
| 301-<br>301A | 3        | OFFICE   | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 3  |
| 309-<br>309A | 3        | RESTROOM | Existing (1)<br>lamp T12<br>strip Fixture.                          | Retrofit with<br>4' T8 lamps<br>and<br>electronic<br>ballast..                | 2  |
| 309-<br>309A | 3        | RESTROOM | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture           | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 2  |
| 309-<br>309A | 3        | RESTROOM | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4  |
| 309-<br>309A | 3        | RESTROOM | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 4  |
| 322-<br>323  | 3        | OFFICE   | Existing (2)<br>lamp T12<br>wraparound<br>pendant<br>mount fixture. | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4  |
| 322-<br>323  | 3        | OFFICE   | No existing<br>lighting<br>control.                                 | NEW:<br>Occupancy<br>Sensor   | 1  |
| B-1          | BASEMENT | FITNESS  | Existing (2)<br>lamp T12 lay-<br>in fixture.                        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 35 |
| B-1          | BASEMENT | THEATHER | Existing (4)<br>lamp T8 lay-<br>in fixture.                         | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast.                    | 30 |
| B-1          | BASEMENT | FITNESS  | Existing LED  | DON'T DO:   | 3  |

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|       |          |            |   |   |   |
|-------|----------|------------|---|---|---|
|       |          |            | fixture.  | not included<br>in project  |   |
| B10   | BASEMENT | MECHANICAL | Existing 42<br>watt compact<br>fluorescent<br>lamp.       | DON'T DO:<br>not included<br>in project                                       | 1 |
| B11   | BASEMENT | MECHANICAL | Existing (2)<br>lamp T12<br>wraparound<br>fixture.        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 4 |
| B11   | BASEMENT | MECHANICAL | Existing (2)<br>lamp T12<br>wraparound<br>fixture.        | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 1 |
| B11   | BASEMENT | MECHANICAL | Existing 42<br>watt compact<br>fluorescent<br>lamp.       | DON'T DO:<br>not included<br>in project                                       | 7 |
| B12   | BASEMENT | RESTROOM   | Existing (2)<br>60 watt<br>incandescent<br>vanity fixture | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| B12   | BASEMENT | RESTROOM   | No existing<br>lighting<br>control.                       | NEW:<br>Occupancy<br>Sensor   | 1 |
| B-1-2 | BASEMENT | CLASSROOM  | Existing 200<br>watt<br>incandescent<br>fixture.          | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 8 |
| B13   | BASEMENT | RESTROOM   | Existing (2)<br>lamp T12 lay-<br>in fixture.              | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 2 |
| B13   | BASEMENT | RESTROOM   | No existing<br>lighting                                   | NEW:<br>Occupancy   | 1 |

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|       |          |           | control.  | Sensor  |    |
|-------|----------|-----------|---|---|----|
| B-1-3 | BASEMENT | HALL      | Existing (2) 60 watt incandescent drum fixture. | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2  |
| B-1-3 | BASEMENT | HALL      | Existing 42 watt compact fluorescent lamp.      | DON'T DO: not included in project                           | 5  |
| B-1-3 | BASEMENT | HALL      | Existing 65 watt incandescent fixture.          | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2  |
| B-1-3 | BASEMENT | HALL      | Existing LED fixture.                           | DON'T DO: not included in project                           | 1  |
| B-14  | BASEMENT | STORAGE   | Existing 200 watt incandescent fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2  |
| B-15  | BASEMENT | STORAGE   | Existing 200 watt incandescent fixture.         | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2  |
| B-16  | BASEMENT | CLASSROOM | Existing (2) lamp T12 lay-in fixture.           | Retrofit with 4' T8 lamps and electronic ballast..          | 12 |
| B-16  | BASEMENT | CLASSROOM | No existing lighting control.                   | NEW: Occupancy Sensor                                       | 1  |

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|         |          |                  |   |   |    |
|---------|----------|------------------|---|---|----|
| B-16    | BASEMENT | CLASSROOM        | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 2  |
| B-16B   | BASEMENT | FIRING RANGE     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 32 |
| B-16B   | BASEMENT | FIRING RANGE     | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| B-17    | BASEMENT | VESTIBULE        | Existing (2) lamp T12 lay-in fixture.                   | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |
| B-17    | BASEMENT | VESTIBULE        | Existing LED fixture.                                   | DON'T DO: not included in project                           | 1  |
| B-19-22 | BASEMENT | GYM LOCKER MEN'S | Existing (2) 100 watt incandescent fixture.             | NEW: T8 fixture   | 3  |
| B-19-22 | BASEMENT | GYM LOCKER MEN'S | Existing (2) 60 watt incandescent vanity fixture        | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1  |
| B-19-22 | BASEMENT | GYM LOCKER MEN'S | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 4  |
| B-19-22 | BASEMENT | GYM LOCKER MEN'S | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 2  |
| B-2     | BASEMENT | CAFETERIA        | Existing (2) lamp T12 wraparound fixture,               | Retrofit with 4' T8 lamps and electronic ballast..          | 2  |
| B-2     | BASEMENT | CAFETERIA        | Existing (4)  | Reflector   | 36 |

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|         |          |                  |   |   |    |
|---------|----------|------------------|---|---|----|
|         |          |                  | lamp T12 lay-in fixture                     | Kit: T8 lamp and electronic ballast                         |    |
| B-2     | BASEMENT | CAFETERIA        | Existing vending machine. Snack.            | NEW: Occupancy Sensor                                       | 1  |
| B-2     | BASEMENT | CAFETERIA        | Existing vending machine. Soda.             | NEW: Occupancy Sensor                                       | 2  |
| B-2     | BASEMENT | CAFETERIA        | No existing lighting control.               | NEW: Occupancy Sensor                                       | 1  |
| B-23    | BASEMENT | GYM LOCKER MEN'S | Existing (2) 100 watt incandescent fixture. | NEW: T8 fixture   | 9  |
| B-23    | BASEMENT | GYM LOCKER MEN'S | Existing 60 watt incandescent fixture.      | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 21 |
| B-24a-c | BASEMENT | VESTIBULE        | Existing (2) lamp T12 wraparound fixture.   | Retrofit with 2' T8 lamps and electronic ballast..          | 1  |
| B-24a-c | BASEMENT | VESTIBULE        | Existing (2) lamp T12 industrial fixture.   | Retrofit with 4' T8 lamps and electronic ballast..          | 15 |
| B-24a-c | BASEMENT | VESTIBULE        | Existing (2) lamp T12 wraparound fixture.   | Retrofit with 4' T8 lamps and electronic ballast..          | 4  |
| B-24a-c | BASEMENT | VESTIBULE        | Existing (2) lamp T12 wraparound            | Retrofit with 4' T8 lamps and                               | 2  |

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|             |          |            |   |   |   |
|-------------|----------|------------|---|---|---|
|             |          |            | pendant<br>mount fixture.   | electronic<br>ballast..   |   |
| B-<br>24a-c | BASEMENT | VESTIBULE  | Existing LED<br>fixture.  | DON'T DO:<br>not included<br>in project                                       | 1 |
| B-25        | BASEMENT | HALL       | Existing 42<br>watt compact<br>fluorescent<br>lamp.               | DON'T DO:<br>not included<br>in project                                       | 3 |
| B-27        | BASEMENT | HALL       | Existing (4)<br>lamp T12 lay-<br>in fixture.                      | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast                     | 6 |
| B-27        | BASEMENT | HALL       | Existing 200<br>watt<br>incandescent<br>fixture.                  | Compact<br>Fluorescent<br>Lamp:<br>Screw-in<br>Compact<br>Fluorescent<br>Lamp | 1 |
| B-27        | BASEMENT | HALL       | Existing LED<br>fixture.  | DON'T DO:<br>not included<br>in project                                       | 1 |
| B-28        | BASEMENT | MECHANICAL | Existing (1)<br>lamp T12<br>slimline strip<br>fixture.            | Reflector<br>Kit: T8 lamp<br>and<br>electronic<br>ballast                     | 2 |
| B-28        | BASEMENT | MECHANICAL | Existing (2)<br>lamp T12<br>industrial<br>fixture.                | Retrofit<br>with 4' T8<br>lamps and<br>electronic<br>ballast..                | 5 |
| B-28        | BASEMENT | MECHANICAL | Existing (2)<br>lamp<br>fixture T12<br>slimline strip<br>fixture. | NEW: T8<br>fixture  | 1 |
| B-28        | BASEMENT | MECHANICAL | Existing 200<br>watt<br>incandescent<br>fixture.                  | NEW: T8<br>fixture  | 4 |
| B-28        | BASEMENT | MECHANICAL | Existing 42   | DON'T DO:   | 5 |



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|       |          |                   |  |   |    |
|-------|----------|-------------------|--|---|----|
|       |          |                   | watt compact fluorescent lamp.                   | not included in project                                     |    |
| B-29  | BASEMENT | GUN CLEANING ROOM | Existing (2) lamp T12 wraparound fixture.        | Retrofit with 4' T8 lamps and electronic ballast..          | 10 |
| B-29  | BASEMENT | GUN CLEANING ROOM | Existing (2) lamp T12 wraparound fixture.        | Retrofit with 4' T8 lamps and electronic ballast..          | 5  |
| B-29  | BASEMENT | GUN CLEANING ROOM | Existing 100 watt incandescent fixture.          | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1  |
| B-29  | BASEMENT | GUN CLEANING ROOM | Existing LED fixture.                            | DON'T DO: not included in project                           | 1  |
| B-29  | BASEMENT | GUN CLEANING ROOM | No existing lighting control.                    | NEW: Occupancy Sensor                                       | 1  |
| B-29a | BASEMENT | RANGE VESTIBULE   | Existing (2) 26 watt compact florescent fixture. | DON'T DO: not included in project                           | 8  |
| B-29a | BASEMENT | RANGE VESTIBULE   | Existing (2) lamp T8 lay-in fixture.             | Retrofit with 4' T8 lamps and electronic ballast..          | 12 |
| B-29a | BASEMENT | RANGE VESTIBULE   | Existing (2) lamp T8 lay-in fixture.             | Retrofit with 4' T8 lamps and electronic ballast..          | 3  |
| B-29a | BASEMENT | RANGE VESTIBULE   | Existing LED fixture.                            | DON'T DO: not included in project                           | 2  |

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|        |          |                  |   |   |    |
|--------|----------|------------------|---|---|----|
| B2-B16 | BASEMENT | HALL             | Existing (4) lamp T12 lay-in fixture.                   | Reflector Kit: T8 lamp and electronic ballast               | 28 |
| B2-B16 | BASEMENT | HALL             | Existing LED fixture.                                   | DON'T DO: not included in project                           | 4  |
| B-3    | BASEMENT | OFFICE           | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 18 |
| B-3    | BASEMENT | OFFICE           | No existing lighting control.                           | NEW: Occupancy Sensor                                       | 1  |
| B32    | BASEMENT | HALL             | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 12 |
| B32    | BASEMENT | HALL             | Existing 200 watt incandescent fixture.                 | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 5  |
| B32    | BASEMENT | HALL             | Existing 42 watt compact fluorescent lamp.              | DON'T DO: not included in project                           | 5  |
| B--34  | BASEMENT | GYM LOCKER MEN'S | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 14 |
| B--34  | BASEMENT | GYM LOCKER MEN'S | Existing (2) lamp T12 wraparound fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 3  |
| B--34  | BASEMENT | GYM LOCKER MEN'S | Existing LED fixture.                                   | DON'T DO: not included                                      | 2  |

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|         |          |              |   | in project  |    |
|---------|----------|--------------|---|---|----|
| B-35-36 | BASEMENT | HALL ALL     | Existing (1) lamp T12 vanity wraparound fixture.        | Retrofit with 4' T8 lamps and electronic ballast.           | 13 |
| B-35-36 | BASEMENT | HALL ALL     | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast..          | 5  |
| B-35-36 | BASEMENT | HALL ALL     | Existing (2) lamp fixture T12 slimline strip fixture.   | NEW: T8 fixture   | 2  |
| B-35-36 | BASEMENT | HALL ALL     | Existing 200 watt incandescent fixture.                 | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2  |
| B-35-36 | BASEMENT | HALL ALL     | Existing 42 watt compact fluorescent lamp.              | DON'T DO: not included in project                           | 3  |
| B-35-36 | BASEMENT | HALL ALL     | Existing LED fixture.                                   | DON'T DO: not included in project                           | 3  |
| B-36    | BASEMENT | MECHANICAL   | Existing 200 watt incandescent fixture.                 | NEW: T8 fixture   | 8  |
| B-37    | BASEMENT | STREET SCENE | Existing (2) lamp T12 industrial fixture.               | Retrofit with 4' T8 lamps and electronic ballast..          | 11 |
| B-37    | BASEMENT | STREET SCENE | Existing 100 watt incandescent fixture.                 | Compact Fluorescent Lamp: Screw-in Compact Fluorescent      | 1  |

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|      |          |              |   | Lamp   |    |
|------|----------|--------------|---|--|----|
| B-37 | BASEMENT | STREET SCENE | Existing LED fixture.                                   | DON'T DO: not included in project                  | 2  |
| B-38 | BASEMENT | STORAGE      | Existing (2) lamp T12 industrial fixture.               | Retrofit with 4' T8 lamps and electronic ballast.. | 1  |
| B-4  | BASEMENT | OFFICE       | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| B-4  | BASEMENT | OFFICE       | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| B-5  | BASEMENT | OFFICE       | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| B-5  | BASEMENT | OFFICE       | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| B-6  | BASEMENT | OFFICE       | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| B-6  | BASEMENT | OFFICE       | No existing lighting control.                           | NEW: Occupancy Sensor                              | 1  |
| B-7  | BASEMENT | OFFICE       | Existing (2) lamp T12 wraparound pendant mount fixture. | Retrofit with 4' T8 lamps and electronic ballast.. | 18 |
| B-7  | BASEMENT | OFFICE       | Existing vending machine. Soda.                         | NEW: Occupancy Sensor                              | 1  |
| B-7  | BASEMENT | OFFICE       | No existing lighting                                    | NEW: Occupancy                                     | 1  |

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|       |          |            |  |   |    |
|-------|----------|------------|--|---|----|
|       |          |            | control.   | Sensor  |    |
| B9    | BASEMENT | MECHANICAL | Existing 42 watt compact fluorescent lamp.       | DON'T DO: not included in project                           | 4  |
| 121-8 | 1        | HALL       | Existing (2) 13 watt compact florescent fixture. | DON'T DO: not included in project                           | 9  |
| 121-8 | 1        | HALL       | Existing LED fixture.                            | DON'T DO: not included in project                           | 1  |
| S-1   | 3        | STAIRS     | Existing (1) lamp T12 strip Fixture.             | Retrofit with 4' T8 lamps and electronic ballast..          | 14 |
| S-2   | 3        | STAIRS     | Existing (1) lamp T12 strip Fixture.             | Retrofit with 4' T8 lamps and electronic ballast..          | 12 |
| S-2   | 3        | STAIRS     | Existing (2) lamp T12 lay-in fixture.            | Retrofit with 4' T8 lamps and electronic ballast..          | 4  |
| S-3   | 3        | STAIRS     | Existing (1) lamp T12 strip Fixture.             | Retrofit with 4' T8 lamps and electronic ballast..          | 14 |
| S-6   | 1        | STAIRWELL  | Existing (2) 60 watt incandescent drum fixture.  | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 2  |
|       | 1        | VESTIBULE  | Existing (1) lamp T12 strip Fixture.             | Retrofit with 4' T8 lamps and electronic                    | 10 |

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|  |          |                          |   |   |   |
|--|----------|--------------------------|---|---|---|
|  |          |                          |   | ballast..   |   |
|  | BASEMENT | MECHANICAL ROOM HALL     | Existing (2) lamp T12 industrial fixture.       | Retrofit with 4' T8 lamps and electronic ballast..          | 4 |
|  | BASEMENT | FREIGHT HALL TO ELEVATOR | Existing 100 watt incandescent, lay-in fixture. | Compact Fluorescent Lamp: Screw-in Compact Fluorescent Lamp | 1 |
|  | BASEMENT | MECHANICAL ROOM HALL     | Existing 200 watt incandescent fixture.         | NEW: T8 fixture   | 4 |
|  | BASEMENT | JANITOR CLOSET           | Existing 42 watt compact fluorescent lamp.      | DON'T DO: not included in project                           | 2 |

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## 5. Plumbing Retrofits (Safety Academy)

Plumbing Scope: Johnson Controls will furnish and install following retrofits for low flow and low flush plumbing. Annual Operational Savings relating to the plumbing retrofits were determined based upon a review of two years of Buildings & Fleet Work Order history. These savings are counted in only the first five years.

| Room             | Existing Fixture Description        | Existing Qty | Measure Description  |
|------------------|-------------------------------------|--------------|--|
| MRR 1            | Closet Wall Elongated Pre71         | 6            | New Wall Mount Closet and New Valve with Dual Flush Handle           |
| MRR 1            | Lavatory Sink Wash Basin Foot Pedal | 2            | Don't Do   |
| MRR 1            | Urinal Wall Timer                   | 4            | New .5 gpf Urinal Valve and supply piping                            |
| MRR 2            | Urinal Floor Timer                  | 2            | New .5 gpf Urinal Valve and supply piping                            |
| MRR 2            | Lavatory Sink 6" Vertical           | 2            | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| MRR 2            | Closet Floor Elongated Pre71        | 2            | New floor mounted elongated bowl and new 1.6 gpf valve               |
| MRR 3            | Closet Floor Elongated Pre71        | 1            | New floor mounted elongated bowl and new 1.6 gpf valve               |
| MRR 3            | Lavatory Sink 4" Standard           | 1            | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| WRR 1            | Closet Wall Elongated Pre71         | 1            | New wall mounted elongated bowl with new 1.6 gpf valve - 16" VB Tube |
| WRR 1            | Lavatory Sink 6" Vertical           | 1            | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| WLR              | Closet Wall Elongated Sloan         | 7            | New wall mounted elongated bowl with new 1.6 gpf valve - 16" VB Tube |
| WLR              | Lavatory Sink Wash Basin Foot Pedal | 2            | Don't Do   |
| WLR              | Shower Brass Standard               | 6            | Don't Do   |
| Training Offices | Closet Floor Elongated Pre71        | 3            | New floor mounted elongated bowl and new 1.6 gpf valve               |
| Training Offices | Lavatory Sink 4" Standard           | 16           | Retrofit with 0.5 gpm vandal proof spray moderator                   |

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|                    |                                     |    |  |
|--------------------|-------------------------------------|----|--|
| Break Rm           | Kitchen Sink 8"                     | 1  | Retrofit with 1.5 gpm VP laminar flow moderator                      |
| RM 138             | Closet Floor Elongated Pre71        | 1  | New floor mounted elongated bowl and new 1.6 gpf valve               |
| RM 138             | Lavatory Sink 4" Standard           | 1  | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| RM 141             | Closet Floor Elongated Pre71        | 1  | New floor mounted elongated bowl and new 1.6 gpf valve               |
| RM 141             | Lavatory Sink 4" Standard           | 1  | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| Fire Dept Area     | Closet Wall Elongated Tank          | 1  | New Wall Mt Elongated Tank Toilet                                    |
| Fire Dept Area     | Lavatory Sink 6" Vertical           | 1  | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| Rm 110             | Kitchen Sink 8" Standard            | 1  | Retrofit with 1.5 gpm VP laminar flow moderator                      |
| Break Rm           | Kitchen Sink 8" Standard            | 1  | Retrofit with 1.5 gpm VP laminar flow moderator                      |
| Basement Shower Rm | Shower Brass Standard               | 24 | Don't Do   |
| Fire Arm Cleaning  | Lavatory Sink Wash Basin Foot Pedal | 1  | Don't Do   |
| Basement MRR 1     | Closet Wall Elongated Pre71         | 3  | New Wall Mount Closet and New Valve with Dual Flush Handle           |
| Basement MRR 1     | Lavatory Sink Wash Basin Foot Pedal | 1  | Don't Do   |
| Printing-Stores    | Closet Wall Elongated Pre71         | 1  | New wall mounted elongated bowl with new 1.6 gpf valve - 16" VB Tube |
| Printing-Stores    | Lavatory Sink 4" Standard           | 1  | Retrofit with 0.5 gpm vandal proof spray moderator                   |
| Printing-Stores    | Kitchen Sink 8" Standard            | 1  | Retrofit with 1.5 gpm VP laminar flow moderator                      |
| 2nd FL MRR         | Closet Wall Elongated Pre71         | 6  | New Wall Mount Closet and New Valve with Dual Flush Handle           |
| 2nd FL MRR         | Lavatory Sink Wash Basin Foot Pedal | 2  | Don't Do   |
| 2nd FL MRR         | Urinal Wall Timer                   | 4  | New .5 gpf Urinal Valve and supply piping                            |
| 2nd FL WRR 1       | Closet Wall Elongated Sloan         | 1  | New wall mounted elongated bowl with new 1.6 gpf valve -             |



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|              |    |  |    |   |  |
|--------------|----|--|----|---|--|
|              |    |  |    |   | 16" VB Tube  |
| 2nd<br>WRR 1 | FL | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| 2nd<br>WRR 1 | FL | Closet Wall<br>Elongated Pre71         |    | 1 | New wall mounted elongated<br>bowl with new 1.6 gpf valve -<br>16" VB Tube |
| 2nd<br>WRR 1 | FL | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| 3rd<br>MRR   | FL | Closet Wall<br>Elongated Pre71         |    | 6 | New Wall Mount Closet and<br>New Valve with Dual Flush<br>Handle           |
| 3rd<br>MRR   | FL | Lavatory Sink Wash<br>Basin Foot Pedal |    | 2 | Don't Do   |
| 3rd<br>MRR   | FL | Urinal Wall Timer                      |    | 4 | New .5 gpf Urinal Valve and<br>supply piping                               |
| 3rd<br>WRR 1 | FL | Closet Wall<br>Elongated Sloan         |    | 1 | New wall mounted elongated<br>bowl with new 1.6 gpf valve -<br>16" VB Tube |
| 3rd<br>WRR 1 | FL | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| 3rd<br>WRR 1 | FL | Closet Wall<br>Elongated Pre71         |    | 1 | New wall mounted elongated<br>bowl with new 1.6 gpf valve -<br>16" VB Tube |
| 3rd<br>WRR 1 | FL | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| RM 117       |    | Closet Wall<br>Elongated Pre71         |    | 1 | New Wall Mount Closet and<br>New Valve with Dual Flush<br>Handle           |
| RM 117       |    | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| RM 134       |    | Closet Wall<br>Elongated Pre71         |    | 1 | New Wall Mount Closet and<br>New Valve with Dual Flush<br>Handle           |
| RM 134       |    | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| RM 137       |    | Closet Wall<br>Elongated Pre71         |    | 1 | New Wall Mount Closet and<br>New Valve with Dual Flush<br>Handle           |
| RM 137       |    | Lavatory Sink<br>Vertical              | 6" | 1 | Retrofit with 0.5 gpm vandal<br>proof spray moderator                      |
| RM 138       |    | Closet Wall<br>Elongated Pre71         |    | 1 | New Wall Mount Closet and<br>New Valve with Dual Flush<br>Handle           |

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|           |                                |   |  |
|-----------|--------------------------------|---|--|
| RM 138    | Lavatory Sink 6"<br>Vertical   | 1 | Retrofit with 0.5 gpm vandal proof spray moderator         |
| RM 141    | Closet Wall<br>Elongated Pre71 | 1 | New Wall Mount Closet and New Valve with Dual Flush Handle |
| RM 141    | Lavatory Sink 6"<br>Vertical   | 1 | Retrofit with 0.5 gpm vandal proof spray moderator         |
| RM 151    | Lavatory Sink 6"<br>Vertical   | 1 | Retrofit with 0.5 gpm vandal proof spray moderator         |
| Gym Stage | Closet Wall<br>Elongated Pre71 | 2 | New Wall Mount Closet and New Valve with Dual Flush Handle |
| Gym Stage | Lavatory Sink 6"<br>Vertical   | 2 | Retrofit with 0.5 gpm vandal proof spray moderator         |

## 6. LED Traffic Signal Retrofits:

Scope: Johnson Controls will furnish and install all material and labor to retrofit existing traffic signals at 198 identified intersections, with new GE Lumination LED modules.

- The traffic signal retrofit will involve the following bulb types, quantities and LED modules:

| Bulb Type                          | Quantity | LED Module Model Number |
|------------------------------------|----------|-------------------------|
| 12" Red                            | 1065     | DR6-RTFB-17A            |
| 12" Yellow                         | 1066     | DR6-YTFB-17A-YX         |
| 12" Green                          | 1037     | DR6-GTFB-17A            |
| 8" Red                             | 1207     | DR4-RTFB-17A            |
| 8" Yellow                          | 1248     | DR4-YTFB-17A-YX         |
| 8" Green                           | 1232     | DR4-GTFB-17A            |
| 12" Red Arrow                      | 8        | DR6-RTAAN-17A           |
| 12" Yellow Arrow                   | 242      | DR6-YTAAN-17A-YX        |
| 12" Green Arrow                    | 304      | DR6-GTAAN-17A           |
| Pedestrian Walking Man             | 1522     | PS5-WFM3-01A (9")       |
|                                    |          | PS6-WFM3-01A (12")      |
| Pedestrian Hand                    | 1522     | PS5-PFH1-01A (9")       |
|                                    |          | PS6-PFH1-01A (12")      |
| 12" Programmable Visibility Red    | 67       | DR3-RCFB-01A            |
| 12" Programmable Visibility Yellow | 58       | DR3-YCFB-01A            |

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|  |    |              |
|--|----|--------------|
| 12" Programmable Visibility Green        | 56 | DR3-GCFB-01A |
| 12" Programmable Visibility Red Arrow    | 2  | DR3-RCFB-01A |
| 12" Programmable Visibility Yellow Arrow | 9  | DR3-YCFB-01A |
| 12" Programmable Visibility Green Arrow  | 10 | DR3-GCFB-01A |

- Johnson Controls will conduct a physical audit of each of the 198 intersections identified, prior to installation, to confirm existing bulb types/quantities and scheduling for each intersection to be affected by the project. This physical audit for planning and material ordering will also allow for a one-time change order to reconcile the minor adjustment expected as field installation takes place at each intersection.
- The new LED modules will shall be the hard-wire type with combination connectors of low insertion female ends and fork end, shall fully meet current ITE performance standards all requirements of City of Milwaukee Specifications 12c-F-31 and 12c-F-32 dated September 18, 2007 for LED vehicular and pedestrian traffic signal modules, and will be retrofitted into existing signal housings.
- All required documentation, submittals and material samples defined in City Specifications above must be submitted and approved by the City of Milwaukee prior to the commencement of LED installation.
- Installation will be conducted by two crews completing a minimum of two intersections per day. During installation, traffic signals will remain operational and traffic control will be implemented through the use of lane closures and appropriate signage resulting in minimal disruption.
- No closure of any traffic lane or obstruction of any roadway shall occur on weekdays between the hours of 6 AM and 9 AM, and 2:30 PM and 6:30 PM.
- Maintain a minimum of one (1) eleven-foot wide traffic lane in each direction on the proper side of the roadway at all times during working hours. All traffic lanes must be open and clear of obstruction during non-working hours.
- Appropriate Traffic Control is to be provided for any lane closure or other roadway obstruction, and is to be consistent with the requirements for work zone traffic control as set forth in Part 6 of the Manual on Uniform Traffic Control Devices for Streets and Highways.
- All waste disposal, recycling and applicable permits are included as a part of our project proposal. All material will be received and staged for installation by Johnson Controls/subcontractor.
- Johnson Controls will include a warranty on LED module material, workmanship and intensity for a term of 72 months and a warranty on installation for a term of 12 months. The warranty for LED module material, workmanship and intensity shall be consistent with the warranty provisions set forth in City of Milwaukee Specification 12c-F-31 and 12c-F-32 dated September 18, 2007.
- Traffic signal indication bulbs, lenses, refractors and other materials shall be returned to the City of Milwaukee's Traffic Signal Shop located at 1540 West Canal Street at the option of the City.

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- Installation and inspection of LED installation work will be performed by the City of Milwaukee. Contractor is to contact the traffic signal dispatcher at 414-286-3687 to report the locations where work is to occur on a daily basis.
- If a traffic signal goes into flashing mode or otherwise malfunctions during or associated with the installation of the LED traffic signal modules, including loss of power to any traffic signal or indication, the contractor is to immediately contact the traffic signal dispatcher at 414-286-3687 and advise him of this condition.
- Johnson Controls will include delivery of product for the City to hold as inventory in case of traffic signal knockdowns where immediate LED signal replacements are required.
  - Johnson Controls will include seed inventory to support maintenance for following GE Lumination products and counts of each of the 198 intersections identified:

| Bulb Type                                | Quantity | LED Module Model Number |
|--|----------|-------------------------|
| 12" Red                                  | 10       | DR6-RTFB-17A            |
| 12" Yellow                               | 10       | DR6-YTFB-17A-YX         |
| 12" Green                                | 10       | DR6-GTFB-17A            |
| 8" Red                                   | 10       | DR4-RTFB-17A            |
| 8" Yellow                                | 10       | DR4-YTFB-17A-YX         |
| 8" Green                                 | 10       | DR4-GTFB-17A            |
| 12" Red Arrow                            | 1        | DR6-RTAAN-17A           |
| 12" Yellow Arrow                         | 10       | DR6-YTAAN-17A-YX        |
| 12" Green Arrow                          | 10       | DR6-GTAAN-17A           |
| Pedestrian Walking Man                   | 10       | PS5-WFM3-01A (9")       |
|  |          | PS6-WFM3-01A (12")      |
| Pedestrian Hand                          | 10       | PS5-PFH1-01A (9")       |
|  |          | PS6-PFH1-01A (12")      |
| 12" Programmable Visibility Red          | 1        | DR3-RCFB-01A            |
| 12" Programmable Visibility Yellow       | 1        | DR3-YCFB-01A            |
| 12" Programmable Visibility Green        | 1        | DR3-GCFB-01A            |
| 12" Programmable Visibility Red Arrow    | 1        | DR3-RCFB-01A            |
| 12" Programmable Visibility Yellow Arrow | 1        | DR3-YCFB-01A            |
| 12" Programmable Visibility Green Arrow  | 1        | DR3-GCFB-01A            |

The operational savings related to the LED traffic signal retrofit were based upon a scattered bulb replacement being the standard practice from information provided by the City. Utilizing the bulb counts provided, a quantity for annual burnout replacement was determined based upon the assumption that existing incandescent bulbs burnout every three years. This quantity of annual burnout replacement was multiplied by the replacement cost estimates provided by the City (labor and material) per bulb to determine the annual replacement cost.

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Given the fact that the new LED material has a much longer lifespan than the existing incandescent material, this annual replacement cost can be considered operational savings as this cost would be eliminated on an annual basis. This savings is, however, only being claimed for seven years to reflect an accurate representation of a conservative LED material life span estimate. Assumptions made: incandescent bulb burnouts occur every three years; replacement cost per bulb has not changed over the past 2 to 3 years to remain conservative; the quantities given reflect what is actually at each intersection.

Dated July 1, 2008

**CUSTOMER:**

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

## 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, Reconciliation, of this Schedule.

**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 7 years (for the LED street lighting) and 12 years (for the Safety Academy) 36 months from the Substantial Completion Date of those portions of the Work, unless terminated earlier, or cancelled earlier by the Customer.

**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 on the Substantial Completion Date and are set forth in Exhibit 2 of this Schedule. JCI and the Customer 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. ~~Customer 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. Customer 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~~

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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 meter efficiency improvements as calculated in (Schedule 2, Exhibit 6) pursuant to billing information as provided by the Customer.

**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 1 (Scope of Work).

**Service** is the scope of work provided by JCI, its subcontractors and/or its agents as outlined in Schedule 3 (Service Schedule).

**Baseline** is the mutually agreed upon calculated figures and/or usage amounts that reflect existing conditions and assumptions as set forth in Schedule 2, Exhibit 6.

2. **GUARANTEE.** Subject to the terms and conditions of this Agreement, JCI guarantees that the Customer will achieve \$1,022,876 of Total Guarantee Project Benefits during the 12-year Term of the Agreement for the Safety Academy. JCI guarantees that the Customer will achieve \$2,524,750 of Total Guarantee Project Benefits during the 7-year Term of the Agreement for the LED Traffic Signals.
3. **RECONCILIATION.** 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 Customer 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 Customer 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 Customer modifies its method of billing during the Guarantee Term, or if the Customer 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.

Customer agrees and acknowledges that JCI shall not be responsible for the achievement of non-measured such Project Benefits, as the actual realization of those Project Benefits is not within JCI's control. Customer 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.

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- 4. CHANGES IN USE.** The Customer 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 Customer 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 Customer 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. PROJECT BENEFIT SURPLUSES OR SHORTFALLS .** If the Annual Project Benefits during a specific year of the Guarantee Term, plus amounts credited from surpluses in the Installation Period and earlier years of the Guarantee Term, are less than the Annual Guaranteed Project Benefits for that year, JCI may apply the difference against any unpaid balances from the Customer then existing under the Agreement. If there are any remaining amounts, JCI may, where permitted by law, (a) carry over the difference to the next year of the Performance Contract so as to increase the Annual Guaranteed Project Benefits in that year or (b) at the Customer's written election, pay the Customer any remaining Project Benefit shortfalls, however JCI reserves the right to bill Customer for these Project Benefit shortfall payments should subsequent years of the Agreement yield Project Benefit surpluses. Upon the mutual agreement of the parties, JCI may also provide additional products or services, in the value of the shortfall, at no additional cost to the Customer. Where Project Benefit shortfalls have occurred, JCI reserves the right, subject to the approval of the Customer, which shall not be unreasonably withheld, to implement additional operational improvements or conservation measures, at no cost to the Customer, that will generate additional Project Benefits in future years of the Guarantee Term. Such payment or credit shall be the sole and exclusive remedy of the Customer for any failure by JCI to achieve guaranteed Project Benefits under this Agreement, including any alleged breach of any other express or implied warranty of Project Benefits. JCI may credit any Project Benefit Surplus, in whole or in part, toward the Annual Guaranteed Project Benefits in any future year of the Guarantee Term.



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

- |           |   |
|-----------|---|
| Exhibit 1 | Annual Reconciliation & Guaranteed Project Benefit Allocation |
| Exhibit 2 | Non-Measured Project Benefits                                 |
| Exhibit 3 | Responsibilities of Customer                                  |
| Exhibit 4 | Unit Utility Rates and Costs                                  |
| Exhibit 5 | Primary Operations Schedules Pre & Post Retrofit              |
| Exhibit 6 | Calculation of Base Line and Project Benefits                 |
- 
- |                                     |               |
|-------------------------------------|---------------|
| <input checked="" type="checkbox"/> | FEMP or IPMVP |
|                                     | Option A      |
| <input checked="" type="checkbox"/> | FEMP or IPMVP |
|                                     | Option B      |
| <input type="checkbox"/>            | FEMP or IPMVP |
|                                     | Option C      |
| <input type="checkbox"/>            | FEMP or IPMVP |
|                                     | Option D      |

ANNUAL RECONCILIATION & GUARANTEED PROJECT BENEFIT ALLOCATION

Safety Academy

| Year    | Utility Cost Avoidance | Operations & Maintenance Cost Avoidance | Future Capital Cost Avoidance | Mutually Agreed Billable Usage Increases | Total Guaranteed Project Benefits |
|---------|------------------------|---|-------------------------------|--|-----------------------------------|
| Implem. | \$                     | \$                                      | \$                            | \$                                       | \$                                |
| 1       | \$66,714               | \$37,622                                |                               |  | \$104,336                         |
| 2       | \$68,716               | \$9,190                                 |                               |  | \$ 77,906                         |
| 3       | \$70,777               | \$9,465                                 |                               |  | \$ 80,242                         |
| 4       | \$72,900               | \$9,749                                 |                               |  | \$ 82,649                         |
| 5       | \$75,087               | \$10,042                                |                               |  | \$ 85,129                         |
| 6       | \$77,340               |   |                               |  |                                   |
| 7       | \$79,660               |   |                               |  |                                   |
| 8       | \$82,050               |   |                               |  |                                   |
| 9       | \$84,511               |   |                               |  |                                   |
| 10      | \$87,047               |   |                               |  |                                   |
| 11      | \$89,658               |   |                               |  |                                   |
| 12      | \$92,348               |   |                               |  |                                   |
| Totals  | \$946,808              | \$76,068                                | \$ --                         | \$ --                                    | \$1,022,876                       |

LED Traffic Signals

| Year    | Utility Cost Avoidance | Operations & Maintenance Cost Avoidance | Future Capital Cost Avoidance | Mutually Agreed Billable Usage Increases | Total Guaranteed Project Benefits |
|---------|------------------------|---|-------------------------------|--|-----------------------------------|
| Implem. | \$                     | \$                                      | \$                            | \$                                       | \$                                |
| 1       | \$272,147              | \$57,349                                |                               |  | \$329,496                         |
| 2       | \$280,311              | \$59,069                                |                               |  | \$339,380                         |
| 3       | \$288,721              | \$60,842                                |                               |  | \$349,563                         |
| 4       | \$297,382              | \$62,667                                |                               |  | \$360,049                         |

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|        |             |           |       |       |             |
|--------|-------------|-----------|-------|-------|-------------|
| 5      | \$306,304   | \$64,547  |       |       | \$370,851   |
| 6      | \$315,493   | \$66,483  |       |       | \$381,976   |
| 7      | \$324,958   | \$68,478  |       |       | \$393,436   |
| Totals | \$2,085,316 | \$439,435 | \$ -- | \$ -- | \$2,524,751 |

CUSTOMER:

JOHNSON CONTROLS, INC.

Initials: \_\_\_\_\_

Initials: \_\_\_\_\_

### Non-Measured Project Benefits

The Project Benefits identified below shall be Non-Measured Project Benefits (as defined above) under this Schedule. 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.

| Source of Non-Measured Project Benefits  | First Year Project Benefits | Escalation |
|--|-----------------------------|------------|
| Safety Academy - Building Lighting Material Savings                            | \$ 1,722                    | 3 %        |
| Safety Academy - Repairs for two (2) cast sectional boilers (one time)         | \$ 28,700 (year one only)   | 0 %        |
| Safety Academy - Controls, Lighting and Plumbing Maintenance Avoidance Savings | \$ 7,200                    | 3 %        |
| LED Traffic Signals - Traffic Light Cost Avoidance                             | \$ 57,349                   | 3 %        |
| <b>TOTAL NON-MEASURED PROJECT BENEFITS</b>                                     | <b>\$ 94,971</b>            | <b>N/A</b> |

Dated July 1, 2008

CUSTOMER:

JOHNSON CONTROLS, INC.

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

## CUSTOMER RESPONSIBILITIES

In order for JCI to perform its obligations under this Agreement with respect to the Work, the Assured Performance Guarantee, and the M&V Services, Customer shall be responsible for:

1. Properly maintaining, and performing appropriate preventative maintenance on, all equipment and building systems affecting the Assured Performance Guarantee in accordance with manufacturers' standards and specifications;
2. Providing the utility bills, reports, and similar information reasonably necessary for administering JCI's obligations under the Assured Performance Guarantee within five (5) days of Customer receipt and/or generation or JCI's request therefor;
3. Providing all records relating to energy and/or water usage and related maintenance of the premises and relevant equipment requested by JCI;
4. As may be necessary at the Milwaukee Safety Academy, providing and installing utility sub-meters on all new construction and/or additions built during the Guarantee Term as recommended by JCI or, alternatively, paying JCI's applicable fees for calculating necessary adjustments to the Assured Performance Guarantee as a result of the new construction;
5. As may be necessary at the Milwaukee Safety Academy, providing and maintaining a dedicated telephone line and/or TCP/IP remote connection to facilitate remote monitoring of relevant equipment;
6. Promptly notifying JCI of any change in use or condition described in Exhibit 5 of Schedule 2 or any other matter that may impact the Assured Performance Guarantee;
7. Taking all actions reasonably necessary to achieve the Non-Measured Project Benefits;
8. Johnson Controls will conduct a physical audit of each intersection, prior to installation, to confirm existing bulb types/quantities and scheduling for each intersection to be affected by the project. This physical audit for planning and material ordering will also allow for a one-time change order to reconcile guaranteed savings for the LED traffic signal ECM.

CUSTOMER:

JOHNSON CONTROLS, INC.

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Initials: \_\_\_\_\_

Initials: \_\_\_\_\_

### 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.

|                          | Jan              | Feb              | Mar              | Apr              | May              | Jun              | July             | Aug              | Sep              | Oct              | Nov              | Dec              |
|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Electric On Peak</b>  | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     | \$0.068 /kWh     |
| <b>Electric Off Peak</b> | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     | \$0.039 /kWh     |
| <b>Demand</b>            | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       | \$12.4 /kW       |
| <b>Therms</b>            | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             | 1.03             |
| <b>Traffic /kWh</b>      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      | \$0.11 /kWh      |
| <b>Water/ Sewer</b>      | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal | \$4.45 /1000 gal |

### % 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.

| Year | Electric | Demand | Gas | Water/ Sewer |  |  |  |
|------|----------|--------|-----|--------------|--|--|--|
| 1    | 3 %      | 3 %    | 3 % | 3 %          |  |  |  |

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|    |     |     |     |     |  |  |  |
|----|-----|-----|-----|-----|--|--|--|
| 2  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 3  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 4  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 5  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 6  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 7  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 8  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 9  | 3 % | 3 % | 3 % | 3 % |  |  |  |
| 10 | 3 % | 3 % | 3 % | 3 % |  |  |  |

CUSTOMER:

JOHNSON CONTROLS, INC.

Initials: \_\_\_\_\_

Initials: \_\_\_\_\_



Primary Operations Schedules Pre & Post Retrofit  
Pre-Retrofit Facility/area

Safety Academy Pre-Retrofit Fan System Scheduling:

| Name   | CURRENT<br>SCHEDULE | CURRENT<br>SCHEDULE | CURRENT<br>SCHEDULE | SUMMER<br>CURRENT<br>SCHEDULE | SUMMER<br>CURRENT<br>SCHEDULE | SUMMER<br>CURRENT<br>SCHEDULE |
|--------|---------------------|---------------------|---------------------|-------------------------------|-------------------------------|-------------------------------|
|        | Holiday             | Weekend             | Weekday             | Holiday                       | Weekend                       | Weekday                       |
| AHU-1  | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-2  | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-3  | 24 HRS              | 24HRS               | 24HRS               | 24 HRS                        | 24HRS                         | 24HRS                         |
| AHU-4  | 6AM-10PM            | OFF                 | 6AM-10PM            | 6AM-6PM                       | OFF                           | 6AM-6PM                       |
| AHU-5  | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-6  | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-7  | OFF                 | OFF                 | OFF                 | OFF                           | OFF                           | OFF                           |
| AHU-8  | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-9  | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-10 | 6AM-10PM            | 6AM-10PM            | 6AM-10PM            | 6AM-10PM                      | 6AM-10PM                      | 6AM-10PM                      |
| AHU-11 | 6AM-10PM            | 6AM-10PM            | 6AM-10PM            | 6AM-10PM                      | 6AM-10PM                      | 6AM-10PM                      |
| AHU-12 | 6AM-10PM            | 6AM-10PM            | 6AM-10PM            | 6AM-10PM                      | 6AM-10PM                      | 6AM-10PM                      |
| AHU-13 | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-14 | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| AHU-15 | 24 HRS              | 24 HRS              | 24 HRS              | 24 HRS                        | 24 HRS                        | 24 HRS                        |
| B1     | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |
| B15    | 24HRS               | 24HRS               | 24HRS               | 24HRS                         | 24HRS                         | 24HRS                         |

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UV  
NORTH 24HRS 24HRS 24HRS 24HRS 24HRS 24HRS

UV  
SOUTH 24HRS 24HRS 24HRS 24HRS 24HRS 24HRS

Minimum room temperature during heating season: 70 to 68 degrees F

Heating season is October to May

Maximum room temperature during cooling season: 74 to 82 degrees F

Cooling season is June to September

## Safety Academy Pre-Retrofit Lighting Hours:

| Area Description     | Total Number of on-peak Hours in Winter | Total Number of off-peak Hours in Winter | Total Number of on-peak Hours in Summer | Total Number of off-peak Hours in Summer | Total Annual Hours of Operation |
|----------------------|---|--|---|--|---------------------------------|
| Auditorium           | 1,131                                   | 348                                      | 564                                     | 174                                      | 2,217                           |
| Classrooms           | 1,392                                   | 348                                      | 694                                     | 174                                      | 2,608                           |
| Conf. Room           | 1,392                                   | 348                                      | 694                                     | 174                                      | 2,608                           |
| Classrooms, w/sensor | 1,392                                   | 348                                      | 694                                     | 174                                      | 2,608                           |
| Gyms                 | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Gym lockers          | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Gyms w/sensor        | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Halls & common areas | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Hallways, w/sensor   | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Kitchen              | 1,131                                   | 348                                      | 564                                     | 174                                      | 2,217                           |
| Cafeteria            | 1,131                                   | 348                                      | 564                                     | 174                                      | 2,217                           |
| Maintenance Areas    | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Offices              | 1,392                                   | 348                                      | 694                                     | 174                                      | 2,608                           |
| Offices, w/sensor    | 1,392                                   | 348                                      | 694                                     | 174                                      | 2,608                           |
| Library              | 1,131                                   | 348                                      | 564                                     | 174                                      | 2,217                           |
| Restrooms            | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |
| Restrooms,           | 2,262                                   | 348                                      | 1,128                                   | 174                                      | 3,912                           |

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| w/sensor      |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|
| Storage Areas | 348   | 0     | 174   | 0     | 522   |
| Warehouse     | 2,262 | 348   | 1,128 | 174   | 3,912 |
| Outside Areas | 0     | 2,435 | 0     | 1,215 | 3,650 |
| 24 Hour Areas | 2,262 | 3,581 | 1,128 | 1,788 | 8,760 |

Post-Retrofit Facility/area

Safety Academy Post-Retrofit Fan System Scheduling:

| Name  | PROPOSED<br>SCHEDULE | PROPOSED<br>SCHEDULE | PROPOSED<br>SCHEDULE | SUMMER<br>PROPOSED<br>SCHEDULE | SUMMER<br>PROPOSED<br>SCHEDULE | SUMMER<br>PROPOSED<br>SCHEDULE |
|-------|----------------------|----------------------|----------------------|--------------------------------|--------------------------------|--------------------------------|
|       | Holiday              | Weekend              | Weekday              | Holiday                        | Weekend                        | Weekday                        |
| AHU-1 | Off                  | Off                  | 7AM-5PM              | Off                            | Off                            | 7AM-5PM                        |
| AHU-2 | Off                  | Off                  | 7AM-6PM              | Off                            | Off                            | 7AM-6PM                        |
| AHU-3 | OFF                  | 7AM-12PM /<br>Sunday | 7AM-6PM              | OFF                            | 7AM-12PM<br>Sunday             | 7AM-6PM                        |
| AHU-4 | 6AM-6PM              | OFF                  | 6AM-6PM              | OFF                            | OFF                            | 5AM-6PM                        |
| AHU-5 | OFF                  | OFF                  | 5AM-6PM              | OFF                            | OFF                            | 5AM-6PM                        |
| AHU-6 | 24 HRS<br>OVERRIDE   | 24 HRS<br>OVERRIDE   | 24HRS<br>OVERRIDE    | 24 HRS<br>OVERRIDE             | 24 HRS<br>OVERRIDE             | 24HRS<br>OVERRIDE              |
| AHU-7 | OFF                  | OFF                  | OFF                  | OFF                            | OFF                            | OFF                            |
| AHU-8 | OFF                  | OFF                  | 7AM-4PM              | OFF                            | OFF                            | 7AM-4PM                        |

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|          |                     |                     |                     |                     |                     |                     |
|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| AHU-9    | OFF                 | OFF                 | 7AM-10PM            | OFF                 | OFF                 | 7AM-10PM            |
| AHU-10   | OFF                 | OFF                 | 5:30 AM-4PM         | OFF                 | OFF                 | 7AM-4PM             |
| AHU-11   | NO CHANGE           | NO CHANGE           | NO CHANGE           | NO CHANGE           | NO CHANGE           | NO CHANGE           |
| AHU-12   | NO CHANGE           | NO CHANGE           | NO CHANGE           | NO CHANGE           | NO CHANGE           | NO CHANGE           |
| AHU-13   | OFF                 | 7AM-10PM            | 7AM-10PM            | OFF                 | 7AM-10PM            | 7AM-10PM            |
| AHU-14   | 7AM-11PM            | 7AM-11PM            | 7AM-11PM            | 7AM-11PM            | 7AM-11PM            | 7AM-11PM            |
| AHU-15   | Due to Equip. 24hrs | Due to Equip. 24hrs | Due to Equip. 24hrs | Due to Equip. 24hrs | Due to Equip. 24hrs | Due to Equip. 24hrs |
| B1       | OFF                 | 7AM-11PM            | 7AM-11PM            | OFF                 | 7AM-11PM            | 7AM-11PM            |
| B15      | OFF                 | 7AM-11PM            | 7AM-11PM            | OFF                 | 7AM-11PM            | 7AM-11PM            |
| UV NORTH | OFF                 | 7AM-11PM            | 7AM-11PM            | OFF                 | 7AM-11PM            | 7AM-11PM            |
| UV SOUTH | OFF                 | 7AM-11PM            | 7AM-11PM            | OFF                 | 7AM-11PM            | 7AM-11PM            |

Minimum room temperature during heating season: 70 to 62 degrees F

Heating season is October to May

Maximum room temperature during cooling season: 74 to 85 degrees F

Cooling season is June to September

**Safety Academy Post-Retrofit Lighting Hours:**

| Area Description | Total Number of on-peak Hours in Winter | Total Number of off-peak Hours in Winter | Total Number of on-peak Hours in Summer | Total Number of off-peak Hours in Summer | Total Annual Hours of Operation |
|------------------|---|--|---|--|---------------------------------|
| Auditorium       | 1131                                    | 348                                      | 564                                     | 174                                      | 2217                            |
| Classrooms       | 1392                                    | 348                                      | 694                                     | 174                                      | 2608                            |
| Conf. Room       | 1392                                    | 348                                      | 694                                     | 174                                      | 2608                            |
| Classrooms,      | 905                                     | 226                                      | 451                                     | 113                                      | 1695                            |

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|                      |      |      |      |      |      |
|----------------------|------|------|------|------|------|
| w/sensor             |      |      |      |      |      |
| Gyms                 | 2262 | 348  | 1128 | 174  | 3912 |
| Gym lockers          | 2262 | 348  | 1128 | 174  | 3912 |
| Gyms w/sensor        | 2262 | 348  | 1128 | 174  | 3912 |
| Halls & common areas | 2262 | 348  | 1128 | 174  | 3912 |
| Hallways, w/sensor   | 2262 | 348  | 1128 | 174  | 3912 |
| Kitchen              | 1131 | 348  | 564  | 174  | 2217 |
| Cafeteria            | 1131 | 348  | 564  | 174  | 2217 |
| Maintenance Areas    | 2262 | 348  | 1128 | 174  | 3912 |
| Offices              | 1392 | 348  | 694  | 174  | 2608 |
| Offices, w/sensor    | 905  | 226  | 451  | 113  | 1695 |
| Library              | 1131 | 348  | 564  | 174  | 2217 |
| Restrooms            | 2262 | 348  | 1128 | 174  | 3912 |
| Restrooms, w/sensor  | 1470 | 226  | 733  | 113  | 2543 |
| Storage Areas        | 348  | 0    | 174  | 0    | 522  |
| Warehouse            | 2262 | 348  | 1128 | 174  | 3912 |
| Outside Areas        | 0    | 2435 | 0    | 1215 | 3650 |
| 24 Hour Areas        | 2262 | 3581 | 1128 | 1788 | 8760 |

**CUSTOMER:**

**JOHNSON CONTROLS, INC.**

Initials: \_\_\_\_\_

Initials: \_\_\_\_\_

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Schedule 2  
Exhibit 6

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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 or continuous pre & post-retrofit measurements will be used to calculate the Project Benefits for the life of the contract.

## MEASUREMENT & VERIFICATION SERVICES

JCI will provide the M&V Services set forth below in connection with the Assured Performance Guarantee. The Customer reserves the right to conduct an audit of any and all M & V services provided by JCI under this Agreement. In the event of a genuine good faith dispute between the parties related to measurement and verification, the determination of the Commissioner of Public Works of the City of Milwaukee shall be final, unless unreasonable or arbitrary.

1. During the Installation Period, a JCI Performance Assurance Engineer will track Measured Project Benefits. JCI will report the Measured Project Benefits achieved during the Installation Period, as well as any Non-Measured Project Benefits applicable to the Installation Period, to Customer within 60 days of the commencement of the Guarantee Term.
2. Within 60 days of each anniversary of the commencement of the Guarantee Term, JCI will provide Customer with an annual report containing:
  - A. an executive overview of the project's performance and Project Benefits achieved to date;
  - B. a summary analysis of the Measured Project Benefits accounting; and
  - C. depending on the M&V Option, a detailed analysis of the Measured Project Benefits calculations.
3. During the Guarantee Term, a JCI Performance Assurance Engineer will monitor the on-going performance of the Improvement Measures, as specified in this Agreement, to determine whether anticipated Measured Project Benefits are being achieved. In this regard, the Performance Assurance Engineer will periodically assist Customer, on-site or remotely, with respect to the following activities:
  - A. review of information furnished by Customer from the facility management system to confirm that control strategies are in place and functioning;
  - B. advise Customer's designated personnel of any performance deficiencies based on such information;
  - C. coordinate with Customer's designated personnel to address any performance deficiencies that affect the realization of Measured Project Benefits; and
  - D. inform Customer of opportunities to further enhance project performance and of opportunities for the implementation of additional Improvement Measures.

**Schedule 2**  
**Exhibit 6**

4. For specified Improvement Measures utilizing an "Option A" M&V protocol, JCI will:
  - A. conduct pre and post installation measurements required under this Agreement;
  - B. confirm the building management system employs the control strategies and set points specified in this Agreement; and



- C. analyze actual as-built information and adjust the Baseline and/or Measured Project Benefits to conform to actual installation conditions (e.g., final lighting and water benefits calculations will be determined from the as-built information to reflect the actual mix of retrofits encountered during installation).
- 5. For specified Improvement Measures utilizing an "Option B" M&V protocol, JCI will:
  - A. confirm that the appropriate metering and data points required to track the variables associated with the applicable Improvement Measures' benefits calculation formulas are established; and
  - B. set up appropriate data capture systems (e.g., trend and totalization data on the facility management system) necessary to track and report Measured Project Benefits for the applicable Improvement Measure.

#### Measurement and Verification - Improvement Measures for City of Milwaukee

The following table lists the proposed Infrastructure Improvement Measures with the M&V Protocols that JCI recommends for this project.

#### *M&V Summary*

| City of Milwaukee Safety Academy<br>Improvement Measure Description |                                   | M&V Protocol |                    |
|---|-----------------------------------|--------------|--------------------|
| 1.0   | High Efficiency Boilers           | Option A     | MSPG               |
| 2.0   | HVAC and Control Improvements     | Option B     | MSPG               |
| 3.0   | High Efficiency Lighting Retrofit | Option A     | MSPG               |
| 4.0   | Water Conservation Improvements   | Option A     | Validation<br>Only |

| City of Milwaukee<br>Improvement Measure Description |                              | M&V Protocol |      |
|--|------------------------------|--------------|------|
| 5.0  | LED Traffic Signal Retrofits | Option A     | MSPG |

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### **Reporting:**

Measure and Verification reporting will be conducted at the completion of the project (Installation Savings Report) and annually in all contract years. The JCI Performance Assurance Engineer will also deliver observation and recommendation reports after quarterly site visits.

The following pages describe the M&V Protocols for each ECM

**Schedule 2**

**Exhibit 6**

**1.0 High Efficiency Boiler System Upgrade**

**Objective**

The objective of this M&V plan is to demonstrate gross annual savings through the use of a calibrated spreadsheet model, per Option A protocol.

**Parameters to be Monitored**

1. Installation status of measure
2. Pre and Post Retrofit Combustion efficiency

**Sampling Plan**

First law boiler efficiency of existing boilers will be checked prior to removal. Efficiency of new boilers will be based upon manufacturer's data and verification of operation after the installation is complete. Data collection equipment, installation and methods are to be reviewed and approved by the City prior to equipment installation in traffic signal control cabinets. City of Milwaukee personnel shall accompany JCI personnel when entering traffic control cabinets for the installation of measurement equipment.

**Data Collection Plan**

- Data Sought: Verification of installation and check of operation
- Measured Parameters and Units: First law of thermodynamics efficiency of new boilers and existing heating equipment (boilers or June Aire furnaces)
- Points of Measurement: Validation of operation, through BAS
- Metering Equipment Identification: Combustion analyzer, temperature sensors, water or air flow measuring devices, and metering device for natural gas.
- Metering Equipment Calibration: N/A
- Quality Control: JCI Performance Assurance Engineer will over-see setup and execution of M&V plan.
- Data Collection Plan: Installation documentation will be retrieved and spot measurements will be taken to verify measure.

**Analysis Method**

Option A will be used to verify the savings for this improvement measure. Commissioning documents indicate system performance acceptance. Engineering calculations will be listed to demonstrate energy savings. Combustion efficiency will be monitored to validate that the energy savings are achieved during the length of the guarantee.

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### Plan for Future Periodic Measurements and Performance Calculation

The savings for this measure will be determined after the completion of the installation period and will be considered satisfied after the first reporting period. An annual combustion efficiency inspection will be proposed as a separate service contract to ensure ongoing saving for this improvement measure.

Energy savings were calculated by applying increased boiler efficiency ratings to the energy simulation computer program request. Existing boiler efficiency inputs were determined using existing equipment rating, burner cycling and standby losses.

The following table lists AFUE efficiencies used in the energy simulation program. The efficiencies used were conservatively estimated and displayed in the following table.

| Building       | Existing Efficiency | Boiler Cycling and Losses | Net AFUE |
|----------------|---------------------|---------------------------|----------|
| Safety Academy | 79%                 | 4%                        | 75%      |

The new boilers used for the retrofit will be Thermal Solutions modular boilers rated at 88% efficient and capable of a 4:1 burner turndown.

## 2.0 HVAC and Controls Improvement

### Objective

The objective of this M&V plan is to demonstrate gross annual savings through the use of a calibrated spreadsheet model, per Option B protocol.

### Parameters to be Monitored

1. Validate Installation status of measure
2. Compare models and schedules within models to actual schedules upon completion of installation
3. Via service agreement, maintain schedules within building automation system to ensure that savings are being achieved

### Sampling Plan

Control upgrades will be checked to verify operation after the installation period. Ongoing performance assurance work will ensure on a quarterly basis that the schedules are maintained over the length of the service contract.

### Data Collection Plan

- Data Sought: Verification of installation and random check of operation
- Measured Parameters and Units: Spot check of control parameters
- Points of Measurement: Validation of control parameters, through BAS
- Metering Equipment Identification: N/A
- Metering Equipment Calibration: N/A
- Quality Control: JCI Performance Assurance Engineer will over-see setup and execution of M&V plan.
- Data Collection Plan: Installation documentation will be retrieved and spot measurements will be taken to verify measure.

### Analysis Method

Option B will be used to verify the savings for this improvement measure. A spreadsheet will be used to list the control measures, and other pertinent information. Engineering calculations or EQuest models will be listed to demonstrate energy savings. Controls measure parameters will be monitored to validate that the controls are operating as intended. This check will be done with both JCI and city personnel.

### **3.0 Lighting Improvement**

#### **Objective**

The objective of this M&V plan is to demonstrate gross annual savings of lighting based KWH through the measurement and verification process (Option A protocols).

#### **Parameters to be monitored**

1. Sample population fixture wattages pre and post
2. Sample population lighting levels (foot candles) Pre and Post
3. Lighting hours of operation
4. Utility cost per unit

#### **Parameter variables to be stipulated and agreed upon**

1. Post retrofit hours of operation of lighting systems to be same as pre retrofit hours of operation
2. Post retrofit foot candles remain constant throughout rated life of bulbs
3. Sample population data applies to all fixtures of same fixture type.

#### **Parameter variables to be measured**

1. Sample population fixture wattages pre and post
2. Sample population lighting levels (foot candles) pre and post
3. Utility cost per unit

#### **Sampling Plan**

JCI PAS will review contractor's documentation from the pre and post lighting retrofit data, and measure post retrofit performance in sample population. Review of contractor documentation from pre and post lighting retrofit lighting levels, and measure post retrofit lighting levels in sample areas. The JCI lighting level sample areas will include a reading in each area with retrofit activity. Post retrofit sample readings will verify fixture wattage reduction values for input to the calculation variable data. Post retrofit lighting levels will confirm lighting level performance characteristics.

#### **Data Collection Plan**

- Obtain contractor pre-retrofit and post-retrofit lighting performance values
- JCI to collect post-retrofit lighting performance values from sample populations in each building to verify calculations

#### **Analysis Method**

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Based on pre lighting retrofit lighting survey report data, engineering calculations, post retrofit sample measurements. (Option A protocol). Pre Retrofit value minus Post Retrofit value will indicate projected financial savings through calculations analysis.

### **Plan for Future Periodic Measurements and Performance Calculation**

The savings for this measure will be determined once during post retrofit performance. Subsequent lighting hours and fixture watt performance will be stipulated and agreed upon. The cost per KWH will be adjusted to reflect changes in electric rates. \$/KWH values will be calibrated annually to reflect financial impact. The same formulas will be used for all calculations for a period of three years from the first complete utility billing cycle after project completion.

#### **4.0 Water Conservation Improvement**

##### **Objective**

The objective of this M&V plan is to demonstrate performance of the water conservation retrofit for compliance with manufacturer and project specifications, and to quantify financial impact of reduced cost using FEMP Option A protocols.

##### **Parameters to be monitored**

1. Confirm installation in compliance with project specifications
2. Confirm proper operation (based on customer remarks and documentation of failures)
3. Pre and post measurements on select water consuming devices to verify consumption
4. Engineering calculation spreadsheet data

##### **Parameter Variables to be Stipulated and agreed upon**

1. Engineering calculations spreadsheet data values not listed as measured, are agreed upon

##### **Parameter Variables to be measured**

1. Select water consuming devices will be subject to pre and post measurements. These will be representative of the populations of equipment
2. Savings calculations agreed upon subject to operational verification of measure
3. Some pieces of equipment are not able to be tested. In these cases, calculations acceptable to both the Zoo and Johnson Controls, Inc. will be utilized

##### **Sampling Plan**

Commissioning activities will validate installation and operation to manufacturer and project specifications.

JCI will discuss installation with Zoo Personnel to determine if there are observed defects in installation materials. Corrective actions to defects will be taken; appropriate corrections to savings calculations will be made.

##### **Data Collection Plan**

- Data Sought: Verify installation to manufacturer and project specifications.
- Points of Measurement: varies.



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- Metering Equipment Identification: New water meters will be installed in the following buildings: Aviary; connect existing water meter to the BAS at the Feline Building; Macaque House; and Small Mammals.
- Metering Equipment Calibration: N/A.
- Quality Control: JCI Performance Assurance Engineer will over-see setup and execution of M&V plan.
- Data Collection Plan: Confirm proper operation through exception based identification of non compliance, calibrate energy consumption savings calculations if appropriate, update financial impact of energy savings annually based on utility rate structures obtained from utility bills.

### Analysis Method

Engineering spreadsheet calculations used to determine financial impact of improvement measure based pre minus post retrofit engineering calculation spreadsheets. Annual savings is considered agreed upon pending installation acceptance. Annual savings will be adjusted for financial impact based on changes in utility rates.

### Plan for Future Periodic Measurements and Performance Calculation

The savings for this measure will be considered agreed upon, but recalculated annually to reflect annual changes in cost. The same formulas will be used for all calculations for each year after project completion. The new water meters and also the meter that will be connected into the BAS (Feline Building) will be used to trend the usage of water / sewer to ensure an understanding of consumption and to ensure that malfunctions are caught in a timely fashion.

**5.0 LED Traffic Lighting****Objective**

The objective of this M&V plan is to demonstrate performance of the Traffic lighting ECM, and to quantify financial impact of reduced energy consumption. The Traffic Lighting ECM will utilize FEMP Option A protocols.

**Parameters to be monitored**

1. Traffic Lighting energy consumption (calculated based on sample population data collection)
2. Total ECM energy savings values (calculated based upon data collected for sample population). Savings will be calculated as Pre consumption minus Post consumption equals savings

**Parameter variables to be Stipulated and agreed upon**

1. Traffic Signal Lighting Hours of Operation will be identified based on Traffic Department records. The hours of operation will be stipulated and agreed upon for all energy consumption calculations
2. The sample population will be 16 intersections
3. Utility Prices; Utility Unit costs will be based on current utility rate structures and escalation rates identified in proposal and contract documents

**Parameter variables to be measured**

1. Sample Fixture Voltage, and Amperage will be measured once during pre retrofit baseline data collection and once during post retrofit data collection. Thereafter, variables will be stipulated and agreed upon in energy consumption calculations.

**Sampling Plan**

One time pre and post retrofit measurements for the identified sample population will be completed. Data collected during the measurement process will be extrapolated to the total project. The calculated energy consumption values and pre minus post savings values will be extrapolated to represent annual performance values. Annual performance values will be updated each year to represent changes in the cost of energy based on the utility unit price structure identified in proposal and contract documents

**Data Collection Plan**

- Data Sought: Pre and Post Retrofit Traffic signal voltage, amperage, hours of use, utility unit costs

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- Points of Measurement: 1 Time Pre and 1 Time Post retrofit measured voltage, and amperage. Hours of use and utility unit costs stipulated per proposal and contract documents
- Metering Equipment Identification: Fluke 39 (or equivalent).
- Metering Equipment Calibration: N/A.
- Quality Control: JCI Performance Assurance Specialist will over-see setup and execution of M&V plan.
- Data Collection Plan: Initial and annual update of savings reported based on data collected and stipulated values

### **Analysis Method**

Based on pre retrofit measurements, engineering calculations, post retrofit sample measurements. (Option A protocol). Pre Retrofit value minus Post Retrofit value will indicate projected financial savings through calculations analysis.

### **Plan for Future Periodic Measurements and Performance Calculation**

Energy savings data will be collected one (1) time for this ECM. Annual performance values will be updated each year to represent changes in the cost of energy based on the utility unit price structure identified in proposal and contract documents

## SERVICES SCHEDULE

1. **SCOPE OF SERVICE.** JCI and the Customer agree that the services checked below will be provided by JCI at the Customer's facility.

- ☐ Primary Air Conditioning Equipment (PRIME)
- ☐ Primary Air Conditioning Equipment (Basic)
- ☐ Fire Detection and Management Systems (Premium)
- ☐ Fire Detection and Management Systems (Basic)
- ☐ Facility Operations
- ☐ Reciprocating Air Conditioning Equipment (Premium)
- ☐ Reciprocating Air Conditioning Equipment (Basic)
- ☐ Associated Air Conditioning and Heating Covered Equipment (Premium)
- ☐ Associated Air Conditioning and Heating Covered Equipment (Basic)
- ☐ Maintenance Management Services
- ☐ Primary Heating Covered Equipment (Premium)
- ☐ Primary Heating Covered Equipment (Basic)
- ☐ Automatic Temperature Controls (Premium)
- ☐ Automatic Temperature Controls (Basic)
- ☐ Training
- ☐ Facility Management Systems (Premium)
- ☐ Facility Management Systems (Basic)
- ☐ Security Management Systems (Premium)
- ☐ Security Management Systems (Basic)
- ☒ Performance Reporting Services – Measurement & Verification
- ☐ Performance Consulting Service
- ☐ Energy System Management Services

**2. EXTENDED SERVICE OPTIONS FOR PREMIUM AND PRIME COVERAGES.** On-site repair services will be provided during JCI's normal business hours, unless one of the following options is checked:

- ☐ 24-5 Extended Service--JCI will provide on-site response 24 hours a day, 5 days a week (*Monday thru Friday, except JCI holidays*)
- ☐ 24-7 Extended Service--JCI will provide on-site response 24 hours a day, 7 days a week (*including holidays*)

**3. DEFINITIONS.** The terms used in this Services Schedule shall be defined as follows:

- (a) **COVERED EQUIPMENT** means the equipment for which services are to be provided under this Services Schedule and installed under Schedule 1 and any other Covered Equipment Lists attached to this Services Schedule.
- (b) **EQUIPMENT FAILURE** means the sudden and accidental failure of moving parts or electric or electronic components that are part of the Covered Equipment and that are necessary for its operation.
- (c) **SCHEDULED SERVICE VISITS** include labor required to perform inspections and preventive maintenance on Covered Equipment.
- (d) **SCHEDULED SERVICE MATERIALS** include materials required to perform Scheduled Service Visits on Covered Equipment.
- (e) **REPAIR LABOR** includes labor necessary to restore Covered Equipment to working condition following an equipment failure and excludes total equipment replacement due to obsolescence or unavailability of parts.
- (f) **REPAIR MATERIALS** include materials necessary to restore Covered Equipment to working condition following an equipment failure and excludes total equipment replacement due to obsolescence or unavailability of parts. At JCI's option, Repair Materials may be new, used, or reconditioned. All Repair Materials are covered by the warranty as described below.

- (g) **BASIC COVERAGE** includes Scheduled Service Visits, plus Scheduled Service Materials if otherwise noted in this Services Schedule, for Covered Equipment.
- (h) **PREMIUM LEVEL COVERAGE** includes **BASIC COVERAGE** as well as Repair Labor, plus Repair Material if otherwise noted in this Services Schedule, for Covered Equipment.
- (i) **EXTENDED SERVICE** includes extended service for repairs and is available only if Customer has **PREMIUM** or **PRIME** coverage. The price for Extended Service, if chosen by Customer, is part of the total price Customer will pay. Should a defect be found during an Extended Service visit that JCI is not responsible for under this Services Schedule; Customer agrees to pay JCI's standard fee for any services rendered. Should Repair Labor or Repair Materials be performed in periods beyond the Extended Service period, Customer agrees to pay JCI's standard fee for any services rendered beyond the Extended Service period. **PRIME LEVEL COVERAGE** includes **BASIC COVERAGE** as well as Repair Labor, plus Repair Materials if otherwise set forth in this Services Schedule, for Covered Equipment consisting of centrifugal, absorption, or screw chillers. **PRIME LEVEL COVERAGE** also includes Repair Labor, and Repair Materials if otherwise set forth in this Services Schedule, for diagnosed imminent equipment failure as well as actual equipment Failure, and the following:
  - (i) JCI will analyze diagnostic tests including PreVue Vibration Analysis and spectrochemical oil analysis megohm readings. All diagnostic tests must be performed at JCI-prescribed frequencies and to JCI-specified test standards. Coverage will include Repair Labor and Repair Material for heat exchanger tubes if an Eddy Current Analysis, acceptable to JCI, has been performed in the three years prior to this Services Agreement Schedule and is provided to JCI, or such a test will be performed as part of this Services Agreement Schedule.
  - (ii) Should JCI's analysis suggest the existence or the possibility of equipment deterioration outside anticipated or acceptable conditions, JCI may at its option take corrective steps necessary to prevent further deterioration or breakdown of the Covered Equipment. JCI retains sole judgment over whether equipment conditions are considered acceptable, whether corrective steps should be taken, or what steps, if any, need to be taken.

Performance of any corrective steps under this PRIME coverage is not a guarantee that equipment failure or downtime will not occur.

- (j) **EXTENDED SERVICE** includes extended service for repairs and is available only if Customer has PREMIUM or PRIME coverage. The price for Extended Service, if chosen by Customer, is part of the total price Customer will pay. Should a defect be found during an Extended Service visit that JCI is not responsible for under this Services Schedule; Customer agrees to pay JCI's standard fee for any services rendered. Should Repair Labor or Repair Materials be provided in periods beyond the Extended Service period, Customer agrees to pay JCI's standard fee for any services rendered beyond the Extended Service period.

**4. INITIAL EQUIPMENT INSPECTION FOR PREMIUM OR PRIME COVERAGES.** JCI will inspect the Covered Equipment within 45 days of the date of this Services Schedule or as seasonal or operational conditions permit. JCI will advise Customer if JCI finds any Covered Equipment not in working order or in need of repair. With the Customer's approval, JCI will perform the work necessary to put the Covered Equipment in proper working condition. To the extent that Covered Equipment is not subject to warranty or other obligation of JCI for its repair, this work will be done at JCI's standard fee for parts and labor in effect at that time. If the Customer does not want JCI to do the work identified by JCI, or if Customer does not have the work done, the Covered Equipment will be removed from the list of Covered Equipment and the price of this Services Schedule will then be adjusted.

**5. CUSTOMER OBLIGATIONS AND COMMITMENTS TO JCI.** The Customer warrants that, to the best of Customer's knowledge, all Covered Equipment is in good working condition and the Customer has given JCI all information of which Customer is aware concerning the condition of the Covered Equipment. The Customer agrees that, during the term of this Services Schedule, the Customer will:

- (a) operate the Covered Equipment according to the manufacturer's recommendations;
- (b) keep accurate and current work logs and information on the Covered Equipment as recommended by the manufacturer;
- (c) provide an adequate environment for Covered Equipment as recommended by the manufacturer or as recommended by JCI, including adequate space, electrical power, air conditioning, and humidity control;

- (d) notify JCI immediately of any Covered Equipment malfunction, breakdown, or other condition affecting the operation of the Covered Equipment;
- (e) allow JCI to start and stop, periodically turn off, or otherwise change or temporarily suspend equipment operations so that JCI can perform the services required under this Services Schedule; and
- (f) provide proper condenser and boiler water treatment, as necessary, for the proper functioning of Covered Equipment, if such services are not JCI's responsibility under this Services Agreement Schedule.

The Customer acknowledges that its failure to meet these obligations will relieve JCI of any responsibility for any breakdown, or any necessary repair or replacement, of any Covered Equipment and may require adjustments under Schedule 2, Assured Performance Guarantee Schedule.

- 6. CHANGES TO COVERED EQUIPMENT.** To the extent permitted under the Performance Contract, the Customer retains the right to make changes or alterations to the Covered Equipment. If, in JCI's opinion, such changes or alterations substantially affect JCI's services or obligations, JCI shall have the right to make appropriate changes to the scope or to the price of this Services Schedule or to both.
- 7. ACCESS.** The Customer will give JCI full access to all equipment that is either Covered Equipment or associated with it when JCI requests such access. If access cannot be provided, JCI's obligations under this Services Schedule will be suspended until such access to the equipment is provided. Matters affecting JCI's access to the equipment may include, but are not limited to, the removal, replacement, repair, refinishing, restoration, reconstruction, or other remedial actions taken by the Customer with respect to Covered Equipment or to the Customer's facility. Suspension of JCI's duties for this reason will not cancel or suspend any of the Customer's obligations under this Services Schedule.
- 8. EXCLUSIONS.** JCI's services under this Services Agreement Schedule do not include:
  - (a) supplies, accessories, or any items normally consumed during the use of Covered Equipment, such as ribbons, bulbs, and paper;
  - (b) calls resulting from lack of operator-level preventive maintenance, site-related problems, or operator error;



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- (c) service calls due to failures resulting from acts of God, abuse or misuse of Covered Equipment, or alterations, modifications, or repairs to Covered Equipment not performed or provided by JCI;
  - (d) the furnishing of materials and supplies for painting or refinishing Covered Equipment;
  - (e) electrical work to the Customer's facility necessary because of Covered Equipment;
  - (f) service calls resulting from attachments made to Covered Equipment or other equipment not covered by this Services Schedule;
  - (g) the repair or replacement of ductwork, casings, cabinets, structural supports, tower fill/slats/basin, hydronic and pneumatic piping, and vessels, gaskets, and piping not normally replaced or maintained on a scheduled basis, and removal of oil from pneumatic piping;
  - (h) service calls resulting from the effects of erosion, corrosion, acid cleaning, or damage from unexpected or especially severe freezing weather that is beyond what is prevented by JCI's normal maintenance;
  - (i) work caused by any operation of, adjustments to, or repair to, Covered Equipment by others not authorized in advance by JCI;
  - (j) work caused by the negligence of others, including but not limited to equipment operators and water treatment companies;
  - (k) service calls due to failures caused by improper environmental conditions affecting Covered Equipment or electrical power fluctuations, if due to conditions beyond JCI's control, and service calls required because JCI had previously been denied access to the Covered Equipment; and
  - (l) disposal of hazardous wastes. Hazardous wastes remain the property and the responsibility of the Customer even when removed from equipment or replaced by JCI as provided by the terms of this Services Schedule. The Customer shall be responsible for the proper storage and disposal of hazardous wastes. This includes, but is not limited to, used oil, contaminated or uncontaminated refrigerant, and PCBs.
9. Price. The total price for JCI's Services related to the Safety Academy during the Term of this Service Schedule is as follows: Year 1-- \$9,890, Year 2 -- \$10,187, Year 3 -- \$10,492, Year 4 -- \$10,807, Year 5 -- \$11,131, Year 6 --

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\$11,465, Year 7 -- \$11,809, Year 8 -- \$12,163, Year 9 -- \$12,528, Year 10 -- \$12,904, Year 11-- \$13,291, Year 12 -- \$13,690. Separately, the total price for JCI's Services related to the LED Traffic Signals during the Term of this Service Schedule is as follows: Year 1 -- \$3,709, Year 2 -- \$3,820, Year 3 -- \$3,935, Year 4 -- \$4,053, Year 5 -- \$4,175, Year 6 -- \$4,300, Year 7 -- \$4,429.

These amounts will be paid to JCI as shown in the following schedule (next page).

These payments will be due and payable when the Customer received JCI's invoice and in advance of the services

JCI is to provide, subject to the Customer's prompt-payment policy. Customer reserves the right to cancel the Services for one or both portions of the Work upon 10-days notice to JCI.

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The total price for JCI's Services during the Term of this Agreement for the Safety Academy is \$140,357. This amount will be paid to JCI in quarterly installments as shown below. These payments will be due and payable when the Customer receives JCI's invoice and in advance of the services JCI is to provide and shall be made throughout the Service Term.

Year 1 - Quarterly Payment Amount: \$2,472.50 (begin June 1, 2009)  
Year 2 - Quarterly Payment Amount: \$2,546.50 (begin June 1, 2010)  
Year 3 - Quarterly Payment Amount: \$2,623.00 (begin June 1, 2011)  
Year 4 - Quarterly Payment Amount: \$2,701.75 (begin June 1, 2012)  
Year 5 - Quarterly Payment Amount: \$2,782.75 (begin June 1, 2013)  
Year 6 - Quarterly Payment Amount: \$2,866.25 (begin June 1, 2014)  
Year 7 - Quarterly Payment Amount: \$2,952.25 (begin June 1, 2015)  
Year 8 - Quarterly Payment Amount: \$3,040.75 (begin June 1, 2016)  
Year 9 - Quarterly Payment Amount: \$3,132.00 (begin June 1, 2017)  
Year 10 - Quarterly Payment Amount: \$3,226.00 (begin June 1, 2018)  
Year 11 - Quarterly Payment Amount: \$3,322.75 (begin June 1, 2019)  
Year 12 - Quarterly Payment Amount: \$3,422.50 (begin June 1, 2020)

The total price for JCI's Services during the Term of this Agreement for the LED Traffic Signals is \$28,421. This amount will be paid to JCI in annual installments as shown below. These payments will be due and payable when the Customer receives JCI's invoice and in advance of the services JCI is to provide and shall be made throughout the Service Term.

Year 1 - Annual Payment Amount: \$3,709.00 (begin June 1, 2009)  
Year 2 - Annual Payment Amount: \$3,820.00 (begin June 1, 2010)  
Year 3 - Annual Payment Amount: \$3,935.00 (begin June 1, 2011)  
Year 4 - Annual Payment Amount: \$4,053.00 (begin June 1, 2012)  
Year 5 - Annual Payment Amount: \$4,175.00 (begin June 1, 2013)  
Year 6 - Annual Payment Amount: \$4,300.00 (begin June 1, 2014)  
Year 7 - Annual Payment Amount: \$4,429.00 (begin June 1, 2015)

Dated July 1, 2008

**CUSTOMER:**

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**PRICE AND PAYMENT TERMS SCHEDULE**

1. The Customer shall make payments to JCI for Work performed, as well as payments for Services rendered pursuant to the Services Schedule.

4 (a) The price to be paid by the Customer for the Work at the Safety Academy shall be \$724,869. Progress payments (including payment for materials delivered to JCI and work performed on and off-site) shall be made to JCI as follows:

Month One payment-September 15, 2008: \$217,461  
Month Two payment-October 15, 2008: \$144,974  
Month Three payment-November 15, 2008: \$72,487  
Month Four payment-December 15, 2008: \$36,243  
Month Five payment-January 15, 2009: \$36,243  
Month Six payment-February 15, 2009: \$36,243  
Month Seven payment-March 15, 2009: \$72,487  
Month Eight payment-April 15, 2009: \$36,243  
Month Nine payment-May 15, 2009: \$36,243  
Final payment due upon substantial completion/project close out: \$36,245

Final payment, constituting the entire unpaid balance for the Work, shall be made to JCI within 30 days after the Substantial Completion Date. Payments may be withheld on account of any breach of this Agreement by JCI and claims by third parties (including JCI subcontractors and material suppliers), but only to the extent that written notice has been provided to JCI and JCI has failed, within ten days of the date of receipt of such notice, to provide adequate security to protect Customer from any loss, cost, or expense related to such claims.

The price to be paid by the Customer for the Work at the LED Traffic Signals shall be \$1,611,453. Progress payments (including payment for materials delivered to JCI and work performed on and off-site) shall be made to JCI as follows:

Month One payment-September 15, 2008: \$483,436  
Month Two payment-October 15, 2008: \$322,290  
Month Three payment-November 15, 2008: \$161,145  
Month Four payment-December 15, 2008: \$80,573  
Month Five payment-January 15, 2009: \$80,573  
Month Six payment-February 15, 2009: \$80,573  
Month Seven payment-March 15, 2009: \$161,144  
Month Eight payment-April 15, 2009: \$80,573  
Month Nine payment-May 15, 2009: \$80,573  
Final payment due upon substantial completion/project close out: \$80,573

Final payment, constituting the entire unpaid balance for the Work, shall be made to JCI within 30 days after the Substantial Completion Date. Payments may be withheld on account of any breach of this Agreement by JCI and claims by third parties (including JCI subcontractors and material suppliers), but only to the extent that written notice has been provided to JCI and JCI has failed, within ten days of the date of receipt of such notice, to provide adequate security to protect Customer from any loss, cost, or expense related to such claims.

4 (b) The total price for JCI's Services during the Term of this Agreement for the Safety Academy is \$140,357. This amount will be paid to JCI in quarterly installments as shown below. These payments will be due and payable when the Customer receives JCI's invoice and in advance of the services JCI is to provide and shall be made throughout the Service Term.

Year 1 - Quarterly Payment Amount: \$2,472.50 (begin June 1, 2009)  
Year 2 - Quarterly Payment Amount: \$2,546.50 (begin June 1, 2010)  
Year 3 - Quarterly Payment Amount: \$2,623.00 (begin June 1, 2011)  
Year 4 - Quarterly Payment Amount: \$2,701.75 (begin June 1, 2012)  
Year 5 - Quarterly Payment Amount: \$2,782.75 (begin June 1, 2013)  
Year 6 - Quarterly Payment Amount: \$2,866.25 (begin June 1, 2014)  
Year 7 - Quarterly Payment Amount: \$2,952.25 (begin June 1, 2015)  
Year 8 - Quarterly Payment Amount: \$3,040.75 (begin June 1, 2016)  
Year 9 - Quarterly Payment Amount: \$3,132.00 (begin June 1, 2017)  
Year 10 - Quarterly Payment Amount: \$3,226.00 (begin June 1, 2018)  
Year 11 - Quarterly Payment Amount: \$3,322.75 (begin June 1, 2019)  
Year 12 - Quarterly Payment Amount: \$3,422.50 (begin June 1, 2020)

The total price for JCI's Services during the Term of this Agreement for the LED Traffic Signals is \$28,421. This amount will be paid to JCI in annual installments as shown below. These payments will be due and payable when the Customer receives JCI's invoice and in advance of the services JCI is to provide and shall be made throughout the Service Term.

Year 1 - Annual Payment Amount: \$3,709.00 (begin June 1, 2009)  
Year 2 - Annual Payment Amount: \$3,820.00 (begin June 1, 2010)  
Year 3 - Annual Payment Amount: \$3,935.00 (begin June 1, 2011)  
Year 4 - Annual Payment Amount: \$4,053.00 (begin June 1, 2012)  
Year 5 - Annual Payment Amount: \$4,175.00 (begin June 1, 2013)  
Year 6 - Annual Payment Amount: \$4,300.00 (begin June 1, 2014)  
Year 7 - Annual Payment Amount: \$4,429.00 (begin June 1, 2015)

**2. CUSTOMER PURCHASE ORDERS.** The Customer acknowledges and agrees that any purchase order issued by Customer, in accordance with this Agreement, is intended only to establish payment authority for the Customer's internal accounting purposes. No purchase order shall be considered to be a counteroffer, amendment, modification, or other revision to the terms of this Agreement. No term or condition included in the Customer's purchase order will have any force or effect.

Dated July 1, 2008

**CUSTOMER:**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

# Schedule 5

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## CITY OF MILWAUKEE

### DEPARTMENT OF PUBLIC WORKS

### GENERAL SPECIFICATIONS

January 31, 1992

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**PART I  
INSTRUCTIONS TO BIDDERS  
GENERAL**

**CHAPTER 1.1.0**

**1.1.1 Contracting Officer**

The contracting officer shall be the Commissioner of Public Works of the City of Milwaukee hereinafter referred to as Commissioner.

**1.1.2 Qualifications of Bidders**

Qualifications for the project shall be demonstrated by each bidder as requested by the Commissioner of Public Works. Such bidder shall submit within five days of such request written evidence and documentation as required by the Commissioner, including financial capability, previous experience, and evidence of authority to conduct business in the State of Wisconsin.

**1.1.3 Examination of Contract Documents and Site**

**a) Before submitting a bid, each bidder shall:**

1. examine the contract documents thoroughly,
2. visit the site to become familiar with local conditions that may in any manner affect performance of the work,
3. become familiar with federal, state, and local laws, ordinances, rules and regulations affecting performance of work, and
4. carefully correlate observations with the requirements of the contract documents.

**b) Before submitting a bid, each bidder shall, at own expense, make such surveys and investigations as may be deemed necessary to determine a bid price for performance of the work within the terms of the contract documents. Bidder is responsible for obtaining all necessary licenses and permits at own expense.**

**c) The submission of a bid shall constitute a prima facie representation by the bidder that the bidder has complied with every requirement of this Section 1.1.3.**

#### 1.1.4 Interpretations

All questions about the meaning or intent of the contract document shall be submitted to the Commissioner in writing. Replies shall be issued by Addenda, mail, or delivery to all parties recorded by the Commissioner as having received the bidding documents. Questions received less than five days prior to the date for opening of bids will not be answered. Only questions answered by formal written Addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect.

#### 1.1.5 Bid Security

Bid security required is 10% of the contractor's bid, unless otherwise stated in the Official Notice and Invitation to Bid. The required security must be in the form of a certified or bank cashier's check made payable to Commissioner, or when indicated in said Notice or Invitation to Bid, a bid bond issued by a Surety licensed to conduct business in the State of Wisconsin and named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Department. The bid bond must be accompanied by a copy of the power of attorney for the agent or attorney-in-fact signing the bid bond. The bid security of the successful bidder shall be retained until the bidder has executed the Agreement and furnished the required contract security, whereupon it will be returned. Upon failure to execute and deliver the contract and furnish the required contract security within ten days of Notice of Award, the Commissioner may annul the Award and the bid security of that bidder shall be forfeited and the City reserves the right to pursue any available remedies against the bidder. The bid security of all except the two lowest bidders shall be returned after the opening of bids. The balance of the bid deposits, except that of the lowest responsible bidder, will be returned after the Commissioner has made an award to the lowest responsible bidder.

#### 1.1.6 Bid Proposal

- a) The Bid Proposal is included in the contract documents. Additional copies of the bid documents may be obtained through the Contract Administration Office, Room 506, Municipal Building.
- b) Bid Proposal shall be completed in ink or typewritten. The bid price of each item on the form must be stated in words and numerals. In case of a conflict, words shall take precedence.
- c) Bids submitted by an individual shall be signed by the bidder or by an authorized agent.
- d) Bids by corporation shall be executed in the corporate name by the president or vice president (or other authorized corporate officer accompanied by

evidence of authority to sign); and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

- e) Bids by partnerships shall be executed in the partnership name and signed by a partner; the partner's title must appear under the signature, and the official address of the partnership must be shown below the signature.
- f) Bids which are signed by an attorney-in-fact for individuals, firms, partnerships, or joint ventures shall have attached thereto a power of attorney evidencing authority to sign the bid.
- g) All names shall be typed or printed below the signature.
- h) The bid shall contain an acknowledgment of receipt of all Addenda, if any, the numbers of which shall be filled in on the bid form.
- i) Any bid received which does not respond to the items as requested on the bid proposal form shall be considered as a nonresponsive bid and may not be considered for award. This includes any alterations, modifications or conditions to the proposal or alternate bids which are not specifically requested on the bid proposal form.
- j) The contractor shall include in the contract price all applicable federal, state and local taxes in the proposal submitted.

#### 1.1.7 Emerging Business Enterprise Program

Chapter 360 of the Milwaukee Code of Ordinances established a Emerging Business Enterprise Program (EBE) which is implemented through establishment of percentages of public works contractors to be allocated to City certified emerging businesses and enterprises. These percentages are established by the department and are stated in the Official Notice and the Invitation for Bid. Forms required by the established EBE provisions must be submitted by bidders as part of the bidding process. Failure to comply with these requirements may result in rejection of the bid. The EBE provisions will be made a part of all departmental bid solicitations and are included in this bid package.

#### 1.1.8 Submission of Bids

Bids shall be submitted at the place and no later than the date and time indicated in the Official Notice and Invitation to Bid. The bid and the bid security shall be placed in an opaque, sealed envelope marked with the Official Notice Number, project number, branch number, date of opening bids, name and address of bidder, and the type and location of work. Such envelope shall be addressed and delivered to the Office of the Commissioner, Contract Administration Office, Room

506, Municipal Building, before time specified in the Official Notice and Invitation to Bid for opening bids. Bids received later than the date and time indicated will not be considered, and the unopened envelope will be returned.

#### 1.1.9 Modification and Withdrawal of Bids

A bidder may withdraw a bid because of error, omission or mistake at any time before the opening of the bids. In such case, the bid shall be returned unopened, and the bidder shall not be entitled to bid on the contract unless it is readvertised and re-let.

After bid opening, a bidder may only withdraw or correct a bid if the bidder meets the requirements of 66.29(5), State Statutes.

#### 1.1.10 Opening of Bids

Bids shall be publicly opened at the time and place as indicated in the Invitation to Bid and Official Notice.

#### 1.1.11 Adequacy of Bids

A bid which appears unreasonable or inadequate for any item in the schedule of quantities stated in the proposal form may be rejected.

#### 1.1.12 Quantities

The estimated quantities of the work are the result of careful calculations but are not to be considered as final and shall be used as a basis for determining the lowest bidder. After the contract is awarded, the quantity of work listed under any item, or all items, may be increased or decreased a reasonable amount at the discretion of the Commissioner without in any way invalidating the bid price.

#### 1.1.13 Bids to Remain Open

All bids shall remain open for 45 days after the day of the bid opening or until execution of contract, whichever occurs first.

#### 1.1.14 Acceptance or Rejection of Bids

- a) The contract shall be awarded to the lowest responsible bidder whose bid complies with the bid specifications. The Commissioner reserves the right to reject all bids if it appears that the lowest bid for the work to be let is

unreasonably high. The Commissioner further reserves the right to reject the bid of any bidder who is, in the judgment of said Commissioner, incompetent or otherwise unreliable for the performance of the work bid or who shall previously have willfully or negligently failed to complete any work or contract entered into with the City or any officer or department thereof or who shall have willfully or negligently failed to enter into a contract with satisfactory Surety for any work that shall have been previously awarded by said Commissioner. The Commissioner further reserves the right to disregard and reject any and all bids.

- b) If the contract is to be awarded, the Commissioner shall give the successful bidder a Notice of Award within forty-five days after the day of the bid opening.
- c) The Contractor shall submit with the executed contract, the required performance and payment bonds and proof of required insurance coverage within ten (10) days after contract award notification.

#### 1.1.15 Contract Time

The number of days or the completion date for the completion of the work (the contract time) is set forth in the Official Notice and the Invitation to Bid and shall be part of the contract. Any provisions for liquidated damages shall be set forth in the Official Notice.

#### 1.1.16 Subcontractors

- a) If the Conditions or Specifications required the identity of certain subcontractors and other persons and organizations to be submitted in advance of the Award, the apparent low bidder and any other bidder so requested shall within seven days after the day of the bid opening submit to the Commissioner a list of all subcontractors and other persons and organizations, including those who are to furnish the principal items of material and equipment, proposed for those portions of the work as to which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person, or organization if requested by Commissioner. If the Commissioner, after due investigation, has reasonable objection to any proposed subcontractor, other person, or organization, the Commissioner may, before giving the Notice of Award, request the apparent low bidder to submit an acceptable substitute without any increase in bid price. If the bidder declines to make any such substitution, such bidder will not thereby sacrifice the bid security. Any subcontractor, other person or organization so listed and to whom City by its Commissioner does not make written objection prior to the giving of the Notice of Award shall be deemed acceptable.



- b) In contracts where the contract price is on the basis of Cost of the Work Plus a Fee, the Contractor, prior to the Notice of Award, must identify in writing to the Commissioner those portions of the work that the Contractor proposed to subcontract and after the Notice of Award may subcontract other portions of the work only with the Commissioner's consent.
- c) Contractor shall not be required to employ any subcontractor, other person, or organization against whom the Contractor has reasonable objection.

#### 1.1.17 Starting Work Before Notification

No work shall be started under the contract, and no materials or equipment shall be brought upon the site of the work, prior to the date named in the written notice to proceed with the work.

#### 1.1.18 Protest and Appeal Procedure

- a) Prior to Bid Opening - Protests regarding form and content of bid documents must be received by the Commissioner of Public Works not less than five days prior to the scheduled bid opening time. A protest shall be in writing and state the reason for it. The protest will be reviewed and if modification is necessary, the bid opening day will be extended and addenda sent to each bidder. The decision of the Commissioner is final.

**PART II**  
**GENERAL CONDITIONS**  
**DEFINITIONS AND TERMS**

**CHAPTER 2.1.0**

**2.1.1 General**

Whenever in the specifications or in any document or instruments in construction operations where the specifications govern, the following abbreviations, terms, or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

**2.1.2 Abbreviations**

- a) A.A.S.H.T.O. The American Association of State Highway and Transportation Officials.
- b) ADMINISTRATIVE CODE. Rules of Wisconsin Code.
- c) A.N.S.I. American National Standards Institute.
- d) A.R.E.A. The American Railway Engineering Association.
- e) A.S.M.E. The American Society of Mechanical Engineers.
- f) A.S.T.M. The American Society for Testing and Materials.
- g) A.W.W.A. The American Water Works Association.
- h) D.N.R. Wisconsin Department of Natural Resources.
- i) FEDERAL SPECIFICATIONS. The Specification of the United States Federal Specifications Board.
- j) O.S.H.A. Federal Occupational Safety and Health Administration.
- k) S.S.P.C. Steel Structures Painting Council.
- l) STATE SPECIFICATIONS. Current Standard Specifications for Road and Bridge Construction of the Wisconsin Department of Transportation.
- m) A.C.I. American Concrete Institute.
- n) A.G.M.A. American Gear Manufacturers' Association.

- o) A.I.A. American Insurance Association.
- p) A.I.S.C. American Institute of Steel Construction.
- q) A.S.C.E. American Society of Civil Engineers.
- r) A.W.S. American Welding Society.
- s) I.E.E.E. Institute of Electrical and Electronic Engineers.
- t) J.I.C. Joint Industry Conference.
- u) N.E.C. National Electrical Code.
- v) N.E.M.A. National Electrical Manufacturers' Association.
- w) P.C.A. Portland Cement Association.
- x) P.C.I. Prestressed Concrete Institute.

### 2.1.3 Contract Documents

All the integral documents of the contract comprised of (a) written agreement (contract) covering the performance of the work and furnishing of materials for the construction of the work, (b) official notice, (c) invitation to bid and bid, (d) instructions to bidders, (e) specifications, (f) special provisions, (g) special conditions when applicable, (h) plans, (i) schedule of fixed prices, (j) supplemental agreements, and (k) all addenda, as fully as though they had been set forth therein full in the body of the contract.

#### 2.1.3.1 Governing Order of Contract Documents

In the case of a discrepancy or conflict in the contract documents, the order of governing shall be as follows:

First - Special Provisions  
 Second - Plans  
 Third - Specifications

### 2.1.4 City

The City of Milwaukee, a municipal corporation of the State of Wisconsin, located in the County of Milwaukee.

**2.1.5 Commissioner of Public Works, Commissioner or CPW**

The Commissioner of Public Works of the City of Milwaukee.

**2.1.6 Bidder**

Any individual, firm, partnership, corporation, or a combination of any or all jointly submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

**2.1.7 Contractor**

Any individual, firm, partnership, corporation, or a combination of any or all jointly submitting a proposal to whom the contract is awarded by the City or its heirs, executors, administrators, successors, or assigns.

**2.1.8 Subcontractor**

The individual, firm, partnership, or corporation to whom the Contractor, with the written consent of the Commissioner, sublets, assigns, or otherwise disposes of any part of the work covered by the contract documents.

**2.1.9 Surety**

The approved Surety corporation licensed to do business in the State of Wisconsin bound with and for the Contractor to insure acceptable performance of the contract and for payment of all obligations under the contract.

**2.1.10 Plans**

All contract drawings, reproductions of drawings, sketches, and revisions thereof pertaining to the work covered by the contract.

**2.1.11 Addenda**

All revisions of and supplements to the plans and specifications incorporated in or attached to and becoming an integral part of the contract documents.

#### 2.1.12 Special Provisions

The special body of directions, provisions, or requirements peculiar to a project and otherwise not thoroughly or satisfactorily detailed or prescribed in the specifications. The requirements of these Special Provisions shall govern the work and shall take precedence over the specifications or plans whenever they conflict.

#### 2.1.13 City Datum

The plane of zero elevation used for City work, being 54.815 feet below the permanent bench mark on a stone monument located near the northwest corner of North Jackson and East Wells Streets.

#### 2.1.14 Pavement

All types of pavements except such surfacings as crushed stone, screenings, cinders, or untreated water-bound macadam.

#### 2.1.15 Work

Work shall be understood to mean the furnishing of all labor, materials, equipment, and other incidentals necessary for all the successful completion of the project or particular part of the project in accordance with the requirements of the contract.

#### 2.1.16 Engineers

The Engineers of the Department of Public Works assigned to the work.

#### 2.1.17 Milwaukee Code

The Milwaukee Code of Ordinances, being the revision and codification of the general ordinances of the City of Milwaukee, adopted by the Common Council on December 19, 1941, and supplements and amendments thereto.

#### 2.1.18 Emergency or Emergencies

Unforeseen occurrences and combinations of circumstances involving the public welfare or the protection of work already done under the contract documents or which endanger life or property and call for immediate action or remedy.

**2.1.19 Trade Terms**

Terms having a well-known technical or trade meaning and generally recognized by architects, engineers, and the trade.

**2.1.20 Date of Completion of Work**

The work shall be considered as completed on the date certified to the Commissioner by the Engineer in Charge or other authorized representative.

**2.1.21 Time Allowed for Completion**

The time allowed the Contractor to complete all work under the contract including cleaning of the work site will be specified in the official notice. This time will be specified either as number of working days allowed, number of calendar days allowed, a specified calendar date, or a combination of these when a specific portion of the work is to be completed by a specific date. If any of these requirements are exceeded, Section 2.5.11 of the Specifications shall be invoked.

**2.1.22 Advertisement**

The official notice inviting bids for all proposed work included in any one letting.

**2.1.23 Award**

Notice to Contractor of Contract Award.

**2.1.24 Calendar Days**

Every day shown on the calendar; Saturdays, Sundays and holidays included.

**2.1.25 Contract Bond**

The approved form of security furnished by the Contractor and Surety as a guarantee of good faith on the part of the Contractor to execute the work in accordance with and complying with all the terms and conditions of the Contract Documents.

#### 2.1.26 Contract Change Order

A written order by the Commissioner or the Commissioner's authorized representative covering work not otherwise provided for, revision in or amendments to the contract, or conditions specifically prescribed in the specifications as requiring contract change orders. Such document becomes a part of the contract.

#### 2.1.27 Contract Period

The period from the date of commencing work to the date of completing work, both dates inclusive, as specified in the contract.

#### 2.1.28 Inspector

The authorized representative of the City assigned to make a detailed inspection of any and all portions of work or materials thereof.

#### 2.1.29 Official Notice

The advertisement for proposals for all work or materials on which bids are required. Such advertisement will indicate with reasonable accuracy the location and character of the work to be done or materials to be furnished and the time and place of submitting the proposals.

#### 2.1.30 Notice to Proceed

A written notice to the Contractor by the Commissioner or the Commissioner's authorized representative of the time within which the Contractor shall begin the prosecution of the work.

#### 2.1.31 Proposal

The offer of the bidder, submitted on the prescribed proposal form, to perform the work including the furnishing of labor and materials at the prices quoted by the bidder.

#### 2.1.32 Proposal Form

The approved form on which the City requires bids to be prepared and submitted for the work.

#### 2.1.33 Bid Security

The security furnished with a bid to guarantee that the bidder will enter into the contract if the bid is accepted.

#### 2.1.34 Schedule of Fixed Prices

The fixed prices as listed in the Contract Documents.

#### 2.1.35 Working Day

A working day shall be any calendar day where, in the opinion of the Commissioner or his duly authorized representative, it is possible for the Contractor to start and continue work, except that unless the Contractor actually starts and continues work on days of inclement weather, Saturdays, Sundays, and nationally-recognized legal holidays, such days shall not be considered as working days.



## **CHAPTER 2.2.0 EMPLOYMENT OF LABOR**

### **2.2.1 Residence Preference Program**

Chapter 309 of the Milwaukee Code of Ordinances established a Residence Preference Program which is implemented through establishment of the percentages of worker hours to be performed by unemployed residents of a special impact area. These percentages are established by the Department and are stated in the Official Notice and the Invitation to Bid. Forms required by the established resident preference provisions must be submitted by bidders as part of the bidding process. Failure to comply with these requirements may result in payments being withheld, contracts canceled, debarment from bidding for up to two years, or any other remedy available to the City at law or in equity. The resident preference provisions will be made a part of all departmental bid solicitations and are included in this bid package.

### **2.2.2 Hours of Labor and Overtime Pay**

- a) In accordance with Section 309-21, Milwaukee Code Ordinances, the service of all laborers and mechanics who are now or may hereafter be employed by any contractor or subcontractor of the City of Milwaukee upon any of the public works of this City is hereby limited to days other than Saturdays, Sundays, and legal holidays recognized by the City and restricted to 40 hours per week, of which no more than ten hours shall occur in any one calendar day, and except as the Commissioner may approve to conform with occupational practices or as specifications may require, it shall be unlawful for any officer of the City government or any such contractor or subcontractor, whose duty it shall be to employ, direct, or control the services of such laborers or mechanics, to require or permit any such laborer or mechanic to work on Saturdays, Sundays, and legal holidays or more than 40 hours per week and ten hours in any calendar day, except in cases where, in the opinion of the Commissioner, an emergency exists.
- b) In such instances where overtime work has been permitted and laborers or mechanics are required to work more than ten hours per day or 40 hours per week or at times other than the normal work day or work week, they shall be paid by the contractor in accordance with the prevailing overtime wage rates. When, and only when, an emergency has been declared to exist and the Commissioner, after the signing of a contract, has ordered in writing that work on a project be carried on in excess of ten hours per day or 40 hours per week, it shall be the duty of the City to reimburse the contractor over and above the price agreed upon for the performance of such work in the amount of the premium paid for overtime work or work performed at times other than the normal work day or work week in accordance with the prevailing overtime wage rates plus any premium paid for necessary materials because of

delivery during times other than the normal work day or work week.

### 2.2.3 Minimum Wage Rate

- a) In accord with Section 309-25, Milwaukee Code, and Res. No. 68-1317, building and construction industry trade workers employed upon public works contracts by any contractor or subcontractor shall be paid no less than the wage rates and fringe benefits approved for their respective trades or occupations. Such wage rates shall be incorporated into the contract. In addition, a schedule of wage rates and hours of labor shall be kept posted in at least one conspicuous and easily accessible place on the site of the project or, if there is no common site, at the place normally used by the city to post public notices.
- b) Fringe benefits must be paid as follows: Welfare - within six weeks of the date work was performed; Vacation and Pension within 31 days of the date work was performed.

### 2.2.4 Unclassified Employees

- a) In case it becomes necessary for the Contractor or any subcontractor to employ on the work covered by the contract documents any person in a trade or occupation (except executive, supervisory, administrative, clerical, or other non-manual workers) for whom no minimum wage rate is herein specified, the Contractor shall immediately notify the Commissioner who shall promptly thereafter furnish the Contractor with the minimum wage rate for such person.
- b) Apprentices are considered unclassified employees and their rates are not furnished in the minimum wage scale. Contractors/subcontractors employing apprentices are required to furnish a copy of the signature page of their indenture papers and a copy of their rate sheet with the paid rate highlighted. The Commissioner shall determine whether or not a person so employed was properly paid or if an underpayment exists.

### 2.2.5 Minimum Wage - Time Reports

The Contractor hereby agrees to make a sworn report or affidavit within ten days following the Contractor's completion of a contract, or every three months, whichever occurs first, and shall procure and submit a like sworn report or affidavit from every subcontractor employed in the work to the Commissioner, listing every employee employed on or under this contract or subcontract, and shall include for the specified period but not be limited to the employee's name, address, type of work performed, total hours worked, hourly rate, gross earnings, and employer's contribution to vacation, welfare, and pension trust funds. Said reports or affidavits from the Contractor or subcontractor shall include a statement that each and every employee has been paid in full the amount prescribed by the Common

Council and that there has not been, nor is to be, any rebate or refund of any part of said wages by employee to employer.

The Commissioner or other officers are hereby ordered not to pass any estimate for payment on any contract in which the Contractor or subcontractor has failed to comply with all the provisions of the foregoing sections, and no estimate shall be processed for payment until the Commissioner is satisfied that the provisions of the foregoing specifications have been fully complied with.

#### 2.2.6 Provision of Wisconsin Statutes and Administrative Code Pertaining to Municipal Wage Rates

Pursuant to Section 66.293 Wisconsin Statutes and Section IND 90.13 and 90.14 of the Wisconsin Administrative Code, each contractor and subcontractor is subject to the following requirements.

Each contractor, subcontractor, or agent thereof participating in a project shall keep full and accurate records clearly indicating the name and trade or occupation of every laborer, worker, or mechanic employed in connection with the project and an accurate record of the number of hours worked by each employee and the actual wages paid therefore.

Upon completion of the project and prior to final payment, therefore, each contractor shall file with the municipality an affidavit stating compliance with the provisions and requirements of the Wisconsin Statutes and Administrative Code and that said contractor has received evidence of compliance from each subcontractor. No municipality may authorize final payment until such an affidavit is filed in proper form and order.

Upon completion of the subcontractor's portion of the work and prior to final payment, each subcontractor shall file with the contractor an affidavit stating that said subcontractor has fully complied with the provisions and requirements of Section 66.293 (3) Wisconsin Statutes and the Wisconsin Administrative Code Chapter IND 90.

In accordance with Section 66.293 (3) (h), each contractor shall file with the City copies of the subcontractor's affidavit prescribed under IND 90.13 Wisconsin Administrative Code.

#### 2.2.7 Enforcement of "Hours and Wages" Provisions

Every person, firm, or corporation who shall violate the provisions of §309-21, 309-25, 309-27, and 309-31 Milwaukee Code, shall upon conviction thereof, be punished by a fine not to exceed \$25 and in default of payment thereof by imprisonment in the House of Correction of Milwaukee County for a period not to

exceed 90 days. The employment of each person contrary to the provisions of said sections shall be deemed a separate and distinct violation of the provisions thereof for each day so employed.

Attention is called to Section 66.293, Wisconsin Statutes, 1951, which provides that a contractor who violates the provision of this law, to-wit, fails to comply with the municipal wage scale set forth in the contract may be fined not to exceed \$500 for each offense. The failure to pay the required wage to an employee for only one week or part thereof constitutes a separate offense.

#### 2.2.8 Wage and Hours Limitation

The provisions of Sections 309-21 to 309-37 inclusive of the Milwaukee Code shall apply, and the Contractor or any subcontractor is not to pay less than the minimum wage scale adopted by the Common Council of the City of Milwaukee pursuant to said provisions.

#### 2.2.9 Days of Work and Shift Regulations

No work shall be performed under the contract on Saturdays, Sundays, or legal holidays, except with the approval of the Commissioner.

The Commissioner reserves the right to name the number of shifts per day, the hours per shift, and the starting time of each shift.

#### 2.2.10 Wage and Hours Disputes

Whenever a dispute arises between the Contractor or Surety and the City as to the determination whether there is compliance with the provisions of the contract documents as to the hours of labor, wages, character, and classification of workers employed, the determination of the Commissioner shall be final, and in case of violations of said provisions, the Commissioner may declare the contractor in default and order the Surety to perform or re-let upon advertisement, the remaining portion of the contract as provided by Section 66.29 (8), Wisconsin Statutes, 1943.

#### 2.2.11 Disqualification of Contractor

As provided by Section 309-33, Milwaukee Code, whenever any contractor or subcontractor engaged in any public work of the City has been found by the Commissioner, officer, or employee of the City or by a court of competent jurisdiction to have infringed any of the provisions of the minimum wage ordinance

or any ordinance or any resolution or scale of wages adopted pursuant thereto, in that event any such contractor or subcontractor shall not be deemed to be a competent and reliable bidder in the sense of Section 7-14 of the Milwaukee City Charter, 1984 compilation; and such contractor or subcontractor shall not be allowed to compete in securing future contracts with the City by such individual, or partner, or agent, or by any corporation of which such individual is a member, for a period of two years. A second violation by such individual, or partner, or agent, or by any corporation of which such individual is a member, shall disqualify such individual, or such partner, agent, or corporation from competing or doing any future City work for a period of three years.

#### 2.2.12 Lien Law

All provisions of Section 7-32, Milwaukee City Charter, shall be binding upon the Contractor.

#### 2.2.13 Discrimination in Employment

In accord with Section 109-15, Milwaukee Code and federal guidelines, it shall be unlawful for any private employer performing work within the City involving any public works of the City to willfully refuse to employ or to discharge any person otherwise qualified because of race, color, religion, sex, sexual orientation, age, handicap, national origin or ancestry, disability, lawful source of income, marital status, or family status to discriminate for the same reason in regard to tenure, terms, or conditions of employment; to deny promotion or increase in compensation solely for these reasons; to publish offer of employment based on such discrimination; to adopt or enforce any rule or employment policy which discriminates between employees on account of race, color, religion, sex, sexual orientation, age, handicap, national origin or ancestry, disability, lawful source of income, marital status, or family status; to seek such information as to any employee as a condition of employment; to penalize any employee or discriminate in the selection of personnel for training, solely on the basis of race, color, sex, sexual orientation, age, handicap, national origin or ancestry, disability, lawful source of income, marital status, or family status.

The Contractor shall include or cause to be included in each subcontract covering any of the work covered by this contract, a provision similar to the above paragraph, together with a clause requiring such insertion in further subcontracts that may in turn be made.

#### 2.2.14 Americans With Disabilities Act

Contractor (Vendor, Consultant, Lessee, etc.) agrees that Contractor will comply

with all applicable requirements of the Americans with Disabilities Act of 1990, 42 U.S.C. §12101, et seq.

## **CHAPTER 2.3.0**

### **NECESSARY NOTICES AND PERMITS**

#### **2.3.1 Notice to Proceed with Work**

The Commissioner shall notify the Contractor of the date to commence work covered by the contract. Upon receipt of such notice the Contractor shall comply with all notice requirements set forth below and in the specifications.

#### **2.3.2 Notice to Fire, Police, and Sheriff**

Contractor shall give notice in writing to the Chief Engineer of the Fire Department and to the Chief of Police of the City of Milwaukee and to the Sheriff of Milwaukee County at least three days before blocking off any street.

#### **2.3.3 Notice to Utilities, City Bureaus and Governmental Units**

The Contractor shall notify all utilities, City bureaus, and governmental units whose property may be affected by the Contractor's operations at least three days before breaking ground. The Contractor shall not interfere with said property until the expiration of the time specified in said notice and then only by permission of the Commissioner, nor shall the Contractor hinder or interfere with any person in the protection of such work or with the operation of buses at any time except with the permission of the Commissioner.

#### **2.3.4 Notice to Railroads**

The Contractor shall send by registered mail a notice to the district or division engineer or persons in charge of the operations of trains for any railroad at least ten days prior to doing any work in the right-of-way or any track zone. Such Contractor shall ascertain the schedule of all trains and shall comply with all rules and regulations requested by the railroad company.

#### **2.3.5 Notice for State Arterial Highways**

Whenever the work will obstruct or in any other way affect through vehicular traffic on State arterial highways, the Contractor shall give notice at least three days in advance thereof to the State of Wisconsin, Department of Transportation, Division of Highways, and the Traffic Division of the Infrastructure Division of the City.

#### 2.3.6 Notice to Support Buildings

Whenever the work endangers the support or involves the undercutting of any building or other structure along the site of work, the Contractor shall send by registered mail, return receipt requested, a written notice to the owner or the owner's agent to support such building or structure, and following the service of the notice, the contractor shall allow a reasonable length of time for the placing of the necessary support. Such notice shall be in accordance with applicable law.

#### 2.3.7 Notice of Work Suspension

In case the work is stopped and is to remain stopped for any considerable length of time, the Contractor shall promptly notify the Commissioner. At least three days before the work is to be resumed, the Contractor shall again notify the Commissioner.

#### 2.3.8 Permits and Licenses

The Contractor shall procure all necessary permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

#### 2.3.9 Permit for Parks and Parkways

The Contractor shall obtain a permit from the local park authority for construction work to be done within the limits of parks or parkways.

#### 2.3.10 Permit for Storage of Materials

When the Contractor finds it necessary to store materials on a street which is open to traffic, such Contractor shall obtain a permit from the Department of Public Works to store such materials at the designated location.

#### 2.3.11 Water Permit

The Contractor shall obtain a permit from the Milwaukee Water Works for the use of City water. A permit is not required on contracts for installing water mains.

#### 2.3.12 Permit for Excavation

Before starting excavation in any street, roadway, or other public way, the Contractor must obtain a permit from the Department of Public Works.

#### 2.3.13 Permit for Street Closings

When it is necessary to close any street to traffic, the Contractor shall obtain a permit from the Department of Public Works. The only exception would be for contractors paving or reconstructing a street.

#### 2.3.14 Permit for Blasting

Before doing any blasting the Contractor shall, with the approval of the Commissioner, obtain a permit from the Building Inspector. The Commissioner reserves the right to order the discontinuance of blasting operations at any time.

#### 2.3.15 Copies of Notices and Permits

Copies of all written notices and permits shall be submitted to the Commissioner or the Commissioner's representative prior to the commencement of construction.

#### 2.3.16 Notice to Cable Franchises

The Contractor shall notify all cable television franchises whose property may be affected by the Contractor's operations at least three (3) days before breaking ground. The Contractor shall not interfere with said property until the expiration of the time specified in said notice and then only by permission of the Commissioner, nor shall the Contractor hinder or interfere with any person in the protection of such work.



## **CHAPTER 2.4.0**

### **CONTROL OF WORK AND MATERIALS**

#### **2.4.1 Plans and Specifications to be Available**

The Contractor shall keep a legible copy of the plans, if any, and specifications at the site of the work.

#### **2.4.2 Contractor's Representative**

The Contractor shall either give personal superintendence to the work and be present, or shall have at the site of the work at all times while work is in progress, a representative having authority both to receive orders from the Commissioner and to act for the Contractor. Such representative must be thoroughly familiar with the work and be acceptable to the Commissioner and must be capable of reading and understanding the plans and specifications and capable of directing the work as called for by the contract documents.

#### **2.4.3 Authority and Duties of Inspectors**

Inspectors employed by the City shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. The Inspector is not authorized to revoke, alter, or waive any requirements of the specifications, nor is the Inspector authorized to approve or accept any portion of the completed project. The Inspector shall call the attention of the Contractor to any failure of the work or materials to conform to the specifications and contract and shall have the authority to reject materials. Any dispute between the Inspector and Contractor shall be referred to the Commissioner. Any advice which the Inspector may give the Contractor shall in no way be construed as binding the Commissioner or the Commissioner's representative in any way or releasing the Contractor from fulfilling any of the terms of the contract.

#### **2.4.4 Performance of Work**

All work to be performed must be in accordance with the contract documents and subject to the supervision, approval, and acceptance of the Commissioner.

#### **2.4.5 Materials, Labor, Equipment, Etc.**

All construction materials to be used on the work, all materials to be incorporated

into the work, and all labor, equipment, plant, tools, appliances, or methods to be used on the work shall be subject to the inspection and approval or rejection of the Commissioner.

It is understood that, except as otherwise specifically stated in the contract documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other service and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

#### 2.4.6 Decisions of the Commissioner

All work shall be done in compliance with the contract documents. The Commissioner shall decide all questions which shall arise as to the quality and acceptability of materials furnished, work performed, manner of performance, extensions of time, rate of progress of the work, interpretation of the plans and specifications, acceptable fulfillment of the contract, compensation, disputes, and mutual rights between Contractors under the Specifications. All questions as to the meaning of the contract documents and all questions as to the interpretation of any orders or directives which may have been issued in connection with the work shall be decided by the Commissioner whose decision shall be considered final and conclusive between the parties hereto and binding upon them.

#### 2.4.7 Order of Work

The place of commencement, the sequence of operations, and the prosecution of the work may be determined by the Commissioner as he shall deem fit to best serve the needs and the convenience of the public and for the proper and timely completion of the contract.

#### 2.4.8 Regulation of Tools, Equipment, and Plant Usage

The Commissioner reserves the right to regulate the time of usage or to prohibit the use of any type or kind of tools, equipment, and plant which may cause objectionable smoke, noises, odors, or damage to property.

#### 2.4.9 Gas-Powered Equipment

The Commissioner reserves the right to prohibit the stationary use of gas or diesel-powered plant equipment when such usage would cause objectionable noises, odors, or damage to property or trees.

#### 2.4.10 Electrically-Powered Plant

Where conditions are such that, in the opinion of the Commissioner, an electrically-powered plant should be used, the Commissioner shall have the right to order the Contractor to furnish an adequate plant powered by electric service.

#### 2.4.11 Location and Type of Plant

The location and type of any plant, at the site of the work, including buildings, machinery, equipment, and tools, is subject to the approval of the Commissioner. If these are furnished, placed, or used without approval, the Commissioner may require the removal and substitution of any or all parts of the plant, including buildings, machinery, equipment, and tools, to a location and of a type acceptable to the Commissioner.

#### 2.4.12 Right to Inspect and Test Materials

All materials to be used in the work are subject to the inspection, testing, and approval of the Commissioner or the Commissioner's authorized representatives at the place of manufacture, the site of the work, or other location, and before use, or before, during, or after the incorporation of such materials into the work. The Contractor shall, at all times, afford the necessary facilities for the Commissioner and the Commissioner's representatives to examine or sample all materials and to inspect the work, plant, equipment and tools in order to determine whether the materials, operations, workmanship, methods, and finished work comply with the requirements of the contract documents.

#### 2.4.13 Inspection

All materials and each part or detail of the work shall be subject at all times to inspection by the Commissioner or the Commissioner's authorized representatives, and the Contractor shall be held strictly to the true intent of the specifications in regard to quality of materials, workmanship, and the diligent execution of the contract. Such inspection may include mill, plant, or shop inspection, and any material furnished under these specifications is subject to such inspection. The Commissioner or the Commissioner's representatives shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is determined by the Commissioner or the Commissioner's representative to make a complete and detailed inspection.

The Contractor shall, if the Commissioner requests, remove or uncover such portion of the finished work as the Commissioner may direct before the final acceptance. After the examination, the Contractor shall restore said portion of the work to the standard required by the specifications. If the work thus exposed and

examined proves acceptable, the expense of uncovering or removing and replacing the parts removed shall be paid for as extra work but, if the work so exposed and examined is unacceptable, the expense of the uncovering or removing and replacing in accordance with the specifications shall be borne by the Contractor.

Failure or negligence on the part of the Commissioner or the Commissioner's representative to condemn or reject substandard or inferior work or materials shall not be construed to imply an acceptance of such work or materials, if it becomes evident at any time prior to the final acceptance of the work by the City. Neither shall it be construed as barring the City at any subsequent time from the recovery of damages or of such a sum of money as may be needed to rebuild and/or replace all portions of the substandard or inferior work or replacement of improper materials wherever found.

Any portion of the work or any material incorporated into the work, which may have become damaged during the progress of the work, shall be removed and replaced at the expense of the Contractor prior to final inspection and acceptance of the work.

#### 2.4.14 Source of Supply

The Commissioner reserves the right to prohibit the use of materials from any source when such material is known to the Commissioner to be inferior and from any plant when its mode of operation is known to the Commissioner to be such as to make improbable the supplying of reasonably uniform material.

#### 2.4.15 Or Equal Clause

Whenever a material, article, or piece of equipment is identified on the plans or in the specifications by reference to manufacturers or vendors names, trade names, catalogue numbers, etc., it is intended merely to establish a standard, and any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design shall be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Commissioner, of equal substance and function. It shall not be purchased or installed by the Contractor without the Commissioner's written approval.

#### 2.4.16 Continuous Work

The Contractor shall execute the work only in the presence of the Commissioner or the Commissioner's representative during the working hours of the day unless, at the Contractor's own volition upon due notice to the Commissioner and with the Commissioner's approval, the Contractor desires to prosecute the work continuously or at night. In all cases, the Contractor shall provide such facilities

for carrying on night work as the Commissioner directs. No claims shall be allowed for extra payment on account of night or continuous work nor for damages or detriment to the quality of work which may be incurred by the Contractor in being permitted to carry on work during such time, it being understood that full compensation for night or continuous work and all expenses incident thereto are included in the prices for the various items in the contract.

#### 2.4.17 Progress of the Work

The Contractor shall proceed with diligence to do the work and shall work continuously without delay. The Contractor shall not suspend operations at own discretion for whatever purpose without City of Milwaukee approval. It is the intent under this Section of the General Specifications that the work proceed continuously and expeditiously to completion irrespective of time allowed for completion of the work. Should the Contractor fail to prosecute the work continuously and expeditiously, the Commissioner may invoke the provision of Section 7.14(2) of the Milwaukee City Charter with a recommendation to the Common Council that the Contractor is not deemed to be a competent and reliable bidder and be disbarred from bidding for a period of time. If interruption of the work occurs during the term of contract which is beyond the control of the Contractor, i.e., strikes, governmental regulations, severe shortage of building materials, fires, or floods which are entirely beyond the control of the Contractor, the Contractor shall within such time as the Commissioner deems reasonable present written notice of such conditions to the Commissioner with a request for interruption of the work or an extension of the time for the completion of the entire contract. If said delays are approved by the Commissioner, such delays will entitle the Contractor to an extension of time as provided herein, but the Contractor shall not be entitled to damages or additional payment due to these delays. Whenever the Commissioner shall have taken action for the reasons described above to change the term of the contract described in this agreement, it is incumbent upon the Contractor to notify the Surety of such change.

Should the Contractor fail to maintain the rate of progress required to complete the work within the contract time specified, the Commissioner may require that additional workers or equipment be placed on the work or a reorganization of plant layout be effected in order that the work be brought up to schedule and maintained there. Should the Contractor fail to comply therewith, the Commissioner may proceed under the provisions of 2.4.18 of these Specifications.

In the event work is prosecuted during adverse weather conditions, the Contractor will be required to exercise precautions necessary to produce satisfactory work and shall protect the finished work from the elements. It is agreed and understood that the cost thereof has been included in the unit prices bid for the various items of work in the contract and that no extra compensation be allowed therefore.

#### 2.4.18 Default and Completion of Work

The Commissioner has the right, in case of the improper or imperfect performance of the work, to suspend the work at any time and to order the entire reconstruction of the same or to re-let the same to some other competent party. The Commissioner has the right, in case the work shall not be prosecuted with such diligence and with such number of employees to insure its completion within the time limited by the contract documents, to suspend such work and re-let the same to some other competent party or employ personnel and secure material for the completion of the same and charge the costs thereof to the Contractor.

When the Contractor or Surety, both if locally available, are notified that the Commissioner has elected to suspend the work, the Contractor shall cease to have the right to occupancy of the work site, and the Commissioner shall have the right to forthwith take possession of any materials, tools, equipment, or plant delivered thereon for work under the contract.

The Surety shall have the right to complete the contract, but in the event that performance has not been commenced within ten days from the date of the notice of suspension, the Commissioner has the right to continue in the possession of and utilize, for the completion of the contract, any and all materials, tools, equipment, and plant which the Contractor has had delivered upon the site of the work, and to prosecute the work to completion either by force account or by contract.

Expenditures made by the Commissioner in completing the work under the contract and in payment of valid claims arising under the terms of the contract shall be deducted from monies due or which would have become due to the Contractor upon completion of the contract. No claims for "extras" arising from the Commissioner's actions in completing the work will be entertained. The Contractor and Surety shall be liable and shall reimburse the City for any costs, in excess of the contract amount, required to complete the work.

#### 2.4.19 Assumption of Control of Work Not a Waiver

Neither the acceptance of any work by the Commissioner nor any order, measurement, or certificate by the Commissioner for payment of money nor any payment for nor acceptance of the whole or any part of the work by the Commissioner, nor any extension of time except for causes beyond the control of the Contractor as set forth above, nor any possession taken by the City or its employees, shall operate as a waiver of any portion of this contract or of any power herein reserved to the City or any right to damages herein provided; nor shall any waiver of any breach of this contract be held to be a waiver of any other or subsequent breach.

#### 2.4.20 Workmanship

All workmanship shall conform to the best standard practice. Unless otherwise specified, the specifications of recognized association of manufacturers and contractors or industrial manufacturers shall be used as guides for the standards of workmanship.

All exposed items of work shall present a neat and acceptable appearance and shall be as true to shape and alignment as is possible to obtain with measuring or leveling instruments generally used in the respective types of work. Items of work shall be sound and fully protected against damage and premature deterioration. It is specifically understood that in all questions of quality and acceptability of workmanship, the Contractor agrees to abide by the decisions of the Commissioner.

The Contractor shall furnish all labor, materials, necessary tools, equipment, and accessories that are necessary for integrating all portions of the work included in the contract to fulfill the true purpose and intent of the contract.

#### 2.4.21 Partial Acceptance

When requested by the Contractor and upon specific approval of the Commissioner, prior to final inspection and acceptance, the Contractor may be relieved of maintenance of sections of the work which have been completed. Such partial acceptance and assumption of the maintenance by the City shall be covered by a written notice from the Commissioner to the Contractor, and such notice shall definitely designate the sections of the work on which the Contractor is to be relieved of maintenance and shall also set forth the date upon which such notice will be effective. The assumption of maintenance by the City, however, shall not relieve the Contractor of any responsibility for defective workmanship or materials or for damages caused by the Contractor's own operations.

Such action shall not be construed to be a final inspection or acceptance of any part of the work nor waiver of any legal rights.

#### 2.4.22 Final Acceptance

The Commissioner shall make an inspection of the work included in the contract as soon as practical after notification by the Contractor and confirmation by the Inspector that such work has, in their opinion, been completed and final cleanup performed.

Should the inspection disclose any work, in whole or in part, as being unsatisfactory, the Commissioner shall give the Contractor the necessary instructions for correction of the same, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be

made which shall constitute the final inspection provided the work has been satisfactorily completed.

All work included in the contract shall be considered accepted on the date certified to the Commissioner as completed by the Engineer in Charge or other authorized representative.

#### 2.4.23 Employee Qualifications

The Contractor shall employ only such foremen, mechanics, laborers, or other employees as are physically fit, competent, experienced, and qualified to handle each class of work on which they are employed. Any person previously discharged by order of the Commissioner from work on any City contract shall not be permitted to work on this contract without first obtaining written permission from the Commissioner.

#### 2.4.24 Employees to be Discharged for Cause

When any employee willfully, negligently, or ignorantly fails to perform any of the duties or assignments or is disobedient or abusive and disrespectful to a fellow employee or to the Commissioner or the Commissioner's representative, such employee shall, upon written order from the Commissioner to the Contractor, be discharged from the work.

#### 2.4.25 Blasting

In all blasting operations, the Contractor shall abide by all provisions of Section 32-26, Milwaukee Code of Ordinances.

#### 2.4.26 Right of Entry

The Commissioner reserves the right of entry to any portion of the site of the work. Such right of entry shall also be available to the City forces, utilities, or contractors for the purpose of constructing collateral work or making emergency repairs. The contractor shall not be entitled to any damages for delays or hindrances resulting from such work.

#### 2.4.27 Guarantee

Contractor guarantees the work performed under this contract for the period set forth in the technical specifications.



## **CHAPTER 2.5.0**

### **SCOPE OF WORK AND SPECIFIC INSTRUCTIONS**

#### **2.5.1 Intent of Contract Documents**

The true intent of the contract documents is to provide for the construction, execution, and completion in every detail of a complete work or improvement which the Contractor undertakes to do in full compliance with the contract documents and in accordance with recognized engineering and construction principles. The contractor shall perform all items of work covered and stipulated in the proposal and perform altered and extra work, all in accordance with the lines, grades, typical sections, and dimensions given and shall furnish, unless otherwise provided in the contract documents, all material, implements, machinery, equipment, tools, supplies, transportation, electric power and labor necessary to the prosecution and completion of the work.

#### **2.5.2 Location of Underground Structures**

It is the responsibility of the Contractor to become acquainted with the location of all underground structures which may be encountered or which may be affected by work under the contract.

The locations of any underground structures furnished, shown on the plans, or given on the site are based upon the available records but are not guaranteed to be complete or correct and are given only to assist the Contractor in making a determination of the location of all underground structures. The Contractor understands and acknowledges that the City is not responsible for any representations made by it to the Contractor relating to the location or dimensions of underground structures.

#### **2.5.3 Harmonious Relations**

The Contractor shall work in harmony with other contractors or with utility or City forces engaged in collateral work. The Contractor's operations shall be arranged to prevent interference or damage to the work of others. In case of dispute the decision of the Commissioner shall be final and binding upon the parties affected.

#### **2.5.4 Cleaning of Work Site**

The Contractor shall at all times keep the site of the work, including streets, alleys, and all private or public property involved in or adjacent to the work free from any rubbish, surplus, or waste materials that have been deposited by the employees or which have accumulated as a result of the work.

The Contractor shall remove all surplus materials, tools, equipment, or plant, leaving the site of the work and all portions of the finished work clean, unobstructed, and ready for use before the work will be considered completed. The Commissioner may have removed from the site of the work all rubbish, surplus, or waste materials which the Contractor has neglected or refused to remove and deduct the costs of such removal from any monies due the Contractor.

#### 2.5.5 Items Not Listed in "Estimate of Quantities"

Sundry items which are incident to or required in the construction of the work but are not included as items in the estimate of quantities shall be considered an integral part of the contract, and all labor, materials, etc., required for such items shall be furnished by the Contractor and the cost of same included in the unit prices bid.

#### 2.5.6 Omissions, Discrepancies and Corrections

It is the intent of the contract documents that all performance under the contract be in accordance with the best practice. The Contractor shall carefully check the plans both before commencing and throughout the work. The Contractor shall immediately call the Commissioner's attention to any errors, omissions, or discrepancies that the Contractor may discover in the plans before proceeding with the work affected. The Commissioner reserves the right to make such corrections as deemed necessary for the fulfillment of the true intent of the contract documents.

#### 2.5.7 Work to be Done at Contractor's Risk

All work to be done under the contract documents from the commencement until the final acceptance of such work shall be done entirely at the Contractor's risk. No partial payment for, or partial acceptance of, any part of the work shall absolve the Contractor from such risk.

#### 2.5.8 Guarantee

The Contractor shall be liable for the acceptable condition of all work under the contract, both during construction and throughout any guarantee period. The guarantee period, if any, shall commence on the Date of Completion. If, within said guarantee, repairs, or changes are required in connection with the work, which, in the opinion of the Commissioner, is rendered necessary as a result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the contract, the Contractor shall promptly, upon receipt of the notice from the Commissioner, and without expense to the

City, install the work to a satisfactory condition, correct all defects, make good all damage to the structure, site, or contents thereof, which damage, in the opinion of the Commissioner, results from the use of such inferior or defective materials, equipment, or workmanship.

#### 2.5.9 Breakdown for Partial Estimates

Whenever the Commissioner sanctions partial payments for work completed during any specified period, the Contractor upon request by the Commissioner shall furnish a breakdown of the actual quantities and unit prices used in preparing unit bid price for each item in the Proposal. The breakdown must be balanced and not contain prices which are proportionately higher for work to be completed first than for work to be completed later. The Commissioner reserves the right to order such changes as may, in the Commissioner's opinion, be necessary to balance such breakdown.

#### 2.5.10 Time for Completion - Essence of Contract

The parties hereto specifically understand and agree that the time specified for completion is of the essence of this contract, and the Contractor shall not be entitled to claim performance of this agreement unless the work is satisfactorily completed in every respect within the time specified in the contract.

#### 2.5.11 Contractor to be Charged for Inspection After Time Allowed for Completion has Expired

The Contractor shall be charged for inspection provided by the City or by an agent for the City for each and every day inspection is required on all construction projects after the time allowed for completion has expired. This per diem rate for inspection, when provided by the City, shall include the cost of inspection, construction supervision, clerical, and administrative costs, traffic engineering, vacations, pensions, holidays, overtime, and other similar overhead charges. This charge for inspection will be deducted from monies due the Contractor at the completion of the contract. The amount of the per diem charge shall be set forth in the Bureau Specifications.

An inspector shall be assigned to the project upon notice from the Commissioner to the Contractor to start work. If more than one crew is utilized by the Contractor, as many additional inspectors will be assigned to the work as the Commissioner deems necessary. An additional charge per day after the time allowed for completion shall be made for each such additional inspector. Inspection will be continuous until, in the judgment of the Commissioner, the work is complete. This period of time will include all construction operations, including cleaning of work site. If for any reason a Contractor wishes to suspend operations, a request for

permission to do so shall be made in writing to the Commissioner. Such permission will only be granted for conditions beyond the control of the Contractor such as strikes, governmental regulations, severe shortage of building materials, fires, floods, or for other reasons authorized by the Commissioner.

When the official notice requires completion of the contract by a specific calendar date or a specified number of calendar/work days from date of order to proceed, all work including cleanup of the work site must be complete by that date. However, upon written request from the Contractor, an extension of time may be granted by the Commissioner due to conditions beyond control of the Contractor such as strikes, governmental regulations, severe shortage of building material, fires, floods, or for other reasons authorized by the Commissioner.

When a portion of the contract is required to be completed by a specific calendar date or within a specified number of calendar/work days, the per diem charge for inspection will be assessed for each work day beyond that date until the required portion is complete unless an extension of time has been granted.

The decision of the Commissioner shall be considered final in all matters pertaining to the necessity for inspection, the number of inspectors, and the granting of time extension.

#### 2.5.12 Substitution of Materials

The Contractor may submit plans and specifications for a type of material other than those covered by the contract documents, provided they conform to requirements of the contract documents covering the particular type of material for which a substitute is proposed. In all cases, however, the plans and specifications for the proposed substitution must be approved by the Commissioner in writing.

In the event of such substitution, the Commissioner shall require from the Contractor a credit deduction from the contract amount equal to any saving in material cost resulting from use of the proposed substitute.

The name of the manufacturer and location of the plant shall be furnished together with the proposal for the use of any substitute.

## **CHAPTER 2.6.0**

### **EXTRA WORK AND CREDITS**

#### **2.6.1 Revision of Plans**

In case the Commissioner deems it advisable or necessary in the execution of the work to make any alteration which will increase or diminish the quantity of labor or material or the expense of the work, such alterations shall not annul or vitiate the contract nor release the Surety. The Contractor shall furnish the necessary labor, material, etc., to complete the work as altered within the time limit originally specified or as extended by the Commissioner. The difference in cost of the work so altered shall be added to or deducted from the amount otherwise due the Contractor, as the case may be, and shall be determined in accordance with the methods specified in this chapter.

#### **2.6.2 Authority for Altered Work**

No alteration in the work under the contract shall be made without a written order from the Commissioner. No verbal suggestion or order of any employee of the Department of Public Works or of any other person shall be construed as authorizing any claims on the part of the Contractor for extra compensation for labor, materials, or other items pertaining to such work, or for damages or any other expense because of the Contractor's compliance therewith.

Verbal orders and suggestions as to the performance of the work may be given from time to time by representatives of the Commissioner, but when, in the opinion of the Contractor, such orders or suggestions involve extra work for which added compensation should be received, a written order from the Commissioner authorizing such work shall be requested. In the event of any disagreement as to the amount of work involved under any authorized order for extra work, it is specifically agreed by all parties that the decision of the Commissioner shall be binding and conclusive.

#### **2.6.3 Basis of Payment or Credit for Altered Work**

The method of determining the basis of payment or credit resulting from such altered work shall be:

- a) By the UNIT BID PRICE named in the proposal for like items of work.
- b) By a SUPPLEMENTAL SCHEDULE OF PRICES stated by the Contractor in the proposal when such bids are requested and when the Unit Bid Price is not applicable.
- c) By the predetermined FIXED UNIT PRICE contained in the "Supplemental Schedule" included in the contract documents when the Unit Bid Price is not

applicable or when a Supplemental Schedule of Prices bid by the Contractor was not required.

In the event that none of the three foregoing methods are applicable, the Commissioner reserves the right to employ any of the following methods:

- d) By Unit Prices submitted by the Contractor and accepted by the Commissioner.
- e) By a Lump Sum Price submitted by the Contractor and accepted by the Commissioner.
- f) By a Cost Plus 15% Basis. Cost is hereby defined as including the actual cost of labor, foremen over labor actually employed upon the extra work (time of foreman if engaged upon supervising other work to be prorated), labor liability insurance, the Contractor's payroll taxes, if any, and materials delivered upon and forming a part of the extra work, but excluding all administration and clerical expenses, all supervision and superintendence above foreman, and use and upkeep of small tools, plant and machinery and rent of storage yard. Prevailing rental rates on special tools and equipment and actual cost of special services will be allowed the Contractor without the above specified 15% added thereto.

#### 2.6.4 Claims for "Cost Plus" Extra Work

Claims for such extra work shall not be considered unless the Contractor presents to the Commissioner's representative on the work an itemized statement in duplicate of the hours of labor, quantities of materials, etc., upon which payment is to be based. The Commissioner's representative shall verify such amounts and shall retain the original for the Commissioner and return the duplicate copy to the Contractor. The verification of such items by the Commissioner's representative shall not in itself be construed as authorization or acceptance of such claims. No claims will be considered until the original bills, receipts, or vouchers have been furnished to the Commissioner by the Contractor.

#### 2.6.5 Time Limit for Filing Claims for Extra Work

Claims for extra work shall be filed at such intervals as directed by the Commissioner or as designated in the contract documents, but in all cases not later than five days after the Date of Completion.

## **Chapter 2.7.0**

### **PROTECTION OF WORK**

#### **2.7.1 Protection of Work**

During performance and up to completion date of work, the Contractor shall be under an absolute obligation to protect finished and unfinished work against any damage, loss, or injury, and in the event of such damage, loss or injury, the Contractor shall promptly replace or repair such work, whichever the Commissioner shall determine to be preferable. The performance of any work by City forces, when done in conjunction with work under the contract, shall not relieve the Contractor from full responsibility and liability.

#### **2.7.2 Street Barricades, Signs, and Warning Devices**

The Contractor shall be responsible for the erection and maintenance of all barricades, lights, and signs necessary for public safety and convenience in accordance with the specifications entitled "Minimum Requirements for Warning Devices to be Used for Work Performed in the Public Ways." In general, all hazards within the limits of the work or on detour around the work must be marked with well-painted, well-maintained barricades, reflectors, electric lights, flashers, and warning and directional signs in sufficient quantity and size adequate to protect life and property. These safeguards shall be moved, changed, increased, or removed as required during the progress of the work to meet changing conditions.

#### **2.7.3 Street Barricades and Detour Signs**

Whenever the Contractor shall have received a permit to close any street, alley, or public right of way to travel, the Contractor shall immediately upon the closing of such thoroughfare furnish, erect, and maintain substantial barricades across the streets, alleys, or property affected and shall furnish, post, and maintain detour signs thereon. Detour signs shall also be posted and maintained at immediately adjacent street and alley intersections for the convenience and guidance of traffic. The barricades and detour signs shall be illuminated by yellow lights throughout the night, or, when visibility is poor, detour signs shall conform to the standard detailed and shown in the specifications.

#### **2.7.4 Flagpersons Required**

Whenever the Contractor's operations obstruct or endanger a traffic lane and no marked detour has been provided, the Contractor shall furnish a flagperson to

direct traffic through or around the congested area. The Commissioner shall have the right to require additional flagpersons as may be deemed necessary.

#### 2.7.5 Removal of Snow

The Contractor shall be responsible for immediate removal of snow from those sections of streets and/or alleys which the Contractor has obstructed.



## **CHAPTER 2.8.0**

### **PROPERTY PROTECTION AND SANITATION**

#### **2.8.1 Protection of Work and Property - Emergency**

- a) The Contractor shall at all times safely guard City property from injury or loss in connection with this contract. Contractor shall at all times safely guard and protect the work site, and that of adjacent property, from damage. The Contractor shall replace or make whole any such damage, loss, or injury unless such be caused directly by the City.
- b) In case of some emergency which threatens loss or injury of property and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Commissioner, in a diligent manner. The Contractor shall notify the Commissioner immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Commissioner for approval. The Commissioner's determination shall be final and conclusive.
- c) Where the Contractor has not taken action but had notified the Commissioner of an emergency threatening injury to persons or damage to the work or any adjoining property, the Contractor shall act as instructed or authorized by the Commissioner.

#### **2.8.2 Safeguarding Adjacent Buildings**

Prior to commencing an excavation or tunnel in the immediate vicinity of any building or other structure, the safety of which may be endangered thereby, the Contractor shall comply with all requirements of applicable law. The Contractor shall serve the required notice upon the owner of such building or structure or the agent, naming the date of commencement of such work and allotting a reasonably sufficient length of time for the owner to take steps to protect the property. Throughout the course of the work adjacent to such property, the Contractor shall exercise due precaution and care and, at own expense, shall furnish and place such extra timbering, bracing, and sheathing as may be necessary to insure against the loss of ground adjacent to the excavation or tunnel and, when so indicated on the plans or when so ordered in writing, as an extra, by the Commissioner, shall leave such portions of timbering, bracing, and sheathing in place, as the Commissioner may direct. The Contractor must also take necessary precautions in the work operations to prevent the loss or settlement of such adjacent grounds and avoid the use of equipment which would tend to encourage such settlement or loss of ground.

#### **2.8.3 Property Safeguards**

The Contractor shall safeguard from and be solely responsible for all damage resulting from the work operations to water, gas, steam or drain pipes, street and building sewers, building services, catch basins, manholes, conduits, cables, hydrants, valve and stop boxes, light poles, street lighting cables and

transformers, traffic signals, traffic and street signs, fire and police alarm boxes, mail boxes, or any other privately or publicly owned existing installation or structure and the right-of-way structure of any steam or electric railway or railroad. The Contractor shall also safeguard from and be solely responsible for damage to pavements, sidewalks, curbs, gutters, trees, shrubbery, or lawns, except in such cases where the removal without replacement has been authorized in the contract documents or by the Commissioner. The cost of all safeguarding shall be included in the price bid for work under the contract.

#### 2.8.4 Access to Properties

During the work the Contractor shall not shut off nor unnecessarily interfere with either pedestrian or vehicular access to property without the consent of the Commissioner.

#### 2.8.5 Work in Private Right-of-Way

Whenever the work is to be prosecuted through private property for which the City has obtained a license or an easement, the Contractor shall abide fully with the terms of the license or the easement, a copy of which is on file in the Department of Public Works.

#### 2.8.6 Statement from Easement Grantors

Before final payment will be made, the Contractor shall obtain and submit to the Commissioner a statement from the parties granting the license or easement, which statement shall be in the following form:

Date \_\_\_\_\_

Commissioner of Public Works,  
City of Milwaukee:

The property owned by the undersigned has been left in a satisfactory condition, following the recent completion of construction work through such property, as described in the license or easement agreement permitting such work.

\_\_\_\_\_  
(Witness)

(Owner)

\_\_\_\_\_  
(Witness)

by

(Title)

#### 2.8.7 Failure to Secure Statement

In case the Contractor is unable to secure the above statement, the Contractor shall inform the Commissioner of the reasons for failure to do so. The Commissioner or the Commissioner's representative shall then examine the site, and the Commissioner shall direct the Contractor to complete any work that may be necessary to satisfy the terms of the license or easement. Should the Contractor refuse to do the work, the Commissioner reserves the right to have it done by contract or force account and deduct the cost of same from monies due the Contractor, or the Commissioner may require the Contractor to furnish a bond in a sum satisfactory to the Commissioner to cover any legal claims for damages. When the Commissioner is satisfied that the work has been completed in compliance with the contract documents and the terms of the license or easement, the Commissioner reserves the right to waive the requirement of obtaining the statement, when the Contractor's failure to obtain such statement is due to the grantor's refusal to sign and this refusal is not based upon any legitimate claims that the Contractor has failed to fulfill the terms of the license or easement or when the Contractor is unable to find or undue hardship would be imposed to solicit the grantors.

#### 2.8.8 Maintenance of Crosswalks and Gutters

Suitable pedestrian crossings, at least four feet in width, shall be provided and maintained by the Contractor as directed by the Commissioner. Gutters must not be obstructed at any time, and where it is necessary to cover them, a continuous pipe or timber drain ample to carry off the storm waters shall first be laid along the gutter, and such pipe or drain shall be kept open and free from obstructions.

#### 2.8.9 Sanitary Regulations

The Contractor shall construct and maintain properly sheltered sanitary conveniences for the employees, and their use must be strictly enforced. When permission is granted to use the manholes of designated sewers for sanitary outlets, such manholes must be flushed and cleaned periodically and thoroughly cleaned when no longer in use.

#### 2.8.10 Drainage

Drainage must not be obstructed at any time. When necessary, a continuous pipe or timber drain of ample capacity shall be laid to carry off the storm water. Such pipe or drain shall be kept open and free of obstructions.

All storm or ground water, which is to be removed from the site of the work, must be conveyed to an inlet of a storm or combined sewer, or when so approved by

the Commissioner to some other point of disposal. All sanitary sewage must be conveyed by closed pipe or hose to an inlet of a sanitary or combined sewer, or when so approved by the Commissioner, to some other point of disposal. Proper precautions shall be taken to prevent excessive quantities of clay, sand, or silt from entering existing sewers. All existing structures which are disturbed must be restored to a condition at least equal to their original condition and to the satisfaction of the Commissioner.

#### 2.8.11 Access to Public and Private Underground Structures and Appurtenances

Free access must always be maintained to fire hydrants, fire alarm and police call boxes, water and gas gate valves, catch basins, sewer, water, Bureau of Traffic Engineering and Electrical Services, utilities, manholes, and appurtenances. Whenever free access to any such structure shall have been obstructed or interfered with during the progress of the work, the Contractor shall immediately remove, at the Contractor's own expense, such obstruction or interference.

#### 2.8.12 Water Line Connections to Hydrants

The piping and fittings which the Contractor employs for connecting a water supply line to a City hydrant shall be equipped with a valve to be used in place of the regular hydrant valve which shall remain fully opened during usage. The fitting and valve assembly shall be watertight.

#### 2.8.13 Traffic

The Contractor shall maintain vehicular traffic as specified in the contract documents or as otherwise directed by the Commissioner.

#### 2.8.14 Emergency Maintenance and Protection

In the event it becomes necessary for the City to perform emergency maintenance and protection, which is the responsibility of the Contractor under the contract documents, the cost of such work shall be billed to the Contractor or deducted from the final payment if not paid.

## **CHAPTER 2.9.0 LEGAL RELATIONS**

### **2.9.1 Laws and Regulations**

The Contractor, the Contractor's agents, and employees, shall at all times observe and comply with all Federal laws, rules and regulations, statutes, codes, rules and regulations of the State of Wisconsin, and all applicable charter provisions, codes, regulations, and ordinances of the City of Milwaukee, all amendments thereto, and all the provisions of the contract documents, which in any manner affect the conduct of the work and all such orders or decrees as exist at the present and which may be enacted later of bodies or tribunals having jurisdiction or authority over the work. The Contractor shall protect and save harmless the City, its officers, and representatives, against any claim or liability arising from the violation of any such law, ordinance, code, rule, regulation, or order.

### **2.9.2 Assignment and Subletting**

Any subcontracting of this agreement is mutually recognized by all parties only to the extent of its approval and acceptance by the Commissioner at the time of the award of this contract. The Contractor shall not subsequently assign this contract or any interest therein, nor subcontract the work or any part thereof, without written consent of the Commissioner having first been obtained. If the Contractor submits subsequent written request to the Commissioner for substitution(s) of listed subcontractor(s), the Contractor shall give the Commissioner written assurance that the Contractor will save the City harmless from any damages which may arise from litigation between the original subcontractor(s) and the Contractor as a result of such substitution(s). The decision of the Commissioner shall be final in determining consent for said substitution(s). It is incumbent upon the Contractor to notify the Surety of such consent granted by the Commissioner for said substitution(s).

If the Contractor shall so assign or subcontract without such consent, the Commissioner shall have the right to rescind this contract and to declare the same null and void or to re-let the work to some other competent party, thereupon adjusting and determining the damages to the City arising thereby, and the Contractor shall be liable to the City for such damages as the Commissioner shall so adjust and determine, which adjustment and determination thereof, shall be final and conclusive on the parties thereto.

The Contractor assumes full liability for all acts and omissions of any subcontractor or of anyone employed directly or indirectly by either said Contractor or any subcontractor, and this liability shall be in addition to any other legal liability of the Contractor. Neither the approval nor endorsement of the Commissioner nor

anything contained in the contract documents shall be construed as creating any contractual relationship between any subcontractor and the City.

Consent to the assignment or subletting of this contract or of any part thereof or any alterations which may be made in the terms of this contract or in the work to be done under it or the granting of any extension of time for the performance of the contract or any other forbearance on the part of either the Commissioner or Contractor to the other shall not in any way release the Contractor or Surety or their heirs, executors, administrators, successors, or assigns from their liability hereunder.

The Contractor, to the extent practicable, shall maintain a list of all subcontractors and suppliers performing work or furnishing materials under each formal contract. This list must be submitted to the Commissioner upon request.

### 2.9.3 Patents and Trade Secrets

The Contractor shall hold and save the City and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for or on account of any patented or unpatented invention process, article, or appliance manufactured or used in the performance of the contract, including its use by the City, unless otherwise specifically stipulated in the contract documents.

If the Contractor uses any design, device, or materials covered by letters, patent or copyright, the Contractor shall provide for such use by suitable agreement with the owner of such patented or copyrighted design, device, or material. It is mutually agreed and understood, that without exception, the contract prices shall include all royalties or costs arising from the use of such design, device, or materials, in any way involved in the work. The Contractor and/or Contractor's Sureties shall indemnify and save harmless the City from any and all claims for infringement by reasons of the use of such patented or copyrighted design, device, or materials or any trademark or copyright in connection with work agreed to be performed under this contract and shall indemnify the City for any cost, expense, or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after the completion of the work.

License and/or Royalty Fees for the use of a process which is authorized by the City must be reasonable and paid by the Contractor to the holder of the patent or authorized licensee.

### 2.9.4 Liens and Taxes

Any and all taxes and license or permit fees imposed by the Federal, State, and local municipalities are the sole responsibility of the Contractor. Any and all liens

or claims of damages which may be chargeable to the Contractor are the sole responsibility of the Contractor. Commissioner reserves the right to withhold a sufficient amount from the contract payment to indemnify the City against such liens or claims of damages.

No materials or supplies for the work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that the Contractor has good title to all materials and supplies used in the work, free from all liens, claims, or encumbrances.

#### 2.9.5 Sales Tax

The City is exempt from Wisconsin Use, Sales Tax, and the .5% County Tax. Bidders, therefore, shall not add sales tax to their proposals when bidding to the City but shall include in their lump sum bids only the sales tax they will be required to pay directly as a consumer when obtaining materials, etc., to fulfill the contract requirements should they be the successful bidder.

#### 2.9.6 Protection Against Liability

Contractor covenants and agrees that Contractor shall save and indemnify and keep harmless the City against all liability, judgments, costs, and expenses, which may in any way come against the City in consequence of the granting of the contract, or which in anyway results from the carelessness or neglect of the Contractor or the agents, employees, or workers of the Contractor or Subcontractors in any respect whatever, and in every such case where judgment is recovered against the City by reason of the carelessness or negligence of the Contractor or the Contractor's agents, employees or workers, or Subcontractors, such judgments shall be conclusive against the Contractor, not only as to the amount of damages, but as to Contractor's liability to the City.

#### 2.9.7 Liability and Insurance

The Contractor shall be responsible for and shall save the City harmless from, and defend the City against all liability for damages occasioned by the digging up, use or occupancy of the street, alley, highway, public grounds, and private grounds, or which may result therefrom or which may result in any way from the negligence or carelessness of the Contractor, the Contractor's agents, employees, workers, by reason of the elements, unforeseen or unusual difficulties, obstructions, or obstacles encountered in the prosecution of the work, and they shall indemnify the City for and save it harmless from all claims and liabilities, actions, causes of action, and liens for materials furnished or labor performed in the construction or execution of the work and from all costs, charges, and expenses incurred in

defending such suits or actions and from and against all claims and liabilities for injury or damage to persons or property emanating from defective or careless work methods, or from and against all claims or liabilities for royalties, license fees, actions, suits, charges, and expenses or damage from infringement for reason of the use of any invention or improvement in tools, equipment or plant or any process, device or combination of devices used in the construction of the work.

Each Prime Contractor must furnish to the City of Milwaukee, prior to the start of work, certificates of insurance which confirm that the Prime Contractor has the types and amounts of insurance referenced in Sections (a) through (d). The Prime Contractor shall require all of its subcontractors to carry the same types and amounts of coverage as required of the Prime or may instead provide the coverage for any or all subcontractors. The Prime Contractor is fully responsible for assuring subcontractor compliance with all the insurance requirements specified herein.

a) **WORKER'S COMPENSATION AND EMPLOYEES LIABILITY**

Coverage Amounts

|                           |               |           |
|---------------------------|---------------|-----------|
| Worker's Compensation     |               | Statutory |
| Employer's Liability      |               |           |
| Bodily Injury by Accident | each accident | \$100,000 |
| Bodily Injury by Disease  | each employee | \$100,000 |
| Bodily Injury by Disease  | policy limit  | \$500,000 |

To Include

Other state's coverage  
 United States Longshoremen and Harbor  
 Worker's Endorsement (Required only when the  
 contract involves work on navigable bodies of water)

b) **COMMERCIAL GENERAL LIABILITY**

Limits of Liability

|                        |                      |             |
|------------------------|----------------------|-------------|
| Bodily Injury/Property |                      |             |
| Damage                 | each occurrence      | \$1,000,000 |
|                        | general aggregate    | \$1,000,000 |
|                        | products/completed   |             |
|                        | Operations aggregate | \$1,000,000 |
| Personal Injury        | aggregate            | \$1,000,000 |



To Include

Occurrence form  
Premises/operations coverage  
Products/completed operations coverage including extension of coverage for two (2) years after acceptance of work by the City of Milwaukee  
Independent contractors (Owners/Contractors Protective) coverage  
Contractual liability for risks assumed in this agreement  
No exclusion for explosion, collapse, or underground occurrences

c) AUTOMOBILE LIABILITY

Limits of Liability

|                               |               |             |
|-------------------------------|---------------|-------------|
| Bodily Injury/Property Damage | each accident | \$1,000,000 |
|-------------------------------|---------------|-------------|

To Include

Coverage on all owned, non-owned, and hired vehicles

d) UMBRELLA LIABILITY

Limits of Liability

|                                 |                 |             |
|---------------------------------|-----------------|-------------|
| Personal Injury/Property Damage | each occurrence | \$2,000,000 |
|                                 | aggregate       | \$2,000,000 |

To Include

Occurrence form  
First dollar defense coverage  
Insuring agreement which will provide excess protection to the primary coverages

For coverages referred to in section 2.9.7.(b), (c), and (d), the City of Milwaukee shall be named as an additional insured.

The worker's compensation and employers liability certificate should confirm that thirty (30) days notice of cancellation must be provided. For all other insurance coverages referenced above, sixty (60) days notice of cancellation must be provided.

A separate certificate need not be filed if the Prime Contractor has a current certificate on file with the City of Milwaukee. It is the responsibility of the Prime Contractor to make this determination and to provide evidence of coverage if a previous certification has been filed.

No Prime Contractor or Subcontractor shall perform any work under the contract after a certificate has expired or been canceled unless a new or renewal certificate is provided prior to the expiration or cancellation date of the previous certificate. The Prime Contractor shall have the responsibility of ensuring that valid certificates are on file for itself and all Subcontractors it plans to use.

#### 2.9.8 Performance Bond and Payment Bond

For all Public Works contracts over \$25,000, the contractor is to submit to the Commissioner, prior to or at the time of execution of the contract, a performance bond and a payment bond in an amount equal to 100% of the Contract price. For contracts of \$10,000 or more, but not over \$25,000, the contractor may be requested, in lieu of 100% bonds, to provide an irrevocable letter of credit or a performance bond and a payment bond in an amount equal to 50% of the contract price. The bonds required on any contract will be based on the estimated contract amount and will be specified in the bid specifications. All bonds must be executed by a surety company authorized to do business in the State of Wisconsin and must be accompanied by a Power-of-Attorney for the Attorney-in-Fact. The performance bond and the payment bond must be submitted as separate instruments. The performance bond shall also cover all work required under the guarantee provisions of the contract.

#### 2.9.9 Unforeseen Delay

If the City is prohibited or enjoined from proceeding with the work or from authorizing its prosecution, either before or after its commencement, by reason of any litigation or otherwise, the Contractor shall not be entitled to any damages by reasons of the delays thereby caused, except for the actual cost of protection of such work as the Contractor may have underway for the cost of removal and replacement of such tools, plant, and materials, as the Contractor may have delivered upon the work site, and such cost is to be determined by the Commissioner. The time of completion may be extended for such time, as in the judgement of the Commissioner, shall be equal to the aggregate delay.

#### 2.9.10 Default, Neglect, or Delay Shall Not Render the City Liable

The default, neglect, or delay of any other Contractors, or the extension of time to any of them by the City for the completion of their work, shall not render the City liable to the Contractor or its Surety nor relieve them or either of them in any manner or sum whatsoever.

#### 2.9.11 Termination of Contract for Cause

If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner its obligations under this contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the City shall thereupon have the right to terminate this Contract by giving written notice to the Contractor of such termination, specifying the effective date thereof, at least five (5) days before the effective date of such termination. The City may relet the work to be performed under this Contract to some other competent party, or employ persons and secure material for the completion of same, and charge the costs thereof to the Contractor. In such event, all finished or unfinished work accomplished by the Contractor under this Contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder.

Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of the Contract by the Contractor, and the City may withhold any payments to the Contractor for the purpose of set-off until such time as the exact amount of damages due to the City from the Contractor is determined.

#### 2.9.12 Termination for Convenience of the City

The City may terminate this Contract at any time for any reason by giving at least ten (10) days notice in writing to the Contractor. If the Contract is terminated by the City as provided herein, the Contractor will be paid an amount which bears the same ratio to the total compensation as the work actually performed bears to the total work of the Contractor covered by this Contract, less payments of compensation previously made. However, if less than sixty percent (60%) of the work covered by this Contract has been performed upon the effective date of such termination, the Contractor shall be reimbursed (in addition to the above payment) for that portion of the actual out-of-pocket expenses (not otherwise reimbursed under the Contract) incurred by the Contractor during the Contract period which are directly attributable to the uncompleted portion of the work covered by this Contract.

#### 2.9.13 Collusive Agreements - Prohibited

Each bidder submitting a bid for any portion of the work contemplated by the documents on which bidding is based shall execute, and attach thereto, an affidavit substantially in the form provided to the effect that the bidder has not entered into a collusive agreement with any other person, firm, or corporation in

regard to any bid submitted and also include therein compliance with Sec. 3.29, Milwaukee City Charter, such forms of affidavit being on file in the office of the Commissioner.

Before executing any subcontract, the successful bidder shall submit the name of any proposed subcontractor for prior approval and a non-collusive affidavit substantially in the form provided.

#### 2.9.14 Progress Payments

If the Contractor shall proceed properly and with diligence to perform and complete this contract, the Commissioner may, from time to time as the work progresses, grant to the Contractor a payment for the estimated amount already earned, reserving five percent thereof, except that at any time after fifty percent of the work is completed and the Commissioner finds that satisfactory progress is being made, remaining progress payments may be paid in full, which shall entitle the holder thereof to receive the amount due thereon, when the conditions, if any, annexed to such estimate shall have been complied with, and that a payment may be granted by the Commissioner for any fabricated or manufactured materials and components specified, previously paid for by the Contractor and delivered to the work site or properly stored and suitable for incorporation in the work embraced in the contract. The granting of any such estimate shall not be construed as an acceptance of the work or any portion thereof. Generally, payments will be made not more than once a month or for less than \$5,000.

Nothing herein shall prevent the Commissioner from withholding additional retainage if work on the project is not satisfactory. In no event, however, shall more than ten (10) percent of the value of the work completed be retained.

For contracts involving \$10,000 or more, the City reserves the right to pay the Contractor with checks that are made payable to the Contractor and one or more subcontractors.

#### 2.9.15 Final Payment

Upon the completion of the work by the Contractor pursuant to the terms of this contract and according to the contract documents and the true intent and meaning of this contract and after the acceptance of the work by the Commissioner, the City shall pay the Contractor, subject to any retainer or guarantee provisions in the contract documents, any balance then remaining due and payable by the terms of this contract.

Final payment may be withheld if prevailing wage statements are not filed or if there is noncompliance with requirements concerning the hiring of residents, disadvantaged businesses and apprentices. If these deficiencies are not satisfied within one (1) year of completion of the work, the department, following a final notification to the prime contractor, may close out the contract account and retain the contract proceeds permanently.

All monies paid or owed by the City to the Contractor shall be and constitute a trust fund, in the hands of the Contractor only, to the amount of all claims due and to become due or owing from the Contractor for lienable labor and materials until all such claims have been paid. The using of such monies by the Contractor for any other purpose until all such claims have been paid is, as declared by Section 779.02(5), and 779.16 Wisconsin Statutes, punishable as therein provided by law.

#### 2.9.16 Final Payment to Terminate Liability of City

- a) The acceptance by the Contractor of the "Final Payments" provided for in the contract shall operate as, and shall be, a release to the City and its representatives from all claims by the Contractor for anything done or furnished for or relating to the work or for any act or neglect of the City or of any person relating to or affecting the work.
- b) Prompt Payment In accordance with Common Council File 900859, the provisions of 66.285 and 66.286 Stats., relating to prompt payment are modified as follows: The City of Milwaukee as a matter of policy shall strive to pay all invoices within 30 days. Payment to contractors will be deemed timely if the payment is mailed, delivered or transferred within 60 calendar days after receipt of a properly completed invoice (including all required attachments such as stored material forms, guarantees, manuals, as-build plans, etc.), or receipt and acceptance of the property or service, or the date of final completion as determined by the City when all corrective measures are complete on punch list items under the order or contract, whichever is later. If the City does not make payment by the 60th calendar day, the City shall pay simple interest beginning with the 31st calendar day at the rate of one percent per month, unless the City disputes the amount of the invoice. No interest will be paid on final payments of 10% of the contract or \$1,000, whichever is greater.

#### 2.9.17 Time for Completion

The time specified for the completion of the work is of the essence of this contract, and the Contractor shall not be entitled to claim performance of this contract unless the work is satisfactorily completed in every respect within the time herein specified.

#### 2.9.18 Contractor/City Relationship

The relation of the Contractor to the City is and shall be that of an independent Contractor.

#### 2.9.19 Special Conditions - Federally-Aided Projects

Any special conditions relating to contracts involving the Economic Development Administration (EDA), the Department of Housing and Urban Development (HUD), or federally-assisted projects are subject to the special conditions attached hereto, which special conditions insofar as inconsistent with the provisions and general conditions heretofore stated shall be controlling.

#### 2.9.20 Assignment of Payments

All monies payable under the contract, or any part thereof, will be paid to the contractor in accordance with the provisions of this section, and no assignment or order executed by the contractor directing payment of any portion or all of such funds to any other person or persons will be recognized by the City unless such assignment or order is given and shall have attached thereto, by endorsement or otherwise, the consent of the surety, and any designated assignee. No such assignment or order shall be binding on the City.

#### 2.9.21 Records

Both parties understand that the City is bound by the Wisconsin Public Records Law, and as such, all of the terms of this Agreement are subject to and conditioned on the provisions of Wis. Stat. § 19.21, *et seq.* Contractor acknowledges that it is obligated to assist the City in retaining and producing records that are subject to Wisconsin Public Records Law, and that the failure to do so shall constitute a material breach of this Agreement, and that the Contractor must defend and hold the City harmless from liability under that law. Except as otherwise authorized, those records shall be maintained for a period of seven (7) years after receipt of final payment under this Agreement.

#### 2.9.22 Audit

Audits and Inspections. At any time during normal business hours and as often as the City, or if federal or state grants or aids are involved, as the appropriate state or federal agency may deem necessary, there shall be made available to the City or such agency for examination all of its records with respect to the matters covered by this Contract and the Contractor shall permit the City or such agency

and/or their representatives and agents to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and other data relating to all matters covered by this contract.

## PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal,  
(Corporation, Partnership, or Individual)

and \_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_

\_\_\_\_\_  
Dollars, \$ (\_\_\_\_\_)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred Under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.



PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise effect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four (4) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.

Witnesses

By

Principal

(SEAL)

Title

Address

Surety

Surety Witnesses

Surety - Contract MAILING Address

By

Attorney-in-Fact or Agent

(SEAL OF SURETY)

Name of Surety Contact Person \_\_\_\_\_ and Phone Number \_\_\_\_\_  
(Please Print)

NOTE: The affidavit on the following page must be properly executed before this bond will be approved. Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list and be authorized to transact business in the State where the project is located.

**AFFIDAVIT**

(With Payment Bond)

STATE OF WISCONSIN )

MILWAUKEE COUNTY )

\_\_\_\_\_, being first duly sworn,

on oath deposes and says that he/she is \_\_\_\_\_  
(attorney-in-fact)

\_\_\_\_\_ of \_\_\_\_\_  
(or agent) (Bonding Company)

and is duly authorized to sign for and on behalf of said company, surety on the attached contract,  
executed by \_\_\_\_\_

\_\_\_\_\_  
(Contractor)

Affiant further deposes and says that no city official, or city employee, of the City of Milwaukee has an interest, directly or indirectly, or is receiving any premium, commission, fee, or other thing of value, on account of the sale or furnishing of this bond, undertaking or contract of indemnity, guaranty, or suretyship, in connection with the above-mentioned contract.

\_\_\_\_\_  
(Signature)

Subscribed and sworn to before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public, Milwaukee Co. Wisconsin

My commission expires \_\_\_\_\_

2008 JUL 14 AM 8:58  
7/14/08MINIMUM WAGE SCALEOFFICE OF  
CITY ATTORNEY

RESOLVED, By the Common Council of the City of Milwaukee, that building and construction trades workers in the construction industry employed upon public work projects done by contract for the City of Milwaukee, either new construction or repair work, upon any roads, bridges, sewers, streets, alleys, buildings, or any other public work, shall be paid no less than the hourly wage rates and fringe benefits which prevail in the Milwaukee metropolitan area for the same type of work or for closely related work. (FILE NUMBER 68-1317)

Prevailing hours of labor for all classes of laborers and mechanics means no more than ten (10) hours per day nor more than forty (40) hours per week and may not include any hours worked on a Saturday, Sunday, or one of six holidays. ALL work performed in excess of these prevailing hours must be paid at a rate of at least 1-1/2 times the hourly basis rate of pay (plus fringe benefits). *Fringe Benefits must be paid on ALL hours worked for ALL job classifications.*

If a contractor or subcontractor anticipates employing a person or persons in classifications, trades, or occupations that are not set forth in the Minimum Wage Scale, then that contractor or subcontractor is required to apply to the Commissioner of Public Works PRIOR to the bid opening date set forth in the official notice for the project for a special wage determination containing the classification(s) and associated wage and benefit rate(s). Special wage determinations requested after the bid opening date MAY be issued at the discretion of the Commissioner of Public Works' Office if it is satisfied that a special classification is used as a prevailing practice in the City of Milwaukee.

The Prime Contractor must provide each subcontractor with a copy of the Minimum Wage Scale with the appropriate classifications and rates for the type of work to be performed. The Minimum Wage Scale, including this cover sheet, must be physically included in the subcontract agreement between the prime and subcontractor.

*Bidders are required to utilize the Wisconsin Department of Workforce Development's "Dictionary of Occupational Classifications and Work Descriptions" to determine the appropriate job classifications/wage rates for their employees prior to bidding and to insure employees are paid for those job duties they actually perform. This document can be found on their website at [dwd.wisconsin.gov](http://dwd.wisconsin.gov); type "dictionary" in the search box. All disputes and/or controversies regarding the proper classification of any laborer, worker, or mechanic employed on a City project will be referred to the State of Wisconsin Department of Workforce Development for final resolution and disposition.*

ss. 66.0903(8). Wis. Stats.

Any contractor, subcontractor, or agent thereof, who fails to pay the prevailing rate of wages determined by the department under this subsection or pays less than 1-1/2 times the hourly basic rate of pay for all hours worked on the project in excess of prevailing hours of labor determined under this subsection, shall be liable to the employees affected in the amount of their unpaid minimum wages or their unpaid overtime compensation and an additional amount as liquidated damages.

Each contractor, subcontractor, or agent thereof participating in a project covered by this subsection shall keep full and accurate records clearly indicating the name and trade or occupation of every laborer, workman, or mechanic employed by him in connection with the project and an accurate record of the number of hours worked by each employee and actual wages paid therefor.

7/14/08

| JOB CLASSIFICATION   | HOURLY RATE | WELFARE PER HOUR | VACATION PER HOUR | PENSION PER HOUR | OTHER SPECIFIC BENEFITS | TOTAL FRINGES | TOTAL WAGE |
|--|-------------|------------------|-------------------|------------------|-------------------------|---------------|------------|
| ACOUSTIC CEILING TILE INSTALLER                                  | 28.41       |                  |                   |                  |                         | 12.84         | 41.25      |
| AIR & ELECTRIC EQUIPMENT- Buildings                              | 24.13       | 7.30             | 1.50              | 5.05             | .48 A,I,S,E,T           | 14.33         | 38.46      |
| ASBESTOS ABATEMENT WORKER  | 24.02       | 7.30             | 1.50              | 5.05             | .48 A,I,S,E,T           | 14.33         | 38.35      |
| BITUMINOUS, DUMPER, IRONER, SMOOTHER & TAMPER (Paving)           | 21.11       | 7.00             | 1.40              | 4.70             | .33 A,T                 | 13.43         | 34.54      |
| BITUMINOUS LUTEMAN, RAKER (Paving)                               | 21.46       | 7.00             | 1.40              | 4.70             | .33 A,T                 | 13.43         | 34.89      |
| BITUMINOUS SHOVELER, LOADER, UTILITY MAN (Paving)                | 21.11       | 7.00             | 1.40              | 4.70             | .33 A,T                 | 13.43         | 34.54      |
| BLASTER  | 28.82       | 7.30             | 1.50              | 5.05             | .43 A,I                 | 14.28         | 43.10      |
| BLASTER (In compressed air 0-15 lbs.- Tunnel)                    | 29.86       | 7.30             | 1.50              | 5.05             | .43 A,I                 | 14.28         | 44.14      |
| 15-30 lbs. add \$2.00; 30 lbs or over add \$3.00                 |             |                  |                   |                  |                         |               |            |
| BLOCKLAYER - Buildings, Paving (see Cement/Concrete Blocklayer)  |             |                  |                   |                  |                         |               |            |
| BLOCKLAYER-Sewer,Water,Tunnel (see Cement/Concrete Blocklayer)   |             |                  |                   |                  |                         |               |            |
| BOILERMAKER  | 32.14       | 6.82             | 1.05              | 6.55             | 1.65 A,T; 3.75 Annuity  | 19.82         | 50.91      |
| Add \$2.00 on 7/1/09 = \$52.86.                                  |             |                  |                   |                  |                         |               |            |
| BOILERMAKER FOREMAN  | 33.59       | 6.82             | 1.05              | 6.55             | 1.65 A,T; 3.75 Annuity  | 19.82         | 53.41      |
| BOILERMAKER-GENERAL FOREMAN                                      | 35.59       | 6.82             | 1.05              | 6.55             | 1.65 A,T; 3.75 Annuity  | 19.82         | 55.41      |
| BOTTOM DIGGER,MISC.BOTTOM MAN,WELDER ON SURFACE                  | 26.13       | 7.30             | 1.50              | 5.05             | .43 A,I                 | 14.28         | 40.41      |
| BRACER (in Trench Behind Machine & Tight Sheeting)               | 28.34       | 7.30             | 1.50              | 5.05             | .43 A,I                 | 14.28         | 42.62      |
| BRACERMAN (tunnel)   | 28.34       | 7.30             | 1.50              | 5.05             | .43 A,I                 | 14.28         | 42.62      |
| BRACERMAN (in compressed air- 0 - 15 lbs)                        | 29.38       | 7.30             | 1.50              | 5.05             | .43 A,I                 | 14.28         | 43.66      |
| 15-30 lbs. add \$2.00; 30 lbs or over add \$3.00                 |             |                  |                   |                  |                         |               |            |
| BRICKLAYER (Buildings)   | 31.29       | 7.50             | none              | 6.24             | 2.96 A,I                | 16.70         | 47.99      |
| 6/1/09 Increase rate to \$49.20;                                 |             |                  |                   |                  |                         |               |            |
| 6/1/10 Increase rate to \$51.15; 6/1/11 Increase rate to \$53.10 |             |                  |                   |                  |                         |               |            |
| BRICKLAYER (Paving)  | 30.23       |                  |                   |                  |                         | 6.44          | 36.67      |
| BRICKLAYER (Sewer,Water, Tunnel)                                 | 30.75       |                  |                   |                  |                         | 12.65         | 43.40      |
| BRICKLAYER ON SWING STAGE  | 32.04       | 7.50             | none              | 6.24             | 2.96 A,I                | 16.70         | 48.74      |
| BRICKLAYER FOREMAN   | 34.56       | 7.50             | none              | 6.24             | 2.96 A,I                | 16.70         | 51.26      |
| BRICKLAYER SUBFOREMAN  | 32.93       | 7.50             | none              | 6.24             | 2.96 A,I                | 16.70         | 49.63      |
| CABINET INSTALLER  | 14.00       |                  |                   |                  |                         | 0.00          | 14.00      |
| CARPENTER (Buildings)  | 28.62       | 7.80             | 1.90              | 6.16             | .69 A,I,T               | 16.55         | 45.17      |
| CARPENTER (Paving, Sewer, Water, Tunnel)                         | 29.02       |                  |                   |                  |                         | 13.72         | 42.74      |
| CARPENTER FOREMAN  | 31.67       | 7.80             | 1.90              | 6.16             | .69 A,I,T               | 16.55         | 48.22      |
| CARPENTER SUBFOREMAN   | 30.15       | 7.80             | 1.90              | 6.16             | .69 A,I,T               | 16.55         | 46.70      |
| CARPET LAYER,SOFT FLOOR COVERER                                  | 29.02       | 7.80             | 1.90              | 6.16             | .69 A,I,T               | 16.55         | 45.57      |
| CAULKER, Cleaner, Tuckpointer (Buildings)                        | 30.12       | 7.50             | none              | 6.24             | 2.01 A                  | 15.75         | 45.87      |
| CAULKER, Cleaner, Tuckpointer (Shaft, Tunnel)                    | 30.12       | 7.50             | none              | 6.24             | 2.01 A                  | 15.75         | 45.87      |
| CAULKER, Cleaner, Tuckpointer(Paving, Sewer,Water)               | 30.23       |                  |                   |                  |                         | 13.30         | 43.53      |
| CAULKER, Cleaner, Tuckpointer FOREMAN                            | 30.87       | 7.50             | none              | 6.24             | 2.01 A                  | 15.75         | 46.62      |
| Add \$.75 for Swing Stage-Buildings,Shaft, Tunnel & Foreman      |             |                  |                   |                  |                         |               |            |
| CEMENT OR CONC.BLOCK LAYER (Buildings)                           | 31.60       |                  |                   |                  |                         | 13.70         | 45.30      |
| Add \$1.95 on 6/1/08 = \$47.25; \$1.95 on 6/1/09 = \$49.20       |             |                  |                   |                  |                         |               |            |
| Add \$1.95 on 6/1/10 = \$51.15; Add \$1.95 on 6/1/11 = \$53.10   |             |                  |                   |                  |                         |               |            |
| CEMENT OR CONC.BLOCK LAYER (Paving)                              | 30.23       |                  |                   |                  |                         | 6.44          | 36.67      |
| CEMENT OR CONC.BLOCK LAYER (Sewer,Water,Tunnel)                  | 30.75       |                  |                   |                  |                         | 12.65         | 43.40      |
| CEMENT OR CONC. BLOCK LAYER FOREMAN (Bldgs.,Shaft/Tunnel)        | 30.56       | 4.00             |                   | 3.50             | .61 A,I                 | 8.11          | 38.67      |
| CEMENT OR CONC. BLOCK LAYER FOREMAN (SWING STAGE)                | 31.31       | 4.00             |                   | 3.50             | .61 A,I                 | 8.11          | 39.42      |
| CEMENT MASON (FINISHER) (Buildings)                              | 26.51       | 7.30             | 2.31              | 6.48             | .37 A,I                 | 16.46         | 42.97      |
| CEMENT MASON (Highway)   | 24.51       | 7.00             | 2.31              | 5.73             | .20 A                   | 15.24         | 39.75      |
| CEMENT MASON (Sewer,Water, Tunnel)                               | 27.82       |                  |                   |                  |                         | 12.86         | 40.68      |
| CEMENT MASON FOREMAN (Buildings)                                 | 29.39       | 7.30             | 2.31              | 6.48             | .37 A,I                 | 16.46         | 45.85      |
| CEMENT MASON FOREMAN (Highway)                                   | 25.76       | 7.00             | 2.31              | 5.73             | .20 A                   | 15.24         | 41.00      |
| CEMENT MASON FOREMAN (Sewer)                                     | 28.19       | 4.35             |                   | 3.50             | .30 A,I                 | 8.15          | 36.34      |
| CEMENT MASON FOREMAN (Tunnel)                                    | 28.96       | 4.45             |                   | 3.90             | .30 A,I                 | 8.65          | 37.61      |
| CONCRETE MANHOLE BUILDER (See Manhole Builder)                   |             |                  |                   |                  |                         |               |            |
| DRYWALL TAPER OR FINISHER  | 26.14       | 8.20             | none              | 4.95             | .30 A,I                 | 13.45         | 39.59      |
| ELECTRICAL LINE CONSTRUCTION ONLY:                               |             |                  |                   |                  |                         |               |            |
| Line Constructor (also under Line Constructor)                   | 25.67       |                  |                   |                  |                         | 22.24         | 47.91      |
| Heavy Equipment Operator (Buildings, Sewer,Water,Tunnel)         | 24.06       |                  |                   |                  |                         | 15.52         | 39.58      |
| Heavy Equipment Operator (Paving)                                | 35.00       |                  |                   |                  |                         | 11.48         | 44.24      |
| Light Equipment Operator (Buildings,Sewer, Water, Tunnel)        | 31.31       |                  |                   |                  |                         | 15.70         | 47.01      |
| Light Equipment Operator (Paving)                                | 25.33       |                  |                   |                  |                         | 12.55         | 37.68      |
| Heavy Truck Driver (Buildings, Sewer, Water, Tunnel)             | 16.00       |                  |                   |                  |                         | 8.00          | 24.00      |
| Heavy Truck Driver (Paving)                                      | 22.16       |                  |                   |                  |                         | 11.18         | 33.34      |
| Light Truck Driver (Buildings, Paving, Sewer, Tunnel, Water)     | 20.58       |                  |                   |                  |                         | 10.71         | 31.29      |
| Groundman (Buildings, Paving, Sewer, Water, Tunnel)              | 17.41       |                  |                   |                  |                         | 9.80          | 27.21      |
| Groundman (Paving)   | 17.41       |                  |                   |                  |                         | 9.80          | 27.21      |

7/14/08

| JOB CLASSIFICATION   | HOURLY<br>RATE  | WELFARE<br>PER HOUR | VACATION<br>PER HOUR | PENSION<br>PER HOUR | OTHER<br>SPECIFIC<br>BENEFITS | TOTAL<br>FRINGES | TOTAL<br>WAGE |
|--|---|---------------------|----------------------|---------------------|-------------------------------|------------------|---------------|
| ELECTRICIAN (Buildings)  | 31.14   | 7.95                | 3.12                 |                     | 4.03 .96 A,I; 2.90 Annuity    | 18.96            | 50.10         |
|  | 6/1/09 Increase to \$51.44  |                     |                      |                     |                               |                  |               |
| ELECTRICIAN(Paving)  | 28.97   |                     |                      |                     |                               | 17.35            | 46.32         |
| ELECTRICIAN (Sewer, Water, Tunnel)   | 31.31   |                     |                      |                     |                               | 16.49            | 47.80         |
|  | Add \$1.65 on 6/1/08 = \$49.45; \$1.70 on 6/1/09 = \$51.15                              |                     |                      |                     |                               |                  |               |
| ELECTRICIAN FOREMAN  | 34.25   | 7.95                | 3.48                 |                     | 4.13 1.05 A,I; 2.90 Annuity   | 19.45            | 53.70         |
| ELECTRICIAN GENERAL FOREMAN  | 35.81   | 7.95                | 3.58                 |                     | 4.17 1.09 A,I; 2.90 Annuity   | 19.69            | 55.50         |
| ELEVATOR CONSTRUCTOR/MECHANIC  | 38.23   | 8.775               | 3.06                 |                     | 4.96 2.01 E,H,W; 2.00 Annuity | 20.805           | 59.035        |
| FENCE ERECTOR (Buildings, Sewer, Water, Tunnel)                                | 24.50   |                     |                      |                     |                               | 3.00             | 27.50         |
| FENCE, GUARD RAIL, BRIDGE BUILDER (Paving)                                     | 21.11   | 7.00                | 1.40                 |                     | 4.70 .33 A,E,T                | 13.43            | 34.54         |
| FIBER OPTIC LABORER (Outside, other than Concrete Encased)                     |   |                     |                      |                     |                               |                  |               |
| (Buildings, Sewer, Water, Tunnel)  | 40.00   |                     |                      |                     |                               | 6.00             | 46.00         |
| FIBER OPTIC LABORER (Outside, other than Concrete Encased)                     |   |                     |                      |                     |                               |                  |               |
| (Paving)   | 14.25   |                     |                      |                     |                               | 1.20             | 15.45         |
| FIRE SPRINKLER FITTER - see SPRINKLER FITTER                                   |   |                     |                      |                     |                               |                  |               |
| FLAGPERSON, TRAFFIC CONTROL (Paving)   | 17.60   | 7.00                | 1.40                 |                     | 4.70 .33 A,E,T                | 13.43            | 31.03         |
| FLAGPERSON, TRAFFIC CONTROL (Sewer, Water, Tunnel)                             | 16.34   | 7.30                | 1.50                 |                     | 5.05 .43 A,I                  | 14.28            | 31.22         |
| FLOOR COVERER, Soft  | 28.62   | 7.80                | 1.90                 |                     | 6.16 .69 A,I,T                | 16.55            | 45.17         |
| FLOOR COVERER FOREMAN (Buildings, Tunnel)                                      | 31.67   | 7.80                | 1.90                 |                     | 6.16 .69 A,I,T                | 16.55            | 48.22         |
| FLOOR COVERER SUBFOREMAN   | 30.15   | 7.80                | 1.90                 |                     | 6.16 .69 A,I,T                | 16.55            | 46.70         |
| FORKLIFT-AIR, ELECTRIC EQUIPMENT & POWER BUGGY OPERATOR-LABORER                | 24.13   | 7.30                | 1.50                 |                     | 5.05 .48 A,I,S,E,T            | 14.33            | 38.46         |
| (also see under Laborer-Fork Lift Operator)                                    |   |                     |                      |                     |                               |                  |               |
| GAS OR UTILITY PIPELINE LABORER (other than Sewer & Water)                     | 18.25   |                     |                      |                     |                               | 3.33             | 21.58         |
| GLAZIER  | 30.24   | 7.50                | none                 |                     | 6.00 .45 A                    | 13.95            | 44.19         |
| INSULATOR (BATT & BLOWN)   | 21.97   |                     |                      |                     |                               | 10.65            | 32.62         |
| INSULATOR (HEAT & FROST) (can also be used for ASBESTOS WORKER)                | 31.63   | 6.95                | none                 |                     | 5.87 .64 A,E,I; 4.80 Annuity  | 18.26            | 49.89         |
| INSULATOR FOREMAN (HEAT & FROST) (5 man crew incl. Foreman)                    | 34.00   | 6.95                | none                 |                     | 5.87 .64 A,E,I; 4.80 Annuity  | 18.26            | 52.26         |
| IRONWORKERS-Buildings  | 30.06   | 8.42                | none                 |                     | 5.92 .81 A,I; 4.10 Annuity    | 19.25            | 49.31         |
|  | Increase to \$51.10 on 6/1/09; Increase to \$53.10 on 6/7/10                            |                     |                      |                     |                               |                  |               |
| IRONWORKERS-Paving, Sewer, Water, Tunnel                                       | 28.96   |                     |                      |                     |                               | 18.14            | 47.10         |
|  | Add \$2.00 on 6/3/08 = \$49.10; \$2.00 on 6/1/09 = \$51.10; \$2.00 on 6/7/10 = \$53.10; |                     |                      |                     |                               |                  |               |
| IRONWORKER FOREMAN   | 32.06   | 8.42                | none                 |                     | 5.92 .81 A,I; 4.10 Annuity    | 19.25            | 51.31         |
| IRONWORKER GENERAL FOREMAN   | 32.56   | 8.42                | none                 |                     | 5.92 .81 A,I; 4.10 Annuity    | 19.25            | 51.81         |
| JACKHAMMER, CERTIFIED WELDER, GUNITE MACHINE MAN LABORER-Buildings             | 24.14   | 7.00                | 1.40                 |                     | 4.70 .50 I,S,E                | 13.60            | 37.74         |
| JOINTMAN (Sewer, Water, Tunnel)  | 28.34   | 7.30                | 1.50                 |                     | 5.05 .43 A,I                  | 14.28            | 42.62         |
| JOINTMAN (Tunnel-Compressed Air 0-15 lbs.)                                     | 29.38   | 7.30                | 1.50                 |                     | 5.05 .43 A,I                  | 14.28            | 43.66         |
|  | 15-30 lbs. add \$2.00; 30 lbs or over add \$3.00  |                     |                      |                     |                               |                  |               |
| LABORER- Fork Lift Operator, Air & Electrical Equipment, Power Buggy Operators | 24.13   | 7.30                | 1.50                 |                     | 5.05 .48 A,I,S,E,T            | 14.33            | 38.46         |
| (also listed under Fork Lift Operator-Laborer)                                 |   |                     |                      |                     |                               |                  |               |
| LABORER-GENERAL (Buildings)  | 24.02   | 7.30                | 1.50                 |                     | 5.05 .48 A,I,S,E,T            | 14.33            | 38.35         |
| LABORER -Sewer, Water, Tunnel  | 24.36   | 7.30                | 1.50                 |                     | 5.05 .43 A,I                  | 14.28            | 38.64         |
|  | Tunnel Work: Add \$2.00 15-30 lbs. compressed air; \$3.00 30 lbs or over                |                     |                      |                     |                               |                  |               |
| LABORER-Paving   | 21.11   | 7.00                | 1.40                 |                     | 4.70 .33 A,E,I                | 13.43            | 34.54         |
| LABORER FOREMAN (Buildings)  | 24.14   | 7.00                | 1.40                 |                     | 4.70 .50 A,E,I                | 13.60            | 37.74         |
| LANDSCAPER-Buildings   | 12.00   |                     |                      |                     |                               | 3.83             | 15.83         |
| LANDSCAPER - Paving  | 22.51   |                     |                      |                     |                               | 13.43            | 35.94         |
|  | Add \$1.50 on 6/1/08 = \$37.44; \$1.35 on 6/1/09 = \$38.79                              |                     |                      |                     |                               |                  |               |
| LANDSCAPER-Sewer, Water  | 22.53   |                     |                      |                     |                               | 10.54            | 33.07         |
| LATHER   | 28.41   |                     |                      |                     |                               | 12.90            | 41.31         |
| LINE CONSTRUCTOR(ELECTRICAL) (Building, Paving, Sewer, Water, Tunnel)          | 25.67   |                     |                      |                     |                               | 22.24            | 47.91         |
|  | ALSO see Electrical Line Construction   |                     |                      |                     |                               |                  |               |
| MANHOLE BUILDER  | 28.34   | 7.30                | 1.50                 |                     | 5.05 .43 A,I                  | 14.28            | 42.62         |
| MARBLE FINISHER  | 25.15   | 7.50                | none                 |                     | 6.24 2.44                     | 16.18            | 41.33         |
| MARBLE MASON   | 31.29   | 7.50                | none                 |                     | 6.24 2.62                     | 16.36            | 47.65         |
| MARBLE MASON FOREMAN   | 34.56   | 7.50                | none                 |                     | 6.24 2.62                     | 16.36            | 50.92         |
| METAL BUILDING ERECTOR   | 21.50   |                     |                      |                     |                               | 5.15             | 26.65         |
| MILLWRIGHT   | 26.48   | 7.80                | 1.44                 |                     | 5.08 6.46 A,I,M,T             | 20.78            | 48.70         |
| MILLWRIGHT FOREMAN   | 28.98   | 7.80                | 1.44                 |                     | 5.08 6.46 A,I,M,T             | 20.78            | 49.76         |
| MILLWRIGHT GENERAL FOREMAN   | 29.48   | 7.80                | 1.44                 |                     | 5.08 6.46 A,I,M,T             | 20.78            | 50.18         |
| MORTAR MIXER - Buildings   | 24.13   | 7.30                | 1.50                 |                     | 5.05 .48 I,S,E                | 14.33            | 38.46         |

7/14/08

| JOB-CLASSIFICATION  | HOURLY<br>RATE                                       | WELFARE<br>PER HOUR | VACATION<br>PER HOUR | PENSION<br>PER HOUR | OTHER<br>SPECIFIC<br>BENEFITS | TOTAL<br>FRINGES | TOTAL<br>WAGE |
|---|--|---------------------|----------------------|---------------------|-------------------------------|------------------|---------------|
| <b>OPERATORS-BUILDING CONSTRUCTION</b>  |  |                     |                      |                     |                               |                  |               |
| <b>SITE PREPARATION, UTILITY &amp; LANDSCAPING WORK ONLY</b>  |  |                     |                      |                     |                               |                  |               |
| Crane, Backhoe 130,000 lbs & Over, Boring Machine   | 30.87  | 8.85                | None                 | 6.00                | 1.05                          | 15.90            | 46.77         |
| Tractor or Truck Mounted Hydraulic Backhoe; Gradall (Cruz-Aire type);<br>Mechanic or Welder; Bulldozer or Endloader; Grader or Motor Patrol;<br>Scraper (Self propelled or Tractor Drawn) 5 cu yards or more capacity;<br>Power Subgrader; Asphalt Milling Machine; Boring Machine (Horizontal,<br>Vertical or Directional); Air Track, Rotary or Percussion Drilling Machine;<br>Trencher, Post Hole Digger or Driver; Compactor; Tug or Launch (Not<br>Performing Work on the Great Lakes). | 30.12  | 8.85                | None                 | 6.00                | 1.05                          | 15.90            | 46.02         |
| Cranes over 300 ton OR 300 ft:  | Add \$.01/hour per foot OR ton, whichever is greater |                     |                      |                     |                               |                  |               |
| Broom or Sweeper; Stump Chipper; Environmental Burner   | 29.82  | 8.85                | None                 | 6.00                | 1.05                          | 15.90            | 45.72         |
| Farm or Industrial Type Tractor, Greaser, Crusher, Screening or Wash<br>Plant; Air Compressor (400 CFM or Over); Pump (3 inch or over) or Well<br>Points; Refrigeration Plant or Freeze Machine; Skid Steer Loader (with or<br>without attachments); Skid Rig; Stump Chipper; Mulcher; Vibratory<br>Hammer or Extractor   | 28.77  | 8.85                | None                 | 6.00                | 1.05                          | 15.90            | 44.67         |
| Work performed on the Great Lakes including Diver; Wet Tender or<br>Hydraulic Dredge Engineer   | 31.81  |                     |                      |                     |                               | 15.70            | 47.51         |
| Work performed on the Great Lakes including Crane or Backhoe Operator;<br>Mechanic or Welder; Assistant Hydraulic Dredge Engineer; Hydraulic<br>Dredge Leverman or Diver's Tender   | 33.90  |                     |                      |                     |                               | 17.19            | 51.09         |
| Work performed on the Great Lakes including Deck Equipment Operator<br>or Machineryman (maintains Cranes over 50 tons or Backhoes over<br>115,000 lbs.); Tug, Launch or Loader, Dozer or like equipment when<br>operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck<br>Machinery   | 30.20  |                     |                      |                     |                               | 17.08            | 47.28         |
| Work performed on the Great Lakes including Deck Equipment Operator;<br>Machineryman or Fireman (operates 4 units or more or maintains Cranes<br>50 tons or under or Backhoes 115,000 lbs. Or under), Deck Hand, Deck<br>Engineer or Assistant Tug Operator   | 25.10  |                     |                      |                     |                               | 16.92            | 42.02         |
| <b>OPERATORS-BUILDING CONSTRUCTION</b>  |  |                     |                      |                     |                               |                  |               |
| <b>EXCLUDING SITE PREPARATION, UTILITY, PAVING &amp; LANDSCAPING WORK</b>   |  |                     |                      |                     |                               |                  |               |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting<br>capacity of over 100 tons; Crane, Tower Crane or Derrick, with Boom,<br>Leads and/or Jib lengths measuring 176 feet or over   | 35.26  | 8.85                | none                 | 7.15                | .92 A,I,L,S                   | 16.92            | 52.18         |
| Crane Operators with CCO certification  | 35.76  | 8.85                | none                 | 7.15                | .92 A,I,L,S                   | 16.92            | 52.68         |
| Cranes with boom length over 200 ft. not exceeding 300 ft. OR lifting<br>capacity over 200 ton not exceeding 300 ton  | 36.26  | 8.85                | none                 | 7.15                | .92 A,I,L,S                   | 16.92            | 53.18         |
| Cranes over 300 ton OR 300 ft.  | Add \$.01/hour per foot OR ton, whichever is greater |                     |                      |                     |                               |                  |               |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting<br>capacity of 100 tons or under; Crane, Tower Crane or Derrick, with Boom,<br>Leads and/or Jib lengths measuring 175 or under; Backhoe (Track Type)<br>having a Mgr.'s rated capacity of 130,000 lbs. or over, Caisson Rig; Pile<br>Driver  | 34.76  | 8.85                | none                 | 7.15                | .92 A,I,L,S                   | 16.92            | 51.68         |
| Crane Operators with CCO certification  | 35.26  | 8.85                | none                 | 7.15                | .92 A,I,L,S                   | 16.92            | 52.18         |
| Traveling Crane (Bridge Type); Dredge (not performing work on the Great<br>Lakes)   | 33.01  |                     |                      |                     |                               | 16.45            | 49.46         |
|   | 6/1/08 Add \$2.05 = \$51.51                          |                     |                      |                     |                               |                  |               |
| Backhoes (excavators) under 130,000 lbs.; self-erecting tower cranes with<br>a lifting capacity of 4,000 lbs and under; skid rigs; dredge operator;<br>mechanic; concrete paver (over 27E); concrete spreader and distributor;<br>forklift; hydro-blaster (10,000 psi and over)   | 34.26  | 8.85                | none                 | 7.15                | .92 A,I,L,S                   | 16.92            | 51.16         |

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| JOB CLASSIFICATION  | HOURLY RATE  | WELFARE PER HOUR | VACATION PER HOUR | PENSION PER HOUR | OTHER SPECIFIC BENEFITS | TOTAL FRINGES | TOTAL WAGE |
|---|--|------------------|-------------------|------------------|-------------------------|---------------|------------|
| Crane Operators with CCO certification  | 34.76  | 8.85             | none              | 7.15             | .92 A,I,L,S             | 16.92         | 51.68      |
| Material hoists; stack hoists; tractor or truck mounted hydraulic backhoe; tractor or truck mounted hydraulic crane (5 tons or under); hoist (tuggers, 5 ton and over); hydro-excavators; daylighters; concrete pumps; Rotec type conveyors; tractor (over 40 H.p.); bulldozer; endloader, scraper operator; sideboom; straddle carrier; welder; bituminous plant and paver operator; roller (over 5 tons); rail leveling machine (railroad); tie placer; tie extractor; tie tamper; stone leveler; rotary drill operator and blaster; percussion drill operator; air track drill and/or hammers; trencher (wheel type or chain type having over 8-inch bucket); milling machine, post hole digger, Concrete breaker, tamper, Gradall, Concrete Paver, Boring Machine | 33.97  | 8.85             | none              | 7.15             | .92 A,I,L,S             | 16.92         | 50.89      |
| Cranes with boom length over 200 ft. not exceeding 300 ft OR lifting capacity over 200 tons not exceeding 300 tons  | Add \$.50/hour                                     |                  |                   |                  |                         |               |            |
| Cranes over 300 ton OR 300 ft   | Add \$.01/hr per foot OR ton, whichever is greater |                  |                   |                  |                         |               |            |
| Backfiller; concrete auto breaker (large); concrete finishing machines (road type); roller (rubber-tired); concrete batch hopper; Concrete conveyor systems; grout pumps; concrete mixers (14S or over); screw type pumps and gypsum pumps; tractor; trencher (chain type having bucket 8-inch and under); industrial locomotives; rollers (under 5 tons); stump grinder; chipper (large); timber shear; processor; timber equipment; firemen (pile drivers and derricks); personnel hoist; robotic tool carrier with or without attachments  | 32.09  | 8.85             | none              | 7.15             | .92 A,I,L,S             | 16.92         | 49.01      |
| Crane Operators with CCO certification  | Add \$.50/hour                                     |                  |                   |                  |                         |               |            |
| Cranes with boom length over 200 ft. not exceeding 300 ft. OR lifting capacity over 200 tons not exceeding 300 tons   | Add \$.50/hour                                     |                  |                   |                  |                         |               |            |
| Cranes over 300 ton or 300 ft.  | Add \$.01/hr per foot OR ton, whichever is greater |                  |                   |                  |                         |               |            |
| Farm or Industrial Type Tractor; Greaser, Compactor (Self-Propelled); Concrete Saw (Vermeer Type); Concrete Bump Cutter or Grooving machine; Tining or Curing Machine; Roller (5 Tons or Under); Broom or Sweeper; Hoist (Tugger); Environmental Burner; Crusher, Screening or Wash Plant; Air, Electric or Hydraulic Jacking System; Air Compressor (400 CFM or Over); Generator (150KW or Over); Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Skid Steer Loader (with or without attachments); Stump Chipper; Mulcher; Vibratory Hammer or Extractor; Oiler; Forklift   | 26.94  | 8.85             | none              | 7.15             | .92 A,I,L,S             | 16.92         | 43.86      |
| Gas or Utility Pipeline, except Sewer & Water (Primary Equipment)   | 31.57  |                  |                   |                  |                         | 17.23         | 48.80      |
| Gas or Utility Pipeline, except Sewer & Water (Secondary Equipment)   | 31.31  |                  |                   |                  |                         | 15.70         | 47.01      |
| Fiber Optic Cable Equipment   | 25.33  |                  |                   |                  |                         | 12.35         | 37.68      |

#### OPERATORS -SEWER, WATER, SHAFT & TUNNEL

|  |       |      |      |      |             |       |       |
|--|-------|------|------|------|-------------|-------|-------|
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting capacity of over 100 tons; Crane, Tower Crane or Derrick, with Boom, Leads and/or Jib lengths measuring 176 feet or over; Backhoe (Track Type) 130,000 or over  | 31.39 | 8.85 | none | 7.00 | .94 A,I,L,S | 16.79 | 48.18 |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting capacity of 100 tons or under; Crane, Tower Crane or Derrick, with Boom, Leads and/or Jib lengths measuring 175 feet or under; Backhoe (Track type) having a Mfr.'s rated capacity of under 130,000 lbs. or over; Traveling Crane (Bridge type); Caisson Rig; Pile Driver; Dredge operator (not performing work on the Great Lakes); Skid Rigs; Concrete Paver; Concrete Spreader; Concrete Pumps; Concrete Conveyor (Rotec); Boring Machines | 30.61 | 8.85 | none | 7.00 | .94 A,I,L,S | 16.79 | 47.40 |

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| JOB CLASSIFICATION  | HOURLY<br>RATE | WELFARE<br>PER HOUR | VACATION<br>PER HOUR | PENSION<br>PER HOUR | OTHER<br>SPECIFIC<br>BENEFITS | TOTAL<br>FRINGES | TOTAL<br>WAGE |
|---|----------------|---------------------|----------------------|---------------------|-------------------------------|------------------|---------------|
| Truck Mounted Hydraulic Crane (10 tons or under); Tractor or Truck Mounted Hydraulic Backhoe; Gradall (Cruz-Aire Type); Mechanic or Welder; Bulldozer or Endloader; Grader or Motor Patrol; Grout Pump, or Concrete Conveyor (Bidwell type); Concrete Breaker (Manual or Remote); Concrete Batch Plant; Power Subgrader; Concrete Paver; Concrete Grinder or Planing Machine; Concrete Conveyor System; Concrete Slipform Placer; Curb and Gutter Machine; Roller (over 5 ton); Shouldering Machine; Air Track, Rotary or Percussion Drilling Machine; Straddle Carrier or Travel Lift; Manhoist or Elevator; Material or Stack Hoist; Trencher; Sideboom; Post Hole Digger or Driver; Tug or Launch (not performing work on the Great Lakes)   | 29.66          | 8.85                | none                 | 7.00                | .94 A,I,L,S                   | 16.79            | 46.45         |
| Farm or Industrial Type Tractor; Greaser; Compactor (self-propelled); Concrete Saw (Vermeer type); Concrete Bump Cutter or Grooving Machine; Tining or Curing Machine; Roller (5 ton or under); Broom or Sweeper; Hoist (Tugger); Environmental Burner  | 28.61          | 8.85                | none                 | 7.00                | .94 A,I,L,S                   | 16.79            | 45.40         |
| Crusher, Screening or Wash Plant; Air, Electric or Hydraulic Jacking System; Air Compressor (400 CFM or over); Generator (150kw or over); Pump (3 inch or over) or Well Points; Refrigeration Plant or Freeze Machine; Skid Steer Loader (with or without attachments); Robotic Tool Carrier (with or without attachments); Stump Chipper; Mulcher; Vibratory Hammer or Extractor; Oiler; Forklift, High Pressure Utility Locating Machine (daylighting machine).   | 27.21          | 8.85                | none                 | 7.00                | .94 A,I,L,S                   | 16.79            | 44.00         |
| Work performed on the Great Lakes including Diver, Wet Tender or Hydraulic Dredge Engineer  | 35.40          | 8.75                | none                 | 7.00                | .40                           | 16.15            | 51.55         |
| Work performed on the Great Lakes including Crane or Backhoe Operator; Mechanic or Welder; Assistant Hydraulic Dredge Engineer; Hydraulic Dredge Leverman or Diver's Tender   | 33.90          |                     |                      |                     |                               | 17.19            | 51.09         |
| Work performed on the Great Lakes including Deck Equipment Operator or Machineryman (maintains Cranes over 50 tons or Backhoes over 96,000 lbs); Tug, Launch or Loader, Dozer or like equipment when operated on a Barge, Breakwater Wall, Slip, Dock or Scow   | 30.20          | 8.75                | none                 | 7.00                | .40                           | 16.15            | 46.35         |
| Work performed on the Great Lakes including Deck Equipment Operator; Machineryman or Fireman (operates 4 units or more or maintains Cranes 50 tons or under or Backhoes 96,000 lbs. or under) or Assistant Tug Operator   | 25.10          |                     |                      |                     |                               | 16.92            | 42.02         |
| <b>OPERATORS - LOCAL STREET OR MISCELLANEOUS PAVING<br/>CONCRETE PAVEMENT OR BRIDGE WORK ONLY</b>   |                |                     |                      |                     |                               |                  |               |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting capacity of over 100 tons; Crane, Tower Crane or Derrick, with Boom, Leads and/or Jib Lengths measuring 176 feet or over   | 30.97          | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 47.65         |
| Premium Pay: Add \$.50/hr. for cranes with lifting capacity over 200 ton; \$1.00/hr at 300 ton; Add \$1.50/hr at 400 ton; Add \$2.00/hr at 500 ton  |                |                     |                      |                     |                               |                  |               |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting capacity of 100 tons or under; Crane, Tower Crane or Derrick, with Boom, Leads and/or Jib lengths measuring 175 feet or under; Backhoe (Track type) having a Mfr. rated capacity of 130,000 lbs. or over; Caisson Rig; Pile Driver; Dredge (not performing work on the Great Lakes)  | 30.47          | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 47.15         |
| Backhoe (Track Type) having a Mfr.'s rated capacity of under 130,000 lbs.; Tractor or Truck Mounted Hydraulic Backhoe; Gradall (Cruz-Aire Type); Mechanic or Welder; Bulldozer or Endloader; Grader or Motor Patrol; Scraper (Self propelled or Tractor Drawn) 5 cu yards or more capacity; Concrete Pump, Grout Pump or Concrete Conveyor (Rotec or Bidwell Type); Concrete Breaker (Manual or Remote); Concrete Batch Plant; Power Subgrader; Concrete Paver; Concrete Grinder or Planing Machine; Concrete Conveyor System; Concrete Slipform Placer; Curb and Gutter Machine; Air Track, Rotary or Percussion Drilling Machine; Straddle Carrier or Travel Lift; Trencher; Post Hole Digger or Driver; Tug or Launch (not performing work on the Great Lakes); Concrete Bump Cutter or Grooving Machine | 29.97          | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 46.55         |



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| JOB CLASSIFICATION  | HOURLY<br>RATE                                       | WELFARE<br>PER HOUR | VACATION<br>PER HOUR | PENSION<br>PER HOUR | OTHER<br>SPECIFIC<br>BENEFITS | TOTAL<br>FRINGES | TOTAL<br>WAGE |
|---|--|---------------------|----------------------|---------------------|-------------------------------|------------------|---------------|
| Farm or Industrial Type Tractor; Greaser; Compactor (Self-Propelled); Concrete Saw (Vermeer Type); Tining or Curing Machine; Environmental Burner, Mulcher, Concrete Spreader   | 29.71  | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 46.39         |
| Crusher, Screening or Wash Plant; Air Compressor; Generator; Pump (3 inch or over) or Well Points; Forklift; Skid Steer Loader (with or without attachments); Skid Rig; Stump Chipper; Vibratory Hammer or Extractor; Oiler   | 29.42  | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 46.10         |
| Fiber Optic Cable Equipment   | 18.50  |                     |                      |                     |                               | 1.45             | 19.95         |
| Work performed on the Great Lakes including Crane or Backhoe Operator, Mechanic or Welder, Assistant Hydraulic Dredge Engineer, Hydraulic Dredge Leverman or Diver's Tender   | 31.95  |                     |                      |                     |                               | 15.93            | 47.88         |
| Work performed on the Great Lakes including Diver, Wet Tender, or Hydraulic Dredge Engineer   | 31.81  |                     |                      |                     |                               | 15.70            | 47.51         |
| Work performed on the Great Lakes including Deck Equipment Operator or Machineryman (maintains Cranes over 50 tons or Backhoes over 96,000 lbs.); Tug, Launch or Loader, Dozer or like equipment when operated on a Barge, Breakwater Wall, Slip, Dock or Scow  | 28.45  |                     |                      |                     |                               | 15.83            | 44.28         |
| Work performed on the Great Lakes including Deck Equipment Operator; Machineryman or Fireman (operates 4 units or more and maintains Cranes 50 tons or under or Backhoes 96,000 lbs. Or under) or Assistant Tug Operator  | 28.45  |                     |                      |                     |                               | 15.83            | 44.28         |
| <b>OPERATORS - ASPHALT PAVEMENT OR OTHER WORK</b>   |  |                     |                      |                     |                               |                  |               |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting capacity of over 100 tons; Crane, Tower Crane or Derrick, with Boom, Leads and/or Jib lengths measuring 176 feet or over   | 30.97  | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 47.65         |
| Crane, Tower Crane or Derrick, with or without attachments, with a lifting capacity of 100 tons or under; Crane, Tower Crane or Derrick, with Boom, Leads and/or Jib lengths measuring 175 or under; Backhoe (Track Type) having a Mfr.'s rated capacity of 130,000 lbs. or over; Caisson Rig; Pile Driver; Oredge (not performing work on the Great Lakes)   | 32.51  |                     |                      |                     |                               | 16.45            | 48.96         |
|   | Add \$2.05 on 6/1/08 = \$51.01                       |                     |                      |                     |                               |                  |               |
| Crane Operators with CCO certification  | Add \$.50/hr;  |                     |                      |                     |                               |                  |               |
| Cranes with boom length over 200 ft. not exceeding 300 ft. OR lifting capacity over 200 ton not exceeding 300 ton   |  |                     |                      |                     |                               |                  | 49.46         |
| Cranes over 300 ton OR 300 ft.  | Add \$.01/hr. per foot OR ton, whichever is greater. |                     |                      |                     |                               |                  |               |
| Backhoe (Track Type) having a Mfr.'s rated capacity of under 130,000 lbs.; Tractor or Truck Mounted Hydraulic Backhoe; Gradall (Cruz-aire Type); Mechanic or Welder; Bulldozer or Endloader; Grader or Motor Patrol; Scraper (Self Propelled or Tractor Drawn) 5 cu yards or more capacity; Concrete Breaker (Manual or Remote); Power Subgrader; Concrete Grinder or Planing Machine; Concrete Slipform Placer; Curb and Gutter Machine; Asphalt Plant; Asphalt Paver; Asphalt Screed; Asphalt Milling Machine; Roller (over 5 ton); Shouldering Machine; Trencher; Post Hole Digger or Driver | 29.97  | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 46.65         |
|   | Increase to \$47.17 on 6/1/09                        |                     |                      |                     |                               |                  |               |
| Farm or Industrial Type Tractor; Greaser; Compactor (self-propelled); Roller (5 ton or under); Broom or Sweeper; Environmental Bumer  | 29.71  | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 46.39         |
|   | Increase to \$47.17 on 6/1/09                        |                     |                      |                     |                               |                  |               |
| Crusher, Screening or Wash Plant; Air Compressor; Generator; Pump (3 inch or over) or Well Points; Forklift; Skid Steer Loader (with or without attachments); Skid Rig; Stump Chipper; Mulcher; Vibratory Hammer or Extractor; Oiler  | 29.42  | 8.85                | none                 | 7.00                | .83 A,L                       | 16.68            | 46.10         |
|   | Increase to \$47.17 on 6/1/09                        |                     |                      |                     |                               |                  |               |
| Fiber Optic Cable Equipment   | 25.33  |                     |                      |                     |                               | 12.35            | 37.68         |

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| JOB-CLASSIFICATION                                       | HOURLY<br>RATE  | WELFARE<br>PER HOUR | VACATION<br>PER HOUR | PENSION<br>PER HOUR | OTHER<br>SPECIFIC<br>BENEFITS | TOTAL<br>FRINGES | TOTAL<br>WAGE |
|--|---|---------------------|----------------------|---------------------|-------------------------------|------------------|---------------|
| OVERHEAD DOOR INSTALLER                                  | 24.60   |                     |                      |                     |                               | 11.99            | 36.59         |
| PAINTERS:  |   |                     |                      |                     |                               |                  |               |
| Bridges, Iron  | 27.37   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 41.51         |
| Buildings  | 27.12   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 41.26         |
| Drywall  | 27.47   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 41.61         |
| EIFS   | 27.72   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 41.86         |
| Lead Abatement   | 28.12   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 42.26         |
| Paperhanger  | 27.32   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 41.46         |
| Paving Construction                                      | 24.09   |                     |                      |                     |                               | 9.22             | 33.31         |
| Sandblast or Spray                                       | 27.87   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 42.01         |
|  | All night work is \$1.25/hour above basic wage rate                       |                     |                      |                     |                               |                  |               |
| PAINTER FOREMAN (Buildings)                              | 28.12   | 8.20                | none                 | 5.45                | .49 I,A                       | 14.14            | 42.26         |
|  | All night work is \$1.25 /hour above basic wage rate                      |                     |                      |                     |                               |                  |               |
| PAVEMENT MARKING OPERATOR - Buildings,Paving,Sewer,Water | 23.46   |                     |                      |                     |                               | 9.45             | 32.91         |
| PILEDRIIVER - BUILDINGS                                  | 25.35   | 7.80                | 1.90                 | 6.74                | 5.16 A,M,T                    | 21.60            | 46.95         |
| PILEDRIIVER-LOFTSMAN                                     | 26.00   | 7.80                | 1.90                 | 6.74                | 5.16 A,M,T                    | 21.60            | 47.60         |
| PILEDRIIVER-SHEET PILING LOFTSMAN                        | 26.10   | 7.80                | 1.90                 | 6.74                | 5.16 A,M,T                    | 21.60            | 47.70         |
| PILEDRIIVER - PAVING                                     | 25.76   |                     |                      |                     |                               | 17.33            | 43.09         |
| PILEDRIIVER - SEWER, WATER, TUNNEL                       | 26.61   |                     |                      |                     |                               | 12.86            | 39.47         |
| PILEDRIIVER FOREMAN                                      | 28.08   | 7.80                | 1.90                 | 6.74                | 5.16 A,M,T                    | 21.60            | 49.68         |
| PIPELAYER  | 28.34   | 7.30                | 1.50                 | 5.05                | .43 A, I                      | 14.28            | 42.62         |
| PIPELAYER (Tunnel)                                       | 28.34   | 7.30                | 1.50                 | 5.05                | .43 A, I                      | 14.28            | 42.62         |
| PIPELAYER (Tunnel)(in compressed air 0-15)               | 29.38   | 7.30                | 1.50                 | 5.05                | .43 A,I                       | 14.28            | 43.66         |
|  | Over 15-30 lbs. - add \$2.00; Over 30 lbs. - Add \$3.00 hour              |                     |                      |                     |                               |                  |               |
| PIPELINE FUSER OR WELDER (Gas or Utility)                | 27.11   |                     |                      |                     |                               | 13.85            | 40.96         |
| PLASTERER  | 28.41   | 7.30                | none                 | 6.93                | .34 A                         | 14.57            | 42.98         |
| PLASTERER FOREMAN  | 31.25   | 7.30                | none                 | 6.93                | .34 A                         | 14.57            | 45.82         |
| PLASTERER LABORER-Buildings                              | 24.05   | 7.30                | 1.50                 | 5.05                | .40 I,T                       | 14.25            | 38.30         |
| PLASTERER LABORER FOREMAN                                | 25.83   | 7.30                | 1.50                 | 5.05                | .40 I,T                       | 14.25            | 40.08         |
| PLUMBER (Buildings)                                      | 33.05   | 6.75                | none                 | 5.33                | 1.35 E,I                      | 13.43            | 46.48         |
| PLUMBER (Sewer,Water,Tunnel)                             | 24.00   |                     |                      |                     |                               | 1.52             | 25.52         |
| PLUMBER FOREMAN/GENERAL FOREMAN                          | 37.09   | 6.75                | none                 | 5.33                | 1.35 E,I                      | 13.43            | 50.52         |
| POWER BUGGY OPERATOR - LABORER                           | 24.32   |                     |                      |                     |                               | 12.01            | 36.33         |
| PUMP INSTALLER (BUILDINGS)                               | 23.52   |                     |                      |                     |                               | 13.90            | 37.42         |
|  | Add \$1.60 on 9/1/08 = \$39.02  |                     |                      |                     |                               |                  |               |
| RAILROAD TRACK LABORER-BUILDINGS,SEWER,WATER             | 13.50   |                     |                      |                     |                               | 0.66             | 14.16         |
| RAILROAD TRACK LABAORER-PAVING                           | 17.50   |                     |                      |                     |                               | 7.00             | 24.50         |
| REFRIGERATION MECHANIC                                   | 34.31   | 8.90                | none                 | 6.33                | 1.20 I,T                      | 16.43            | 50.84         |
|  | Increase to \$53.40 on 6/1/09   |                     |                      |                     |                               |                  |               |
| REFRIGERATION FOREMAN                                    | 37.85   | 8.90                | none                 | 6.33                | 1.20 I,T                      | 16.43            | 54.28         |
| REFRIGERATION GENERAL FOREMAN                            | 39.57   | 8.90                | none                 | 6.33                | 1.20 I,T                      | 16.43            | 56.00         |
| ROOFER (BUILDINGS) *                                     | 28.85   | 6.90                | none                 | 4.92                | .16 T                         | 11.98            | *40.83        |
|  | *All Roofers MUST be paid the Total Wage Rate Amount FOR ALL hours worked |                     |                      |                     |                               |                  |               |
| ROOFER (PAVING) *  | 26.70   |                     |                      |                     |                               | 11.13            | *37.83        |
| ROOFER FOREMAN *   | 29.85   | 6.90                | none                 | 4.92                | .16 T                         | 11.98            | *41.83        |
| SANDBLASTER  | 24.09   | 5.67                |                      | 3.43                | .17 I,A                       | 9.27             | 33.36         |
| SEWER, WATER, TUNNEL FOREMAN                             | 30.87   | 7.30                | 1.50                 | 5.05                | .43 A, I                      | 14.28            | 45.15         |
| SEWER & WATER TUNNEL FOREMAN-Compressed Air              | 31.91   | 7.30                | 1.50                 | 5.05                | .43 A,I                       | 14.28            | 46.19         |
| SHEET METAL WORKER                                       | 34.60   | 6.05                | none                 | 7.93                | .96 I,T                       | 14.94            | 49.54         |
|  | Increase to \$52.08 on 6/1/09   |                     |                      |                     |                               |                  |               |
| SHEET METAL FOREMAN                                      | 37.80   | 6.05                | none                 | 7.93                | .96 I,T                       | 14.94            | 52.74         |
| SHEET METAL GENERAL FOREMAN                              | 39.30   | 6.05                | none                 | 7.93                | .96 I,T                       | 14.94            | 54.24         |
| SIDING INSTALLER   | 31.12   |                     |                      |                     |                               | 13.01            | 44.13         |
| SPRINKLER FITTER   | 53.25   | 7.20                | 3.02                 | 8.18                | .88 E,I,T                     | 19.28            | 52.53         |
| SPRINKLER FITTER FOREMAN                                 | 36.00   | 7.20                | 3.02                 | 8.18                | .88 E,I,T                     | 19.28            | 55.28         |
| STEAMFITTER (Buildings)                                  | 34.41   | 8.90                | none                 | 6.33                | 1.20 A,I,T                    | 16.43            | 50.84         |
|  | Increase to \$53.40 on 6/1/09   |                     |                      |                     |                               |                  |               |
| STEAMFITTER (Sewer,Water,Tunnel)                         | 30.76   |                     |                      |                     |                               | 24.46            | 55.22         |
| STEAMFITTER FOREMAN                                      | 37.85   | 8.90                | none                 | 6.33                | 1.20 A,I,T                    | 16.43            | 54.28         |
| STEAMFITTER GENERAL FOREMAN                              | 39.57   | 8.90                | none                 | 6.33                | 1.20 A,I,T                    | 16.43            | 56.00         |
| STONE MASON-BUILDINGS                                    | 31.60   |                     |                      |                     |                               | 13.70            | 45.30         |
|  | Add \$1.95 on 6/1/08 = \$47.25; \$1.95 on 6/1/09 = \$49.20;               |                     |                      |                     |                               |                  |               |
|  | Add \$1.95 on 6/1/10 = \$51.15; \$1.95 on 6/1/11 = \$53.10                |                     |                      |                     |                               |                  |               |
| STONE MASON-PAVING                                       | 30.23   |                     |                      |                     |                               | 6.44             | 36.67         |
| STONE MASON-SEWER,WATER                                  | 30.75   |                     |                      |                     |                               | 12.65            | 43.40         |
| STONE MASON ON SWING STAGE                               | 28.53   | 4.00                |                      | 3.50                | .61 A,I                       | 8.11             | 36.64         |
| STONE MASON FOREMAN                                      | 30.56   | 4.00                |                      | 3.50                | .61 A,I                       | 8.11             | 38.67         |
| STONE MASON FOREMAN ON SWING STAGE                       | 31.31   | 4.00                |                      | 3.50                | .61 A,I                       | 8.11             | 39.42         |
| TAPER - See DRYWALL TAPER                                |   |                     |                      |                     |                               |                  |               |

7/14/08

| JOB CLASSIFICATION   | HOURLY<br>RATE | WELFARE<br>PER HOUR | VACATION<br>PER HOUR | PENSION<br>PER HOUR | OTHER<br>SPECIFIC<br>BENEFITS | TOTAL<br>FRINGES | TOTAL<br>WAGE |
|--|----------------|---------------------|----------------------|---------------------|-------------------------------|------------------|---------------|
| TELEDATA INSTALLER   | 22.50          |                     |                      |                     |                               | 12.77            | 35.27         |
| TELEDATA TECHNICIAN  | 23.77          | 6.95                | 2.36                 | 2.15                | 1.34 A,E,I; 1.10 Annually     | 13.92            | 37.69         |
| TEMPERATURE CONTROL INSTALLER  | 24.76          |                     |                      |                     |                               | 8.44             | 33.20         |
| TERRAZZO FINISHER  | 28.24          |                     |                      |                     |                               | 13.70            | 41.94         |
| TERRAZZO MECHANIC  | 29.48          | 7.10                | none                 | 7.16                | 1.78 E                        | 16.04            | 45.52         |
| TERRAZZO FOREMAN (more than 3 journeymen)  | 32.79          | 7.10                | none                 | 7.16                | .47 E                         | 14.73            | 47.52         |
| TILE FINISHER  | * 22.59        |                     |                      |                     |                               | 13.70            | 36.29         |
| * If hired before 6/1/07 \$23.83 hour + \$14.05 in benefits = \$37.88 Total Hourly Wage  |                |                     |                      |                     |                               |                  |               |
| TILE SETTER/LAYER  | 28.46          | 7.10                | none                 | 7.16                | 1.92 A,E                      | 16.18            | 44.64         |
| TILE SETTER/LAYER FOREMAN  | 30.46          | 7.10                | none                 | 7.16                | 1.92 A,E                      | 16.18            | 46.64         |
| TOPMAN (Sewer & Water)   | 24.36          | 7.30                | 1.50                 | 5.05                | .43 A,I                       | 14.28            | 38.64         |
| TRUCK DRIVERS - Building Construction  |                |                     |                      |                     |                               |                  |               |
| Single Axle or Two Axle  | 24.55          |                     |                      |                     |                               | 16.08            | 40.63         |
| Three or More Axle   | 12.00          |                     |                      |                     |                               | 14.64            | 26.64         |
| Articulated, Euclid, Dumptr or Off Road Material Hauler                                  | 32.22          |                     |                      |                     |                               | 16.45            | 48.67         |
| Add \$2.05 on 6/1/08 = \$50.72   |                |                     |                      |                     |                               |                  |               |
| TRUCK DRIVERS - Sewer, Water, Tunnel   |                |                     |                      |                     |                               |                  |               |
| Single, Two Axle   | 24.55          |                     |                      |                     |                               | 16.08            | 40.63         |
| Tandem/Tri Axle  | 22.44          | 8.57                | 2.17                 | 4.48                | .12                           | 15.34            | 37.76         |
| Quad/Semi Trailer Truck  | 22.33          | 8.57                | 2.17                 | 4.48                | .12                           | 15.34            | 37.67         |
| Articulated, Euclid, Dumptr or Off Road Material Hauler                                  | 22.00          |                     |                      |                     |                               | 11.07            | 33.07         |
| TRUCK DRIVERS - Paving   |                |                     |                      |                     |                               |                  |               |
| Single, Two, Three or More Axle  | 23.61          | 7.39                | 3.16                 | 4.59                |                               | 15.14            | 38.75         |
| Articulated, Euclid, Dumptr or Off Road Material Hauler                                  | 22.52          |                     |                      |                     |                               | 15.95            | 38.47         |
| Add \$1.65 on 6/1/08 = \$40.06   |                |                     |                      |                     |                               |                  |               |
| Pavement Marking Vehicle (Buildings, Paving, Sewer, Water, Tunnel)                       | 19.25          |                     |                      |                     |                               | 10.84            | 30.09         |
| Shadow or Pilot Vehicle  | 15.48          |                     |                      |                     |                               | 6.59             | 22.07         |
| Truck Mechanic (Buildings, Paving, Sewer, Water, Tunnel)                                 | 12.50          |                     |                      |                     |                               | 0.00             | 12.50         |
| TUCK POINTER, CAULKER, CLEANER (Buildings)   | 30.12          | 7.50                | none                 | 6.24                | 2.01 A                        | 15.75            | 45.67         |
| TUCK POINTER, CAULKER, CLEANER (Shaft, Tunnel)   | 30.12          | 7.50                | none                 | 6.24                | 2.01 A                        | 15.75            | 45.87         |
| TUCK POINTER, CAULKER, CLEANER (Paving, Sewer, Water)                                    | 30.23          |                     |                      |                     |                               | 13.30            | 43.53         |
| TUCK POINTER, CAULKER, CLEANER FOREMAN   | 30.87          | 7.50                | none                 | 6.24                | 2.01 A                        | 15.75            | 46.62         |
| Add \$.75 for Swing Stage - Buildings, Shaft, Tunnel & Foreman                           |                |                     |                      |                     |                               |                  |               |
| UNDERWATER DIVER (EXCEPT ON GREAT LAKES)<br>(Buildings, Paving, Sewer, Water, Tunnel)    | 32.40          |                     |                      |                     |                               | 11.84            | 44.24         |
| UTILITY OR GAS PIPELINE LABORER (other than Sewer & Water)                               | 18.25          |                     |                      |                     |                               | 3.33             | 21.55         |
| WATERPROOFER-BUILDINGS *   |                |                     |                      |                     |                               |                  |               |
|  | 27.85          |                     |                      |                     |                               | 11.48            | * 39.33       |
| Add \$1.50 on 6/1/08 = \$40.63   |                |                     |                      |                     |                               |                  |               |
| WATERPROOFER-PAVING *  |                |                     |                      |                     |                               |                  |               |
|  | 26.70          |                     |                      |                     |                               | 11.13            | * 37.83       |
| * All Waterproofers/Rooters MUST be paid the Total Wage Rate Amount FOR ALL hours worked |                |                     |                      |                     |                               |                  |               |
| WELLDRILLER, PUMP INSTALLER (Buildings)  | 23.52          |                     |                      |                     |                               | 13.90            | 37.42         |
| Add \$1.60 on 9/1/08 = \$39.02   |                |                     |                      |                     |                               |                  |               |
| WELLDRILLER, PUMP INSTALLER (SEWER, WATER, TUNNEL)                                       | 22.52          |                     |                      |                     |                               | 13.35            | 35.87         |

**FUND CODES:**

A - APPRENTICESHIP FUND  
 B - EMPLOYEE SAVINGS FUND  
 C - CONTRACTOR FUND OR COOPERATION FUND  
 D - DEVELOPMENT FUND  
 E - EDUCATION TRUST FUND  
 H - HOLIDAYS  
 I - INDUSTRY ADVANCEMENT PROGRAM FUND  
 L - LABOR MANAGEMENT FUND  
 M - MUTUAL FUND  
 S - SKILL IMPROVEMENT FUND  
 T - TRAINING FUND  
 W - WORK PRESERVATION

## City Of Milwaukee

### Department Of Public Works

#### Emerging Business Enterprise Provisions

##### I. General

- A. In accordance with Chapter 360 of the Milwaukee Code of Ordinances, Emerging Business Enterprise (EBE) participation is required in all contracting activities of the Department of Public Works. The ordinance requires that certified EBEs be utilized for 18% of the total dollars annually expended through prime contracts or subcontracts. To that end, the Commissioner of Public Works, as a contracting officer for the City, requires all bidders to utilize EBEs as subcontractors and material suppliers on all contracts. For this contract, bidders are required to achieve a minimum \_\_\_\_\_ % EBE participation.
- B. The prime contractor shall prepare and submit accurate and timely EBE utilization forms and reports to the Department of Public Works. The reports shall include, but not be limited to, project participation (Form A), monthly utilization (Form D), and EBE subcontractor payment certification (Form E) forms as directed. Failure to submit the required forms and reports to the Department of Public Works may result in disqualification of future bids, delay of payments, or other appropriate sanctions. Final contract payments will not be made until final EBE utilization reports and EBE subcontractor payment certification forms are on file with the Department of Public Works.
- C. During the performance of this contract, the Department of Public Works reserves the right to conduct compliance reviews. If the contractor is not in compliance with the specifications, the Commissioner of Public Works will notify the contractor in writing of the corrective action that will bring the contractor into compliance. If the contractor fails or refuses to take corrective action as directed, the Department of Public Works may take one or more of the actions listed below:
1. Terminate or cancel the contract, in whole or in part.
  2. Consider possible debarment of the prime contractor from bidding.
  3. Withhold payments on the contract.
  4. Any other remedy available to the City at law or in equity.

##### II. Definitions

- A. "EMERGING BUSINESS ENTERPRISE" (EBE) means a small business concern that is owned, operated and controlled by one or more individuals who are at a disadvantage. The individuals must have day-to-day operational and managerial control and interest in capital, financial risks and earnings commensurate with the percentage of their ownership.
- B. "INDIVIDUAL AT A DISADVANTAGE" means a person who is a citizen or lawful permanent resident of the United States and who has experienced and who continues to experience substantial difficulty in achieving business-related success as defined in subsection 5 of Chapter 360 of the Milwaukee Code of Ordinances.
- C. "OWNED, OPERATED AND CONTROLLED" means a business which is one of the following:
1. A sole proprietorship legitimately owned and operated and controlled by an individual as defined in subsection 12.
  2. A partnership or joint venture legitimately owned, operated and controlled by individuals who are at a disadvantage and who own at least 51% of the beneficial ownership interests in the enterprise and who hold at least 51% of the voting interests of the enterprise.

3. A corporation legitimately owned, operated and controlled by one or more individuals who are at a disadvantage and who own at least 51% of the outstanding shares and who hold at least 51% of the voting interests of the corporation.

### III. EBE Utilization Requirements

- A. Each prime contractor shall utilize EBE to a minimum of 18 % on this contract. Note that the prime contractors shall be required to attain EBE participation on their base bid excluding specified allowances, alternatives, and change orders. EBE commitments relative to contract award shall be based upon the approved EBE Participation Form (Form A).
- B. The determination of EBE utilization shall be based on the following criteria:
  1. The firms identified as EBE by the prime contractor on the EBE Participation Form must be certified by the Emerging Business Enterprise Program prior to bid opening.
  2. The prime contractor shall be credited for the entire expenditure to EBE firms only if all of the identified scope of work is performed directly by the certified EBE firm.
  3. The prime contractor shall be credited for the entire expenditure to EBE manufacturer only if the manufacturer produces goods from raw materials or substantially alters them for resale. Only 20% of the EBE goals may be expended for EBE suppliers that do not manufacture products they supply.
  4. The prime contractor shall count toward the EBE requirement only those payments to EBEs who perform a commercially-useful function in the actual performance of the contract. While that generally means an EBE should be engaged in direct contract work, a "commercially-useful function" may also include management of a third tier subcontractor. For example, while an EBE trucking subcontractor is always expected to perform some direct work on the project, in some cases it may become necessary to subcontract work out to one or more third tier subcontractors. If a third tier subcontractor is also an EBE, the full amount of the work performed by that third tier EBE can be counted toward EBE participation. However, if the third party subcontractor is not an EBE, the prime contractor may only count 20% of the amount being subcontracted to the third tier non-EBE subcontractor. EBEs are required to notify the Department of Public Works if they subcontract out work so that the Department can determine how much, if any, of the subcontracted work can be counted toward the EBE requirement. The Commissioner of Public Works will make the final determination and evaluation of whether the EBE is performing a commercially-useful function.
- C. The contractor, by signing and submitting a bid, certifies that the contractor understands the provisions of Chapter 360 and knows of and intends to comply with them. The completed EBE Participation Form (Form A) must be submitted by the apparent low bid contractor within three (3) working days after the date of the bid opening.
  1. Information on Form A shall include, but not be limited to:
    - a. The names, addresses, telephone numbers and contact person names for the certified EBE contractors that will participate on the project as subcontractors or suppliers;
    - b. A description of the scope of work to be performed by the EBE on this project; and
    - c. The EBE contractor dollar value(s) and corresponding percentages that the dollar values represent of the total contract amount.
  2. Listing an EBE on the Participation Form shall constitute a representation that the contractor has communicated directly with the EBEs listed. If awarded the contract, the bidder will enter into a subcontract with the firm for the portion of the work listed.

3. EBE participation is an element of bid responsiveness. Failure to meet the specified EBE requirements will render the bid unresponsive. The contract may then be awarded to the next apparent low bidder. Under certain circumstances, failure to meet specified EBE requirements after submission of an apparent low bid may result in surrender of the bidder's bid bond.
4. Only EBEs that have been certified by the Emerging Business Enterprise Program may be listed on the EBE Participation Form and counted towards the percentage requirements on this project. A listing of the currently City certified EBE firms is maintained at:

Emerging Business Enterprise Program Office  
200 East Wells Street  
City Hall, Room 606  
Milwaukee, Wisconsin 53202  
Phone: (414) 286-5553  
FAX: (414) 286-8752

- D. After execution of the contract, if for any reason an EBE cannot perform, the prime contractor shall contact the Commissioner of Public Works for approval to substitute another certified EBE firm. The prime contractor must submit a written request for substitution which specifies the reasons for the request. Approval must be obtained prior to making substitutions. Any difference in the cost occasioned by such substitution shall be borne by the prime contractor. If the prime contractor cannot find another certified firm to do the work at a comparable price, a non-EBE firm may be substituted with the approval of the Commissioner of Public Works.
- E. If the prime contractor has a problem in meeting the EBE requirements or if any other problems relative to EBE(s) arise during the completion of this project, the prime contractor shall immediately contact the Commissioner of Public Works.
- F. Certification from programs other than the Emerging Business Enterprise Program is neither accepted by the City of Milwaukee nor do they have any bearing whatsoever on the eligibility criteria established by the City of Milwaukee.
- G. Right to Appeal.

All contracts awarded under ss.7-14-2 and 7-22 of the City Charter shall be awarded by the Commissioner of Public Works to the lowest responsible bidder determined in accordance with applicable City ordinances for participation of the Emerging Business Enterprise Program. Following the opening of any bid involving a determination under applicable City ordinances for participation of Emerging Business Enterprises, the Commissioner of Public Works shall make a written recommendation as to the lowest responsible bidder and notify all bidders by publication in an official City newspaper as to the content of the written recommendation. Any bidder who objects to the recommendation on grounds of determinations made under applicable City ordinances for participation of Emerging Business Enterprises may appeal the recommendation on such grounds by filing a written appeal with the Commissioner of Public Works within five (5) working days of the date of publication. The appeal shall state the specific objection to the recommendation, include supporting documentation and specify an alternative recommendation. The Commissioner of Public Works shall schedule a hearing before an appeals committee consisting of the Chair of the Economic Development Committee or the Chair's designee, a member of the Economic Development Committee selected by the Chair and the Director of the Emerging Business Enterprise Program to be held within five (5) days of receipt of the appeal. The Committee shall have authority by majority vote to affirm or set aside the recommendation of the Commissioner of Public Works and its decision in this regard shall be final. In the event a timely appeal, meeting the requirements above is not filed, or the Committee affirms the Commissioner's recommendation following a timely appeal, meeting the requirements above, the Commissioner shall make an award in accordance with the recommendation.

**CITY OF MILWAUKEE – DEPARTMENT OF PUBLIC WORKS  
EBE PARTICIPATION FOR SUBCONTRACTORS AND/OR MATERIAL SUPPLIERS**

PRIME CONTRACTOR'S NAME: \_\_\_\_\_ OFFICIAL NOTICE NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_ TOTAL BID AMOUNT: \_\_\_\_\_ TOTAL EBE AMOUNT: \_\_\_\_\_

Please list all proposed EBE subcontractor(s) and/or material supplier(s) for this project. I/We propose to utilize the following subcontractor(s) and/or material supplier(s).  
**NOTE:** To receive full credit EBE's must perform commercially useful work at the job site. Up to twenty percent (20%) credit may be given under certain circumstances to EBE suppliers or other EBE contractors who assist in management of the project.

| EBE FIRM(S) NAME<br>ADDRESS/CONTACT PERSON AND<br>PHONE NUMBER | SUBCONTRACTOR OR<br>SUPPLIER | WORK PERFORMED/<br>MATERIAL SUPPLIED | % OF<br>BID | AMOUNT | AUTHORIZED EBE(S) OWNER/<br>REPRESENTATIVE SIGNATURE OF<br>ACKNOWLEDGEMENT |
|--|------------------------------|--------------------------------------|-------------|--------|--|
| 1. _____   |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| 2. _____   |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| 3. _____   |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| 4. _____   |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| 5. _____   |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |
| _____  |                              |                                      |             |        |  |

CONTRACTOR: \_\_\_\_\_ DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

(SIGNATURE & TITLE REQUIRED)

REVIEWED BY – \_\_\_\_\_ DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_  
EBEP ANALYST: \_\_\_\_\_

DEPARTMENT OF PUBLIC WORKS: \_\_\_\_\_ DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

OFFICE USE ONLY – \_\_\_\_\_  
PROJECT SUMMARY: \_\_\_\_\_

**DEPARTMENT OF ADMINISTRATION  
EMERGING BUSINESS ENTERPRISE PROGRAM**

**Form D - EBE MONTHLY REPORT**

(1) Report for the Month of \_\_\_\_\_ 20\_\_\_\_ (Final: yes \_\_\_ no \_\_\_)

(2) Prime Contractor/Firm \_\_\_\_\_

(3) Full Address & Phone Number: \_\_\_\_\_

(4) Description of service performed and/or material supplied \_\_\_\_\_

(5) Purchase Order /Contract# \_\_\_\_\_ (6) Project Number \_\_\_\_\_

(7) Start Date: \_\_\_\_\_ (8) Prime Contractor's Total \$: \_\_\_\_\_

(9) Completion Date: \_\_\_\_\_ (10) Prime Contractor to date \$: \_\_\_\_\_

(11) EBE % \_\_\_\_\_ and EBE \$ amount \_\_\_\_\_

List all EBE subcontractor firm(s) utilized in connection with the above contract, either as service performed and/or supplier for the month. This form shall be signed and returned. If this represents the final report, be sure to attach EBE Payment Certification Form (Form E).

| NAME OF EBE FIRM(s)         | SERVICE PERFORMED/<br>MATERIAL SUPPLIED | AMOUNT<br>PAID FOR<br>THE MONTH | TOTAL \$<br>PAID TO DATE |
|-----------------------------|---|---------------------------------|--------------------------|
|                             |   |                                 |                          |
|                             |   |                                 |                          |
|                             |   |                                 |                          |
|                             |   |                                 |                          |
|                             |   |                                 |                          |
|                             |   |                                 |                          |
|                             |   |                                 |                          |
| <b>TOTAL PAID TO EBE(s)</b> |   |                                 |                          |

I/we hereby certify that I/we have read the above and approved this information to be precise and confirmed.

(12) Report Prepared By: \_\_\_\_\_  
(Name) (Title) (Phone Number)

(13) Authorized Signature : \_\_\_\_\_  
(Name) (Title)

(14) Date \_\_\_\_\_

**Note: This form should be submitted no later than the 20<sup>th</sup> of every month to DEPARTMENT of PUBLIC WORKS CONTRACT ADMINISTRATION, Room 506, Municipal Building, 841 North Broadway, Milwaukee, WI.**



## **DIRECTIONS FOR EBE MONTHLY REPORT (FORM D)**

1. List the month that the report is being submitted. **Note: If this is the final report, check yes and submit Form E Subcontractor Payment Certification Form.**
2. Prime contractor's or firm's registered company name.
3. List full registered business address to include city/state, zip code and telephone number.
4. Brief description service performed and/or material supplied on this contract.
5. List the official Purchase Order or Contract Number, as represented on the contract or purchase order.
6. List the project number as represented on the front page of the contract.
7. List the start date of the project.
8. List the total dollars awarded to the prime contractor.
9. List the completion date of the project.
10. Total dollars paid to Prime contractor to date.
11. List the EBE percentage on this project and the EBE dollar amount.
12. List the name, title and phone number of the individual who prepared the report.
13. Provide the authorized signature and title of the individual who approves the report.
14. List the date that the report is completed.

**THIS REPORT IS DUE THE 20TH OF EVERY MONTH FOR THE PREVIOUS MONTH'S ACTIVITY.  
FAILURE TO RETURN THIS FORM BY THE SPECIFIED TIME MAY CAUSE A DELAY IN PAYMENTS.**

**City Of Milwaukee**  
**Department Of Public Works**  
**Emerging Business Enterprise Program (EBE)**  
**Subcontractor Payment Certification**

(This form must be completed by the EBE subcontractor and attached to the Prime Contractor's Final EBE Report)

**-SUBCONTRACTOR EXECUTES-**

**\*Section A - EBE Company Officer Completes For Payment That Has Been Received\***

Subcontractor Name \_\_\_\_\_

Official Notice No. \_\_\_\_\_ Project No. \_\_\_\_\_

DPW Contract No. \_\_\_\_\_

I hereby certify that I have received \$ \_\_\_\_\_ for subcontract work on the above project.

Dated \_\_\_\_\_ Signed \_\_\_\_\_

Printed Name & Title \_\_\_\_\_

\*\*\*\*\*

**-PRIME CONTRACTOR & SUBCONTRACTOR EXECUTE-**

**\*Section B - Prime Contractor and EBE Company Officers Complete If Full Payment Has Not Been Made to the EBE Subcontractor and a balance remains to be paid.**

Prime Contractor \_\_\_\_\_

Subcontractor \_\_\_\_\_

Official Notice No. \_\_\_\_\_ Project No. \_\_\_\_\_

DPW Contract No. \_\_\_\_\_

I hereby certify that I will pay \$ \_\_\_\_\_ to \_\_\_\_\_

for subcontract work on the above project.

Dated \_\_\_\_\_ Signed \_\_\_\_\_

Acknowledged: Printed Name & Title \_\_\_\_\_

Prime Contractor

Signed \_\_\_\_\_

Printed Name & Title \_\_\_\_\_

EBE Subcontractor

**City of Milwaukee**

**Energy and Cost Savings Guarantee – LED Traffic Signal Project**

**Below are the breakdowns of the utility savings and costs to be saved by implementing this project.**

**Annual Energy and Water and Cost Savings Summary**

|                                       |           |
|---------------------------------------|-----------|
| Total kWh Saved                       | 2,570,581 |
| Total kWh \$ Saved                    | \$272,147 |
|                                       |           |
| Total Therm Saved                     | 0         |
| Total Therm \$ Saved                  | 0         |
|                                       |           |
| Total water gal saved                 | 0         |
| Total water gal \$ saved              | 0         |
| Total Energy                          | \$272,147 |
|                                       |           |
| Water Operational Maintenance Savings | \$ 0      |
| LED Lighting Operational Savings      | \$57,349  |
| Maintenance Operational Savings       | \$0       |
| Capital Cost Avoidance                | \$0       |
| Total Operational                     | \$57,349  |
| Total Project Savings                 | \$329,496 |

Annual units of energy/water saved will continue through years 2 through 10.  
Dollar savings are escalated by 3% every year 2 through 10.

**City of Milwaukee**

**Energy and Cost Savings Guarantee – Safety Academy Project**

**Below are the breakdowns of the utility savings and costs to be saved by implementing this project.**

**Annual Energy and Water and Cost Savings Summary**

|                                       |           |
|---------------------------------------|-----------|
| Total kWh Saved                       | 408,659   |
| Total kWh \$ Saved                    | \$37,485  |
| Total Therm Saved                     | 22,930    |
| Total Therm \$ Saved                  | \$24,427  |
| Total water gal saved                 | 1,188,751 |
| Total water gal \$ saved              | \$4,803   |
| Total Energy                          | \$66,715  |
| Water Operational Maintenance Savings | \$500     |
| Building Lighting Operational Savings | \$5,722   |
| Maintenance Operational Savings       | \$2,700   |
| One-time Operational Cost Avoidance   | \$28,700  |
| Total Annual Operational              | \$8,922   |
| Total Project Savings                 | \$75,637  |

Annual units of energy/water saved will continue through years 2 through 12.  
Dollar savings are escalated by 3% every year 2 through 10.

### City of Milwaukee LED Traffic Signals

|   |                               |             |
|---|-------------------------------|-------------|
| 1 | Utility Savings               | \$272,147   |
| 2 | Water/Sewer                   | \$0         |
| 3 | Operational Savings           | \$57,349    |
|   | >Total Annual Project Savings | \$329,496   |
| 4 | >Implementation Cost          | \$1,486,453 |
| 5 | Potential Incentive/Rebate    | \$125,000   |
| 6 | Cost of Capital               | 3.30%       |
| 7 | Discount Rate                 | 4.00%       |
| 8 | Repayment Term                | 10          |
| 9 | Savings Escalation Rate       | 3%          |

|   |                                      | 2008               | 2009               |
|---|--------------------------------------|--------------------|--------------------|
| a | Utility Savings                      | \$272,147          | \$280,311          |
| b | Water/Sewer                          | \$0                | \$0                |
| c | Operational Savings                  | \$57,349           | \$59,069           |
|   | <b>Total Savings</b>                 | <b>\$329,496</b>   | <b>\$339,381</b>   |
| d | Potential Grant                      | \$125,000          |                    |
| e | M&V Guarantee                        | (\$3,709)          | (\$3,820)          |
| f | Improvement Measures (P+I)           | (\$176,936)        | (\$176,936)        |
|   | Principal                            | (\$127,883)        | (\$132,103)        |
|   | Interest                             | (\$49,053)         | (\$44,833)         |
|   |                                      | <b>(\$51,936)</b>  | <b>(\$176,936)</b> |
| g | <b>Annual Savings &amp; Costs</b>    | <b>\$273,851</b>   | <b>\$158,625</b>   |
| h | <b>PV of Facilities Improvements</b> | <b>\$1,555,958</b> |                    |
| i | <b>Simple Payback</b>                | <b>4.5 Years</b>   |                    |

Item 1 – Total Utility Savings coming from electric and natural gas savings for selected Facility Improvement Measures (FIMs).

Item 2 – Total Water savings from selected FIMs.

Item 3 – Annual Operational Savings determine from review of two years of Buildings & Fleet Work Order history. Identified unscheduled repairs/maintenance of heating & cooling system related issues. The associated labor and material costs were accumulated and averaged for the two year period sampled. The lighting material savings associated with the proposed lighting upgrade also contributes to the estimated operational savings reviewed by the City. These savings are counted for only the first five years.

City of Milwaukee – Detailed description of business case inputs and assumptions. (5/3/08)

Item 4 – The Implementation Cost represents the price of the total project less the associated Focus on Energy Grants to be provided under that program. FOE representatives have reviewed the project scope and energy savings calculations to provide advance estimate of grant dollars to consider in project implementation.

Item 5 – Potential Incentive/Rebate is the estimated FOE grant dollars associated with the various FIMs selected for this project.

Item 6 – Cost of Capital is the estimated interest rate for the City of Milwaukee associated with borrowing the required funds over a 10 year repayment term. CitiCapital provided an indicative rate on Feb. 14, 2008 for term lengths of 7 years, 10 years and 12 years.

Item 7 – Discount Rate is the hurdle rate used to calculate the net present value of the project over the 10 year term.

Item 8 – Repayment Term is the number of years used for the financing term length.

Item 9 – Savings Escalation Rate is the projected cost increase applied to the base year (year 1) savings value and extended across the project term length. This value was conservatively estimated using a ten year look at historical WE Energies annual price changes.

Item a – Utility Savings is same value as Item 1 described above.

Item b – Water/Sewer is the same value as Item 2 described above.

Item c – Operational Savings is the annual operational savings from this project and is the same value as Item 3 described above.

Item d – Potential Grant is the estimated FOE grant for the project. This is a one time grant as is described in Item 4 above.

Item e – M&V Guarantee represents the cost of the measurement and verification services for the set of FIMs developed for this project. The guarantee and M&V services are structured to run for three years.

Item f – Improvement Measures (P&I) is the annual repayment costs of principal and interest (combined) for the 10 year term using the 3.3% cost of capital. The formula created in an Excel spreadsheet also assumes payment in arrears (end of year rather than advance, or start of year).

Item g – Annual Savings & Costs represents the net effect each year of total savings minus costs of financing and M&V costs. A positive value indicates an annual savings, while a negative value indicates a cost for the year. The individual values over a ten year time period are used as inputs to calculate net present value (NPV) of the project.

Item h – PV of Facilities Improvements shows the resulting positive value resulting from the Excel spreadsheet calculation of net present value (NPV) over the first ten years. The cost of capital assumption of 4.0% is used as the hurdle rate in the formula.

Item i – Simple Payback is calculated using the project cost (from Item 4 above – which includes consideration of the FOE grant). The resulting value is then divided by the total annual project savings (Item 3 above) to yield a 4.5 year payback value.

**City of Milwaukee Safety Academy**

|    |                               |           |
|----|-------------------------------|-----------|
| 1  | Utility Savings               | \$61,824  |
| 2  | Water/Sewer                   | \$4,890   |
| 3  | Annual Operational Savings    | \$8,922   |
|    | >Total Annual Project Savings | \$75,636  |
| 4  | >Implementation Cost          | \$695,162 |
| 5  | Potential Incentive/Rebate    | \$29,707  |
| 6  | Cost of Capital               | 3.50%     |
| 7  | Discount Rate                 | 4.00%     |
| 8  | Repayment Term                | 12        |
| 9  | Savings Escalation Rate       | 3%        |
| 10 | One Time Operational Savings  | \$28,700  |

|   |                               | 2008       | 2009       |
|---|-------------------------------|------------|------------|
| a | Utility Savings               | \$61,824   | \$63,679   |
| b | Water/Sewer                   | \$4,890    | \$5,037    |
|   | One Time Operational Savings  | \$28,700   |            |
| c | Operational Savings           | \$8,922    | \$9,190    |
|   | Total Savings                 | \$104,336  | \$77,905   |
| d | Potential Grant               | \$29,707   |            |
| e | M&V Guarantee                 | (\$9,890)  | (\$10,187) |
| f | Improvement Measures (P+I)    | (\$71,938) | (\$71,938) |
|   | Principal                     | (\$47,607) | (\$49,274) |
|   | Interest                      | (\$24,331) | (\$22,664) |
|   |                               | (\$42,231) | (\$71,938) |
| g | Annual Savings & Costs        | \$52,215   | (\$4,220)  |
| h | PV of Facilities Improvements | \$100,924  |            |
| i | Simple Payback                | 8.8 Years  |            |

Item 1 – Total Utility Savings coming from electric and natural gas savings for selected Facility Improvement Measures (FIMs).

Item 2 – Total Water savings from selected FIMs.

Item 3 – Annual Operational Savings determine from review of two years of Buildings & Fleet Work Order history. Identified unscheduled repairs/maintenance of heating & cooling system related issues. The associated labor and material costs were accumulated and averaged for the two year period sampled. The lighting material savings associated with the proposed lighting upgrade also contributes to the estimated operational savings reviewed by the City. These savings are counted for only the first five years.

Item 4 – The Implementation Cost represents the price of the total project less the associated Focus on Energy Grants to be provided under that program. FOE representatives have reviewed the project scope and energy savings calculations to provide advance estimate of grant dollars to consider in project implementation.

Item 5 – Potential Incentive/Rebate is the estimated FOE grant dollars associated with the various FIMs selected for this project.

Item 6 – Cost of Capital is the estimated interest rate for the City of Milwaukee associated with borrowing the required funds over a 12 year repayment term. CitiCapital provided an indicative rate on Feb. 14, 2008 for term lengths of 7 years, 10 years and 12 years.

Item 7 – Discount Rate is the hurdle rate used to calculate the net present value of the project over the 12 year term.

Item 8 – Repayment Term is the number of years used for the financing term length.

Item 9 – Savings Escalation Rate is the projected cost increase applied to the base year (year 1) savings value and extended across the project term length. This value was conservatively estimated using a ten year look at historical WE Energies annual price changes.

Item 10 – One Time Operational Savings at the Safety Academy represents the pending repair cost associated with the existing second boiler that is down and not operating. The estimated cost of this repair will be avoided by implementing the proposed heating plant FIM as part of the proposed project. City staff has also reviewed this estimate.

Item a – Utility Savings is same value as Item 1 described above.

Item b – Water/Sewer is the same value as Item 2 described above.

Item c – Operational Savings is the annual operational savings from this project and is the same value as Item 3 described above.

Item d – Potential Grant is the estimated FOE grant for the project. This is a one time grant as is described in Item 4 above.

Item e – M&V Guarantee represents the cost of the measurement and verification services for the set of FIMs developed for this project. The guarantee and M&V services are structured to run for three years.

Item f – Improvement Measures (P&I) is the annual repayment costs of principal and interest (combined) for the 12 year term using the 3.5% cost of capital. The formula created in an Excel spreadsheet also assumes payment in arrears (end of year rather than advance, or start of year).

Item g – Annual Savings & Costs represents the net effect each year of total savings minus costs of financing and M&V costs. A positive value indicates an annual savings, while a negative value indicates a cost for the year. The individual values over a ten year time period are used as inputs to calculate net present value (NPV) of the project.

Item h – PV of Facilities Improvements shows the resulting positive value resulting from the Excel spreadsheet calculation of net present value (NPV) over the first ten years. The cost of capital assumption of 4.0% is used as the hurdle rate in the formula.

Item i – Simple Payback is calculated using the project cost (from Item 4 above – which includes consideration of the FOE grant) less the one time operational savings value (see Item 10 above). The resulting value is then divided by the total annual project savings (Item 3 above) to yield an 8.8 year payback value.



## Measurement and Verification Options

### ***M&V Option A – Partially Measured Retrofit Isolation***

This is the simplest and most common method of measurement and verification. The savings are determined by partial field measurement of the energy use of the system(s) to which an ECM is applied separate from the energy use of the rest of the facility. Electronic Data Loggers will be used to determine the baseline and post energy consumption. Computer modeling of the building energy profile may be required to determine more complex energy measures. This method is used when the measures that are being installed are readily understandable and the client is convinced that the savings will occur without any long-term continuous measurement. This type of approach still requires documentation of pre and post measurement of the measures implemented and savings estimates.

Measurements will be short-term with only one-time measurements in the pre and post-retrofit installation period. Partial measurement means that some, but not all, parameter(s) will be stipulated or “non-measured”. Careful review of ECM design and installation will ensure that non-measured values fairly and most closely represent the actual value. Non-measured will be shown in the M&V plan and will be supported with historical or manufacturer’s data.

Under Option A, it is important to note that the savings is not assumed. There is a plan for calculating/measuring savings. Johnson Controls will calculate the savings and the City will agree to the calculations. Option A permits the use of engineering calculations supported by existing and new calculations. A savings estimate is arrived at using common engineering practice.”

For example, a typical application would be a lighting retrofit where the power draw is measured before and after the retrofit, and the lighting burn hours would be agreed to. The equation for computing the savings would be:

$$\begin{aligned}\text{KWSavings} &= (\text{kWBaseline} - \text{kWRetrofit}) \times \text{Number of Fixtures} \\ \text{KWhSavings} &= \text{kWSavings} \times \text{Burn Hours}\end{aligned}$$

### ***M&V Option B – Retrofit Isolation***

Option B verifies that specific improvements are performed as proposed. The individual improvements are proven by comparing physical measurements after the installation to its value before the installation. This option is more extensive than Option A because short-term, long-term or continuous measurements are taken throughout the post-retrofit period of the contract. Like Option A, the savings are determined by field measurement of the energy use of the systems to which the ECM was applied, separate from the energy use of the rest of the facility.



When an Option B guarantee is properly applied, it should require minimal attention, but does require full time monitoring. It is critical that all measures implemented have pre and post measurements made and that all readings are documented.

A typical application for the Option B methodology would be to measure savings from the installation of a variable speed drive on an existing motor. The existing motor consumption would be calculated from its run hours and the actual kW load as measured by data-logging equipment. This metering with data-logging equipment could be as short as a few hours or as long as several weeks, depending on the variability of the load. After the installation, the post-retrofit kW load would be measured to determine the savings.

Heating and cooling plant system efficiency is determined by seasonal measurements from the boiler combustion analysis and the chiller performance. A detailed report will be provided and discussed with the client for continuous improvements.

### ***M&V Option C – Whole Facility***

The whole facility approach takes a holistic approach to savings verification. It is typically used when a significant portion of the energy consumption at the facility is impacted, when multiple high-impact measures are implemented, and when there is interaction between the energy efficiency measures. Option C is the direct comparison of facility bills from a pre-installation base year to the post-installation bill period.

Option C requires that adjustments be made to account for any changes to the facility or its operation, such as changes in operating hours, increased square footage, and new equipment, from the base year. A detailed Computer modeling of the facility is produced to obtain an energy profile. Johnson Controls utilizes eQUEST® software a comprehensive building energy simulation tool derived from an advanced version of the DOE-2 building energy use simulation program (See F.A. Day E-Quest model, Section 2-8).

The most recent 24 months of actual utility data is input into Metrix™, a third party energy analysis software program developed by SRC Systems, Inc. Metrix™ analyzes the data using a multivariate regression analysis to develop a baseline. Key factors such as weather conditions, square footage, end-use load consumption, environmental conditions, and occupancy schedules must be documented to clearly establish the baseline conditions that exist before implementation. The resulting baseline computation usually reduces to an equation of the following form:

$$\begin{aligned} \text{KWBaseline} &= \text{kWNonWeather} + (\text{kWWeather} \times \text{HDD/CDD}) \\ \text{KWhBaseline} &= ((\# \text{ Days Billing Cycle}) \times (\text{kWh/dayNonWeather})) + \\ &\quad ((\text{kWh/dayWeather}) \times (\text{HDD/CDD})) \end{aligned}$$

|       |                     |
|-------|---------------------|
| HDD = | Heating Degree Days |
| CDD = | Cooling Degree Days |

Utility bill analysis is a bottom-line approach to energy savings and measures the direct reduction in energy savings and budget impact. In order to provide good results, utility bill analysis requires the continuous documentation of key baseline variables such as weather conditions, square footage, end-use load consumption, environmental conditions, and occupancy schedules. Individual building metering is often employed during installation.

### ***M&V Option D – Calibrated Simulation***

Option D involves calibrated computer simulation models of either component(s) or whole building energy consumption to measure energy savings. Computer simulation software, such as Market Manager or DOE2, is used to create a simulation model that predicts energy use and demand patterns that reasonably matches actual utility consumption and demand data from either the base year or a post retrofit year. The model can also be used to make future adjustments if baseline conditions change. Computer simulation inputs may be based on several of the following: engineering estimates; spot-, short-, or long-term measurements of system components; and long-term whole building utility meter data.

Options A, B, C, and D are all available to apply to a guarantee depending upon the nature of the ECM, availability of accurate base year utility information, operational documentation of equipment use, and funds available to cover the costs associated with the guarantee methodology.

### ***Non-Energy Savings***

All non-energy savings must be documented and mutually agreed upon at the time of project development. Typically, non-energy savings will include operations and maintenance savings due to reduced annual material and supply costs and avoided capital costs. No labor cost savings will be included unless agreed to by the City. Non-energy savings are identified through review of work orders, material purchase orders, and outside service contracts. This same information may be reviewed to confirm savings. The client may choose not to measure these savings annually but agree to a fixed savings amount to be reported each year.

### ***Additional Monitoring and Reporting Procedures***

From the onset of construction of a performance-contracting project, a PAE will be assigned to our service team responsible for the project's ongoing success. The PAE has the technical expertise to effectively evaluate and monitor the performance of the various ECMs and is an integral part of Johnson Controls' approach to performance contracting.

The PAE's primary responsibility is to ensure that the program delivers the savings promised and guaranteed by our organization for the duration of the performance contracting agreement. The following paragraphs contain a brief overview regarding how the PAE ensures that we are meeting and exceeding our contractual obligations and that the Customer is provided with an accurate representation of the cost savings associated with the measures implemented:

- Monitoring on-going performance of ECMs to make sure the anticipated savings are being generated. The PAE will be on-site to:
- Initiating and maintaining a utility bill database to determine appropriate marginal utility rates to be used for savings calculations. Advising the client of unusual consumption patterns and any billing errors discovered.
- Coordinating with Johnson Controls service and client's service personnel to address and correct any performance deficiencies that affect the generation of the anticipated savings.

- Calculating and documenting the savings being generated by the project.
- Assisting with Utility Supply Contracting: RFP Development, analysis of RFP responses, detailed review of contract terms and conditions,
- Tracking savings on a quarterly basis and reporting status of actual savings generated to date versus guaranteed savings to date to our management team.
- Investigating and working with our service team and client's staff to resolve any issue that could generate a savings shortfall or deficiency in performance.
- Apprising the Customer of opportunities to further enhance project performance and of any additional opportunities for further ECMs discovered.
- Consulting with the Customer on other matters that may affect project's performance. For example, if the client's current utilization of the facility drastically changes or additional floor space is added to an existing building, the performance of certain ECMs may be affected.
- Generating an Annual Savings Report upon receipt of utility bills covering the entire guarantee year from the client. This report will contain:
  - A Performance Value Report which gives an executive overview of the project's performance to date.
  - A summary section containing the details of the projects savings accounting and a weather data comparison for the geographic area. This section also will contain a project highlight's page and more detailed versions of any performance graphs appearing in the Performance Value Report.
  - Sections as required containing spreadsheets detailing the savings calculations and formulas used for each ECM that was implemented under the project.
  - Spreadsheets summarizing the utility data being tracked for the client and utilized in the various savings calculations contained in the report.

If so desired, the PAE will assist the client in participating in EPA's ENERGY STAR Buildings Program as a partner. In this way, the client can receive federal recognition for successfully implementing a conservation program.



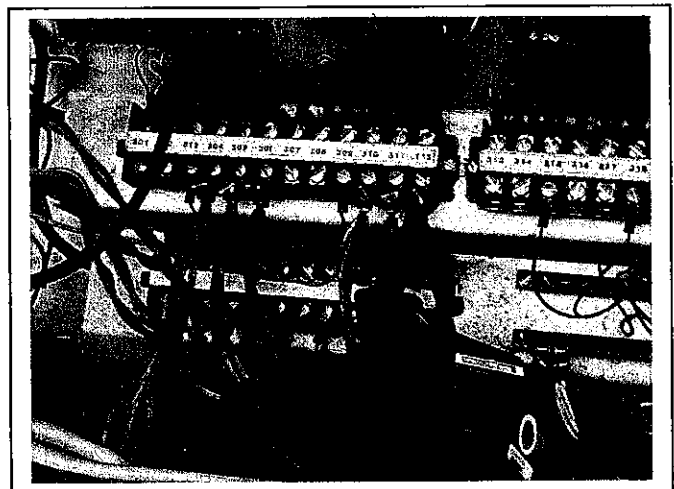
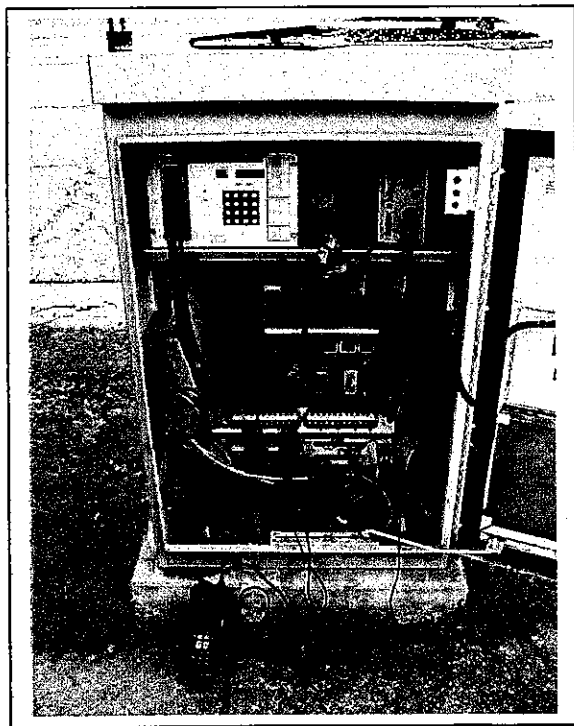


## Typical Traffic Signal Measurement Methodology

When conducting pre and post retrofit electrical measurements for LED Traffic Signal projects, we have found the following M&V procedures to be most effective. At each intersection measured, we will measure power consumption (wattage) at each load center with a Fluke 41B (or equivalent). The number of load centers at each intersection will vary depending on number of lanes, turn arrows, and pedestrian crossing fixtures. A typical control box is shown in the photos below.

During post retrofit measurements JCI will use a special low amperage CT (LEM PR-30) on the Fluke 41B. This equipment is required in order to minimize measurement error.

Johnson Controls will require that the customer provide personnel to accompany the JCI personnel that are taking the field measurements. Time to measure each intersection can be up to 30 minutes, depending on size of intersection and number of load centers being measured



After taking both pre and post retrofit measurements, the % energy savings is calculated for each load center. We would then calculate the average energy savings for all intersections measured. The average energy savings would be broken out by Red, Yellow, Green, and Pedestrian. An example of a typical intersection's measurements is shown below:

| Project Name    |                | City of Kenosha                              |       | Pre Retrofit Measurements  |       | Post Retrofit Measurements |  |
|-----------------|----------------|--|-------|----------------------------|-------|----------------------------|--|
| Location        |                | 48 - Street Lights - 39th Ave. & 89th Street |       | Date                       |       | Date                       |  |
| Utility Meter # |                | 029 134 461                                  |       | By                         |       | By                         |  |
| File Number     |                |  |       | Sheet                      |       | Sheet                      |  |
|                 |                |  |       | 1 of 1                     |       | 1 of 1                     |  |
|                 |                |  |       |                            |       |                            |  |
|                 | Load Center ID | Pre Retrofit Measurements                    |       | Post Retrofit Measurements |       | Percent Savings            |  |
|                 |                | Measured Watts                               | Notes | Measured Watts             | Notes |                            |  |
| 1               | 2Y             | 290.0  |       | 29                         |       | 90.0%                      |  |
| 2               | 2G             | 310.0  |       | 24                         |       | 92.3%                      |  |
| 3               | 4Y             | 300.0  |       | 31                         |       | 89.7%                      |  |
| 4               | 4G             | 300.0  |       | 33                         |       | 89.0%                      |  |
| 5               | 6Y             | 300.0  |       | 29                         |       | 90.3%                      |  |
| 6               | 6G             | 310.0  |       | 24                         |       | 92.3%                      |  |
| 7               | 8Y             | 300.0  |       | 38                         |       | 87.3%                      |  |
| 8               | 8G             | 300.0  |       | 24                         |       | 92.0%                      |  |
| 9               | 9BLACK         | 27.0   |       | 22                         |       | 18.5%                      |  |
| 10              | 9BLUE          | 225.0  |       | 14                         |       | 93.8%                      |  |
| 11              | 10BLACK        | 31.0   |       | 22                         |       | 29.0%                      |  |
| 12              | 10BLUE         | 229.0  |       | 13                         |       | 94.3%                      |  |

## Determining Sample Size

Selecting the appropriate sampling criteria depends on the acceptable uncertainty and the M&V budget. Much of the M&V cost is allocated to measurements at each intersection, so increasing sample size to improve reliability directly increases the M&V cost. Johnson Controls uses the FEMP sampling guidelines as a guide to determine the proper sample size to be measures. The table below is used in determining the required sample size (# of intersections to be measured):

**Table D.2: First-Year Sample Size Table Based on Usage Group Sampling (no oversampling)**

|                    |                 |       |       |
|--------------------|-----------------|-------|-------|
| Precision          | 20%             | 20%   | 10%   |
| Confidence         | 80%             | 90%   | 90%   |
| Z-Statistic        | 1.282           | 1.645 | 1.645 |
| Population Size, N | Sample Size, n* |       |       |
| 4                  | 3               | 4     | 4     |
| 8                  | 5               | 6     | 8     |
| 12                 | 6               | 8     | 11    |
| 16                 | 7               | 9     | 13    |
| 20                 | 8               | 10    | 16    |
| 25                 | 8               | 11    | 19    |
| 30                 | 9               | 11    | 21    |
| 35                 | 9               | 12    | 24    |
| 40                 | 9               | 12    | 26    |
| 45                 | 9               | 13    | 28    |
| 50                 | 10              | 13    | 29    |
| 60                 | 10              | 14    | 32    |
| 70                 | 10              | 14    | 35    |
| 80                 | 10              | 15    | 37    |
| 90                 | 10              | 15    | 39    |
| 100                | 10              | 15    | 41    |
| 125                | 11              | 15    | 45    |
| 150                | 11              | 16    | 47    |
| 175                | 11              | 16    | 49    |
| 200                | 11              | 16    | 51    |
| 300                | 11              | 17    | 56    |
| 400                | 11              | 17    | 59    |
| 500                | 11              | 17    | 60    |