

**Request for Proposals
Owens Community College**

Owens Community College RFP Number: ENERGY 01

Date Issued: *July 20, 2009*

Owens Community College
requests proposals for:

ENERGY CONSERVATION PROJECT

PRE-PREPOSAL MEETING

August 7, 2009
9 am local time
Room Number: 109
Industrial and Engineering Technologies Building
Owens Community College

PROPOSAL OPENING

October 2, 2009
2 pm local time
Room Number: 109
Industrial and Engineering Technologies Building
Owens Community College

This Request for Proposals consists of 4 Parts and 18 Attachments, totaling 455 pages. Supplements may be attached to this Request for Proposals with a beginning header page and an ending trailer page. Please verify that you have a complete copy.

PUBLIC REQUEST FOR PROPOSAL ADVERTISEMENT

Request for Proposals (RFPs) will be received by Owens Community College, Oregon Road, Toledo, Ohio for the following Project:

Project No. ENERGY 01
Energy Conservation Project

In accordance with the RFP document prepared by:

Orbital Technical Solutions
2920 Centennial Road
Toledo, Ohio 43617
419-517-4400
419-517-4401

Consultant Contact: Thomas J. Fitzpatrick, P.E.
tfitzpatrick@orbitaltechsolutions.com

RFPs will be received for the following:

Energy Conservation Measure Performance Contract – Campus-wide, design build energy conservation program in accordance with O.R.C. 3345.61 – 3345.65

Service Agreement and Energy Savings Guarantee - Minimum 5 year term campus-wide limited scope service agreement to monitor and verify all energy conservation measures implemented in the Performance Contract

UNTIL October 2, 2009, at 2 PM LOCAL TIME, and will be opened and read publicly at Owens Community College immediately thereafter in the Industrial and Engineering Technologies Building, Room 109. Only the names of the Offerors will be read. No disclosure of the RFP contents will be made at the opening.

A Pre-proposal meeting will be held at 9 AM LOCAL TIME on August 7, 2009 at Owens Community College, Industrial and Engineering Technologies Building, Room 109.

The electronic RFP documents are available at the following web site:

<https://www.owens.edu/procurement/>

DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN SECTION 153.011 OF THE REVISED CODE APPLIES TO THIS PROJECT. COPIES OF SECTION 153.011 CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES.

**Owens Community College
RFP ENERGY 01**

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PART ONE: EXECUTIVE SUMMARY

- 1.1 **Purpose.** This is a Request for Proposals (“RFP”) under Ohio Revised Code (“O.R.C.”) Chapter 3345. Owens Community College (“Owner”) is issuing this RFP to solicit competitive sealed Proposals (“RFP Proposals”) for its Energy Conservation Project (the “Project”). If a suitable offer is made in response to this RFP, the Owner may enter into a contract (the “Contract”) to have the selected Offeror (the “Contractor”) perform the Project. This RFP provides details on what is required to submit an RFP Proposal for the Project, how the Owner will evaluate the RFP Proposals, and what will be required of the Contractor in performing the Project.

This RFP also provides the estimated dates for the various events in the submission process, selection process, and Project performance. While these dates are subject to change, prospective Offerors must be prepared to meet them as they currently stand. **Any failure to meet a deadline in the submission or evaluation phases and any objection to the dates for performance in the Project phase may result in the Owner, in its sole discretion, refusing to consider the RFP Proposal of the Offeror.**

- 1.2 **Background.** Pursuant to O.R.C. Chapter 3345, the Owner may implement energy conservation measures to significantly reduce energy consumption and operating costs of its buildings. In compliance with O.R.C. Chapter 3345, the Owner may enter into contracts for the implementation of energy saving measures in these facilities.

“Performance contracting” is a method of obtaining energy conservation measures, including design, installation, and maintenance services. This RFP begins the process by which such contracts will be executed. The goal is to maximize financial benefit to the Owner through implementation of these measures.

- 1.3 **Structure of this RFP.** This RFP is organized into 4 parts and has 18 attachments, as listed below.

<u>Parts</u>	<u>Attachments</u>
Part 1 Executive Summary	Attachment 1 Proposal Format
Part 2 General Instructions	Attachment 2 Site-Specific Guidelines and Information
Part 3 Evaluation of Proposals	Attachment 3 Utility Information
Part 4 Contract Award	Attachment 4 General Conditions of the Contract
	Attachment 5 ECM and Energy Savings Guarantee Requirements
	Attachment 6 Offeror Profile and Information Form
	Attachment 7 Offeror Reference Form
	Attachment 8 Personnel Profile Summary
	Attachment 9 Energy Conservation Measure (ECM) Form
	Attachment 10 Cost and Savings Summary and Certification
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	Attachment 16 Feasibility Assessment - Integrated Facility Energy Master Plan – by Garforth International llc
	Attachment 17 Potential Energy Control Measures
	Attachment 18 Underground Hot Water Piping /system Design Information

- 1.4 **Calendar of Events.** The schedule for the Project is given below. The Owner may, in its sole discretion, change this schedule at any time. If the Owner changes firm dates in the schedule before Contract award, it will do so by an addendum to this RFP. Changes in the Project schedule after the Contract award will be made through the change order provisions in the General Conditions of the Contract. It is each prospective Offeror's responsibility to check with the Owner for current information regarding this RFP and its Calendar of Events.

Firm Dates

RFP Issued:	<i>July 20, 2009</i>
Inquiry Period Begins	<i>July 27, 2009</i>
Pre-Proposal Meeting	August 7, 2009 at 9 am Local Time
Inquiry Period Ends:	<i>September 25, 2009 at 4 pm</i> Local Time
Proposal Deadline:	<i>October 2, 2009 at 2 pm</i> Local Time

Estimated Dates

Selection of Finalist:	<i>November 4, 2009</i>
Finalist Agreement to Contract Terms and Conditions and Delivery of all items Precedent to Contract Execution:	<i>November 18, 2009</i>
Approval of Award of Contract by College Board of Trustees:	<i>December 8, 2009</i>
Contract Execution:	<i>December 22, 2009</i>
Project Work Begins:	<i>January 4, 2010</i>

There are references in this RFP to the RFP Proposal deadline. Offerors must assume, unless it is clearly stated to the contrary, that any such reference means the date and time that the RFP Proposals are due and not just the date.

- 1.5 **Buildings included in the Energy Conservation Project** – The following buildings are included in the Energy Conservation Project:

Toledo Campus

College Hall (CH)
 Administration Hall
 Health Technologies Hall
 Bicentennial Hall
 Child Care Center
 Alumni Hall
 Facility Services
 Transportation Technologies (TT)
 Industrial & Engineering Technologies (ET)
 Library (LB)
 Audio/Visual Classroom Center (AV)
 Math/Science Center (MS)
 Student Health & Activities Center (SH)
 Center for Fine & Performing Arts (PA)
 Fire Science/Law Enforcement Center
 Founders Hall (formerly PCA Classrooms)

Findlay Campus

Education Center
 Community Education and Wellness Center
 Early Learning Child Care Center

The following buildings are not included in the Energy Conservation Project and are not expected to be added at a later date.

Toledo Campus

Findlay Campus

Computer Technicians Center
 Transportation Technologies Annex
 Transportation Technologies Modulars
 Law Enforcement Scenario House
 Center for Development & Training (CDT)
 Center for Emergency Preparedness

Voorhees House Conference Center
 Maintenance/Safety and Security

1.6 Calculation of Savings Associated with Energy Conservation Measures – The following 2009 utility costs shall be used for calculating dollar savings associated with Energy Conservation Measures. These costs may be escalated 5% per year. The costs for electricity include demand and energy charges.

	Toledo Campus	Findlay Campus
Electricity	0.0661 \$/KWH	0.0918 \$/KWH
Natural Gas	10.90 \$/MCF	10.90 \$/MCF
Water	0.925 \$/CCF	3.30 \$/CCF
Sewer	3.031 \$/CCF	1.73 \$/CCF

The Owner is evaluating joining an electric aggregation group. Membership in this aggregation group may result in a lower cost of electricity. It is unknown if the Owner will realize a lower cost of electricity before or after award of this contract. For the purposes of bidding the Offeror is to use the above stated costs for determining ECM payback.

During the initial evaluation of the Offeror's RFP Proposal, the projected value, if any, of annual impact of the ECMs on operation and maintenance costs will not be included in the financial performance of the Project. The Owner would like to review any projected operations and maintenance savings associated with an ECM, and may request, during the evaluation period that the operations and maintenance savings be included in the Project performance summary

1.7 Service Agreement – It is anticipated that the Owner will enter into a Limited Scope Service Agreement (Service Agreement) with the Contractor. The Contractor's scope of work for the Limited Scope Service Agreement shall include monitoring and verification of the ECMs that have been installed pursuant to the Performance Contract, an annual audit of the energy savings, and an annual submission of an energy savings report to the Owner. The annual audit and annual energy savings reports will be due beginning fifteen months from the issuance of the Certification of Contract Completion, and continuing until the end of this Service Agreement.

1.8 Project Financing – The Offeror is to assume that the Owner will finance the cost of the Project through a ten (10) year loan. There is no intention for the Contractor to finance the project

1.9 Minimum Payback Periods – With the exception of a cogeneration system, ECMs shall have a simple payback of no greater than ten (10) years. A proposed cogeneration system shall have a simple payback of no greater than five (5) years.

PART TWO: GENERAL INSTRUCTIONS

2.1 Documents. RFP Proposal documents may be obtained by contacting:

Thomas J. Fitzpatrick, P.E.
Director of Engineering
Orbital Technical Solutions
2920 Centennial Road
Toledo, OH 43617
Phone: (419) 517-4400
Fax: (419) 517-4401

2.2 Contacts. Each interested Offeror must provide a contact person who will be the person of record for all correspondence regarding this RFP. The Offeror must provide a name, title, postal address, phone number, facsimile number, and electronic mail address for the person of record.

The Owner will be represented by both a Consultant and Owner Representative during the RFP Proposal process. Site visits should be arranged through the Owner Representative. The Consultant for this Project is:

Thomas J. Fitzpatrick, P.E.
Director of Engineering
Orbital Technical Solutions
2920 Centennial Road
Toledo, OH 43617
Phone: (419) 517-4400
Fax: (419) 517-4401
Email: tfitzpatrick@orbitaltechsolutions.com

The Owner Representative is:

David J. Basich
Director of Operations
Owens Community College
Oregon Road
P.O. Box 10,000
Toledo, Ohio 43699-1947
Phone: (567) 661-7833
Fax: (567) 661-7850
E-Mail: david_basich@owens.edu

2.3 Eligible Energy Conservation Measures. The Offeror should attempt to maximize energy savings and financial benefit through energy conservation measures at the Site. Energy conservation measure means an installation or modification of an installation in, or a remodeling of, an existing building in order to reduce energy consumption and operating costs, pursuant to O.R.C. Section 3345.61. The term includes the installation, modification, and replacement of:

- Insulation in building structure and systems within the building;
- Storm windows and doors, multiglazed windows and doors, and heat absorbing or heat reflective glazed and coated window and door systems; additional glazing; reductions in glass area; and other window and door system modifications that reduce energy consumption and operating costs;
- Automatic energy control systems;
- Heating, ventilating, and air conditioning systems;

- Caulking and weather-stripping;
- Lighting fixtures to increase the energy efficiency of the lighting system without changing the overall illumination of a building, unless an increase in illumination is necessary to conform to the applicable state or local building code for the proposed lighting system;
- Energy recovery systems;
- Cogeneration systems that produce steam or heat as well as electricity, for use primarily within a building or complex of buildings;
- Any other modification, installation, or remodeling approved by the Consultant and Owners Representative as an energy conservation measure.

2.4 Pre-Proposal Meeting. The Offeror is encouraged to attend the pre-proposal meeting, where the Consultant and the Owner will answer questions regarding Site access, Project requirements and Contract Documents. The Consultant will prepare minutes of the pre-proposal meeting, which will be provided to all Offerors present.

2.5 Walk-throughs. A walk-through will be conducted at the conclusion of the pre-proposal meeting. Additional Site access for the purposes of data collection prior to the RFP Proposal deadline may be scheduled at the convenience of the Owner and should be arranged through the Owner Representative.

During the walk-throughs, all Offerors will be escorted together and will be afforded equal access to the facility. Reasonable efforts will be made to provide accurate, uniform information to all Offerors. The Consultant will be the sole point of contact during the walk-through at the end of the Pre-Proposal Meeting.

2.6 Inquiries. Offerors may make inquiries regarding this RFP any time during the inquiry period listed in the calendar of events. To make an inquiry, Offerors must submit questions in writing, either by e-mail, fax, or postal mail, to the Consultant. The Offeror should also submit a copy of the inquiry to the Owner Representative.

Inquiries about a specific portion of this RFP must reference the relevant part of this RFP and the heading for the provision in question. The inquiry must contain the name of the Offeror's representative who is responsible for the inquiry, the Offeror's name, the representative's preferred method of response, and the appropriate fax number, e-mail address, or postal address.

The Owner will attempt to respond to all inquiries within seventy-two (72) hours, excluding weekends and state holidays. The Owner will not respond to any inquiries received after September 25, 2009 at 4 pm. **All inquiries and their responses will be distributed to all Offerors.** The originator of the inquiry will not be disclosed in the distribution.

2.7 Interpretation. If the Offeror finds any perceived conflict, error, omission or discrepancy on or between the Drawings, Specifications, attachments, or any of the Contract Documents, the Offeror shall submit a written request to the Consultant for an interpretation or clarification. The Offeror is responsible for prompt delivery of such request. Inquiries of this nature are subject to the same deadlines as other inquiries.

Any interpretation of the Contract Documents made by any party other than the Consultant, or in any manner other than a written response is not binding and the Offeror may not rely upon any such interpretation. The Offeror may not, at any time after the execution of the Contract, be compensated for a Claim alleging insufficient data, incomplete Contract Documents, or incorrectly assumed conditions regarding the nature or character of the Work, if no request for interpretation was made by the Offeror prior to the end of the inquiry period.

- 2.8 Addenda to RFP.** Should an inquiry prompt the Owner to amend the RFP, a notice will be sent to all Offerors via postal mail or facsimile or e-mail with confirmation. The Addenda will be deemed to have been validly given if the Addenda is issued and mailed or otherwise furnished to each Offeror's contact person of record.

When an Addendum to this RFP is necessary less than five (5) days before the RFP Proposal deadline, the Owner may extend the Proposal deadline through an announcement via postal mail or facsimile or e-mail with confirmation. Addenda announcements may be provided any time before September 29, 2009 at 2 pm Local Time. The Owner will make reasonable attempts to contact all Offerors; however, **it is the responsibility of each Offeror to check for announcements, addenda, and other current information regarding this RFP.**

2.9 (Intentionally Left Blank)

- 2.10 Communication Restrictions.** From the release of this RFP until an RFP Proposal is selected and the Contract executed, **Offerors shall not communicate with any Owner staff concerning this RFP except through the inquiry method.** Exceptions to this restriction are the pre-proposal meeting, walk-throughs, and any communication that the Owner initiates during the evaluation process. If an Offeror engages in any unauthorized communication, the Owner may reject that Offeror's RFP Proposal.

- 2.11 Form and Content.** The requirements for the RFP Proposal's formatting and contents are contained in Attachment 1 to this RFP. Each RFP Proposal should be organized in an indexed binder ordered in the same manner as the response items are ordered in the Attachment 1 to this RFP.

Each RFP Proposal should be prepared simply and economically, providing a straightforward, concise description of the Offeror's ability to meet the requirements of the RFP. Fancy bindings, colored displays, promotional material, etc., shall receive no evaluation credit. Emphasis should be on completeness and clarity of content.

- 2.12 Multiple or Alternate Proposals.** The Owner discourages, but does not prohibit, multiple RFP Proposals from a single Offeror. The Owner requires each such RFP Proposal to be submitted separately from every other RFP Proposal the Offeror makes. Additionally, the Offeror must treat every RFP Proposal submitted as a separate and distinct submission and include in each RFP Proposal all materials, information, documentation and other items this RFP requires for an RFP Proposal to be complete and acceptable. No alternate RFP Proposal may incorporate materials by reference from another RFP Proposal made by the Offeror or refer to another RFP Proposal. The Owner will judge each alternate RFP Proposal on its own merits.

- 2.13 Proposal Submittal.** Each Offeror must submit 5 copies of its RFP Proposal, which will include one signed original and four copies, in a sealed envelope. The envelope should be clearly marked "**Energy Conservation Project RFP**" on the outside.

RFP Proposals are due no later than October 2, 2009 at 2 pm Standard Time. RFP Proposals must be submitted to:

David J. Basich
Director of Operations
Owens Community College
Oregon Road
P.O. Box 10,000
Toledo, Ohio 43699-1947

The Owner may, in its sole discretion, reject any RFP Proposals or unsolicited RFP Proposal amendments that are received after the deadline. An Offeror who mails an RFP Proposal should allow adequate mailing time to ensure its timely receipt. **The Owner may, in its sole discretion, reject late RFP Proposals regardless of the cause for the delay.**

- 2.14 Acknowledgement.** By submitting an RFP Proposal, the Offeror acknowledges that it has read this RFP, understands it, and agrees to be bound by its requirements. The Offeror also agrees that the Contract shall be the complete and exclusive statement of the agreement between the Owner and the Offeror and shall supersede all communications between the parties regarding the Contract's subject matter.
- 2.15 Amendments to RFP Proposals.** Amendments or withdrawals of RFP Proposals shall be allowed only if the amendment or withdrawal is received before the RFP Proposal deadline. No amendment or withdrawal shall be permitted after the RFP Proposal deadline, except as authorized by this RFP.
- 2.16 Public Disclosure.** All RFP Proposals and other material submitted shall become the property of the Owner and may be returned only at the Owner's option. **Sensitive or proprietary information should not be included in an RFP Proposal or supporting materials.** Additionally, all RFP Proposals will be available to the public after the Contract has been awarded, pursuant to O.R.C. Section 149.43.

PART THREE: EVALUATION OF RFP PROPOSALS

3.1 RFP Proposal Opening. The Owner will open the RFP Proposals in a manner that avoids disclosing their contents. After the RFP Proposals are opened, the Owner will prepare a public registry of RFP Proposals containing the name and address of each Offeror. In order to ensure fair and impartial evaluation, RFP Proposals and related documents submitted in response to a request for RFP Proposals are not available for public inspection and copying under O.R.C. Section 149.43 until after the award of the Contract.

3.2 Right of Rejection. The Owner may, in its sole discretion, reject any RFP Proposal, in whole or in part if:

- it is delivered after the RFP Proposal deadline;
- it is unrealistic in cost savings or excessive in price;
- the Offeror engages in collusion;
- the Offeror takes exception to the terms and conditions of this RFP;
- the Offeror fails to comply with the procedure for participating in the RFP process;
- the Offeror's RFP Proposal fails to meet any requirement of this RFP;
- the Owner believes that the RFP Proposal is not in its interests to consider or accept.

In addition, the Owner may, in its sole discretion and for any reason, cancel this RFP, reject all the RFP Proposals, and seek to perform the Project through a new RFP or other means. The Owner shall not be liable for any costs incurred by an Offeror in responding to this RFP, regardless of whether the Owner awards the Contract through this process, cancels this RFP for any reason, or contracts for the Project through another RFP or another process.

3.3 Evaluation Phases. The evaluation process may consist of up to four distinct phases:

1. Initial review of all RFP Proposals for defects;
2. The evaluation committee's evaluation of the RFP Proposals;
3. Request for more information (interviews, presentations, and/or demonstrations);
4. Negotiations.

Phases 3 and 4 may be deemed unnecessary at the discretion of the evaluation committee.

3.4 Clarifications. During the evaluation process, the evaluation committee may request clarifications from any Offeror under active consideration. The Owner reserves the right to allow any Offeror a reasonable opportunity to cure a minor irregularity or technical deficiency in a RFP Proposal, provided that the irregularity or deficiency does not give the Offeror an unfair competitive advantage. Such a clarification shall not be considered an amendment to a RFP Proposal.

3.5 Initial Review. The Consultant will review all RFP Proposals for their timeliness, format, and completeness. The Consultant normally rejects any late, incomplete, or incorrectly formatted RFP Proposal, though he may, in his sole discretion, waive any defects or allow an Offeror to submit a correction.

If a late RFP Proposal is rejected, the Consultant shall not open it or evaluate it for format or completeness. The Consultant will forward all timely, complete, and properly formatted RFP Proposals to an evaluation committee, which the Consultant will chair.

3.6 Committee Review. The evaluation committee will evaluate and numerically score each RFP Proposal that passes the initial review. The evaluation will be according to the criteria contained in this part of the RFP.

The committee may also have the RFP Proposals, or portions of them, reviewed and evaluated by independent third parties or other Owner personnel with relevant technical or professional experience. The committee may also seek the review of end users of the Project or the advice of other Owner committees that have subject matter expertise or an interest in the Project.

The evaluation will result in a point total being calculated for each RFP Proposal. The Offeror(s) submitting the highest-rated RFP Proposal(s) may be scheduled for the next phase. The number of RFP Proposals forwarded to the next phase shall be within the committee's sole discretion.

At any time during the Committee Evaluation phase, the committee may ask an Offeror to correct, revise, or clarify any portions of its RFP Proposal. The evaluation committee will document all major decisions in writing and make these a part of the RFP file along with the evaluation results for each RFP Proposal considered.

3.7 RFP Proposal Evaluation Criteria. In the evaluation phase, the committee will rate the RFP Proposals based on the following criteria and the following weight assigned to each criterion:

3.7.1. Responsibility, Capability, and Qualifications (20 points). The RFP Proposal shall indicate the ability of the Offeror to meet the terms of the RFP, especially the quantity and quality of recent projects similar in scope to that described in the RFP. In determining whether an Offeror is responsible, factors to be considered include, without limitation:

- The experience of the Offeror;
- The financial condition of the Offeror;
- The conduct and performance of the Offeror on previous contracts;
- The management skills of the Offeror;
- The ability of the Offeror to execute the Contract properly.
- References for projects similar in size and scope;
- Audited financial statements for the past three (3) years;
- A valid contractor's license from an OBBC certified county, municipal or health department that required a test to obtain such license;
- Certification by the Ohio Construction Industry Examining Board; or
- Registration of certification by an OBBC municipality or county for the preceding consecutive five (5) years, pursuant to demonstration of proof of bonding and insurance.

3.7.2. Qualified Personnel (10 points). The RFP Proposal shall indicate the competence of personnel whom the Offeror intends to assign to the Project. Qualifications will be measured by education, engineering certification, and experience, with particular emphasis on experience with projects of similar scope as that described in the RFP. Emphasis will be placed upon the qualifications of the Offeror's project manager and the manager's dedicated management time, as well as that of other key personnel working on this Project.

3.7.3 Technical Approach (30 points). The RFP Proposal shall indicate the methods used by the Offeror to define the Project. Factors to be considered include:

- Listing of energy conservation measures investigated; reasons for inclusion and exclusion of various measures;
- Data collection: methods used, thoroughness, and accuracy;
- Calculation methodology: acceptability of assumptions and methods, adjustments to calculations based upon experience from similar projects;

margins of error and conservatism in approach; historical accuracy of predictions based upon similar projects;

- Awareness and responsiveness of Offeror to Owner preferences, operational factors, and limitations at the facility;
- Mention of additional maintenance, operational, or other measures which may increase savings, but have not been quantified in savings amounts;
- Consideration of utility rate structures and utility incentives, if any;
- Incorporation of ongoing training, maintenance, and customer support following installation;
- Verification of savings and adherence to performance contract, including adjustments for weather and load changes.

3.7.4. Cost and Savings (20 points). Points will be awarded based upon the relative value of the Project to the Owner over a ten year payback cycle. A Cost Summary Form is included as Attachment 10 of this RFP.

3.7.5 Service Agreement, Energy Guarantee (20 Points). Ability to provide a ten year energy guarantee and manage the Service Agreement for an initial period of five years with a possible extension to ten years. Capability to provide all services described in the Service Agreement for the duration of the guarantee period.

3.8 Interviews, Demonstrations, and Presentations. The RFP Proposal evaluation committee may require some Offerors to interview with the committee, make a presentation about their RFP Proposal, and/or demonstrate their products or services. Such presentations, demonstrations, and interviews provide an Offeror with an opportunity to clarify its RFP Proposal and to ensure a mutual understanding of the RFP Proposal's content. The presentations, demonstrations, and interviews will be scheduled at the convenience and discretion of the evaluation committee.

The evaluation committee may record any presentations, demonstrations, and interviews.

3.9 Contract Negotiations. The Owner reserves the right to conduct negotiations with one or more competing Offerors during the evaluation process. If the Owner determines that negotiations are in its best interests, negotiations will be conducted according to the following:

3.9.1 Owner's Obligations. The Owner will select which Offeror(s) to negotiate with by determining which Offeror(s) is reasonably likely to be awarded the contract under this RFP. The Owner's determination will be based upon each Offeror's RFP Proposal.

Offerors the Owner determines to be not reasonably susceptible of Contract award do not have a right to participate in RFP Proposal negotiations.

The Owner shall treat selected Offeror(s) fairly and equally with respect to any opportunity for discussion and revision of RFP Proposals.

The Owner may determine, during negotiations that it is no longer reasonably likely for an Offeror to be awarded a Contract under this RFP. If the Owner makes this determination the Owner will notify the Offeror in writing of its determination to terminate negotiations. The Owner may re-evaluate which of the remaining Offerors are reasonably likely to be awarded a Contract under this RFP and begin negotiations with a new Offeror and or continue negotiations with other Offerors. If negotiations with an Offeror again result in the Owner determining that an Offeror is no longer reasonably likely to be awarded a Contract under this RFP, the Owner will provide written notice to that Offeror and may follow the process to continue negotiations outlined in this section, or may determine that negotiations

are no longer in the Owner's best interests. The Owner may reject all RFP Proposals and cancel this RFP at any time during the RFP process.

The Owner may not disclose any information derived from any of the RFP Proposals to competing Offerors. The Owner must limit access to information contained in the RFP Proposals to those people with a need to know the information.

The Owner will limit negotiations to specific aspects of the requirements of the RFP.

If negotiations result in revisions or additions to existing RFP Proposals, the Owner will determine the time and date by which all best RFP Proposals must be submitted to the Owner.

Best RFP Proposals may be submitted only once, unless the evaluation committee determines that it is in the Owner's best interests to conduct additional negotiations with one or more of the Offerors that submitted best RFP Proposals, or to change the Owner's requirements. If the evaluation committee determines that additional discussions or revisions to the Owner's requirements are necessary, the Owner may require submission of best and final RFP Proposals.

The Owner shall negotiate in good faith.

The Owner must maintain a contract file that contains the basis for each of the Owner's decisions during the negotiation process, including with whom to negotiate, the evaluation committee's basis to determine to negotiate further after receiving best and final RFP Proposals, if the Owner allows additional best and final RFP Proposals, and the basis for awarding the Contract to the selected Offeror.

3.9.2 Offeror's Obligations. Offeror(s) shall negotiate in good faith.

Offeror(s) may negotiate only the specific aspects of the RFP that the Owner, in its sole discretion, selects for negotiation. Offeror(s) may not attempt to negotiate the General Conditions of the Contract, Performance Contract, or Service Agreement.

Offeror (s) may not attempt to gain access to the contents of another Offeror's RFP Proposal before the award of the Contract or cancellation of this RFP. Any Offeror that attempts to gain access to another's RFP Proposal before Contract award or cancellation of this RFP may be disqualified.

Offerors shall not submit a RFP Proposal assuming that there will be an opportunity to negotiate.

PART FOUR: CONTRACT AWARD

- 4.1 Notice of Award.** Upon completion of the evaluation, the Owner will issue a Notice of Award to the selected Offeror. The Notice of Award will state that award and execution of the Contract is based upon the expectation that the highest scoring Offeror will comply with all conditions precedent for Contract execution by *November 18, 2009*. Execution of the Contract is further contingent upon the Approval by the Owner's Board of Trustees.

Noncompliance with such conditions may be cause for the Owner to cancel the Notice of Award and award the Contract to the next highest scoring Offeror, or resubmit the Contract for RFP Proposals, at the Owner's sole discretion.

The Owner, in its sole discretion, may extend the time for submittals precedent for Contract execution for good cause shown. No extension shall serve as a waiver of the conditions precedent for Contract execution.

- 4.2 Timely Execution.** The failure to award and execute the Contract within one hundred and fifty (150) days of the RFP Proposal deadline invalidates the entire RFP Proposal process and all RFP Proposals submitted, unless the time is extended by written consent of the Offeror whose RFP Proposal the Owner has accepted, and the Owner concurs with such an extension.

- 4.3 Cost Adjustments.** If the Contract is awarded within one hundred and fifty (150) days of the RFP Proposal deadline, any increases in material, labor, financing costs and subcontract costs must be borne by the Offeror without alteration of the amount of the RFP Proposal.

If the Contract is not awarded within one hundred and fifty (150) days of the RFP Proposal deadline due to delays on the part of the Owner, the Offeror will be entitled to a Change Order authorizing payment of verifiable increased costs in materials, labor, financing costs or subcontracts. The Owner shall also be entitled to verifiable decreases in such costs.

If the Contract is not awarded within one hundred and fifty (150) days of the RFP Proposal deadline due to delays on the part of the Offeror, any increased costs will be borne by the Offeror.

- 4.4 Conditions Precedent to Contract Execution.** Documents necessary for Contract execution include, but are not limited to, the following:

- Performance Contract.
- Service Agreement, and associated Energy Cost Savings Guarantee.
- Performance and Payment Bond. To support the Bond, a Certificate of Compliance issued by the Department of Insurance, showing the Performance and Payment Bond Surety is licensed to do business in Ohio. Provide a valid Power of Attorney of the agent signing for the Surety.
- Guarantee Bond. To support the Bond, a Certificate of Compliance issued by the Department of Insurance, showing the Guarantee Bond Surety is licensed to do business in Ohio. Provide a valid Power of Attorney of the agent signing for the Surety.
- Ohio Workers' Compensation Certificate.
- Certificate of Insurance (ACORD form is acceptable) and copy of additional insured endorsement. The Owner reserves the right to request a certified copy of the Offeror's insurance policies.
- If the Offeror is a foreign corporation, i.e., not incorporated under the laws of Ohio, a Certificate of Good Standing from the Secretary of State showing the right of the Offeror to do business in the State; or, if the Offeror is a person or partnership, the Offeror has filed with the Secretary of State a Power of Attorney designating the Secretary of State as the Offeror's agent for the purpose of accepting service of summons in any action brought under O.R.C. Section 153.05 or under O.R.C. Sections 4123.01 to 4123.94, inclusive.
- Delinquent Personal Property Tax Statement (form provided in Attachment 14)
- Declaration Regarding Material Assistance / Non-Assistance to a Terrorist Organization Form ("DMA") (form included in Attachment 14)

- Certificate of Compliance with Affirmative Action Programs, issued pursuant to O. R. C. Section 9.47, by the Equal Employment Opportunity Division of the Department of Administrative Services.
- Plumbing, electrical, hydronics, refrigeration and HVAC Contractors shall submit proof of current licensing by Applicable Law.
- Approved State Controlling Board request, if applicable.
- If entering into a contract of \$2,000,000, or more, Contractor shall submit a legible copy of all the RFP Proposal Information used to prepare the Contractor's RFP Proposal for the Contract to the RFP Proposal Information Escrow Agent and attach an RFP Proposal Information Escrow Agreement and Affidavit.

ATTACHMENT 1: RFP PROPOSAL FORMAT

These instructions describe the required format for a responsive RFP Proposal. The Offeror may include any additional information it believes is relevant. An identifiable tab sheet shall precede each section of a RFP Proposal, and each RFP Proposal must follow the format outlined below. All pages, except pre-printed technical inserts, shall be sequentially numbered.

Each RFP Proposal must include sufficient data to allow the evaluation committee to verify the total cost for the Project and all of the Offeror's claims of meeting the RFP's requirements. Each RFP Proposal must respond to every request for information in this Attachment 1 whether the request requires a simple "yes" or "no" or requires a detailed explanation. Simply repeating the RFP's requirement and agreeing to comply will be an unacceptable response and may cause the RFP Proposal to be rejected.

Any material deviation from the format outlined below may result in a rejection of the non-conforming RFP Proposal.

Each RFP Proposal must contain the following:

1. Offeror Profile and Information Form (Attachment 6)
 2. Subcontractor Profile
 3. Offeror Performance
 4. Staffing Plan
 5. Personnel Profile Summaries
 6. Technical Approach
 7. Project Schedule
 8. Support Requirements
 9. Cost and Savings Summary (Guaranteed Savings), Contractor Certification (Attachment 10)
 10. Letters of Commitment for Guarantee Bond and Performance Bond
 11. Conflict of Interest Statement
 12. Financial Requirements
 13. Proof of Insurance
 14. Service Agreement Cost Summary Form (Attachment 11)
 15. Evidence that the Offeror is enrolled and in good standing, prior to submitting a RFP Proposal, in a Drug- Free Workplace Program ("DFWP") approved by the Ohio Bureau of Worker's Compensation.
1. **Offeror Profile.** Each RFP Proposal must include a profile of the Offeror and its relevant experience working on projects similar to this Project. The Offeror Profile Form is included as Attachment [6](#) and must include:
- Offeror's legal name, address, and telephone number;
 - Date established;
 - Offeror's Federal Tax Identification number;
 - Principal place of business;
 - Local office from which Project will be managed;
 - Ownership (such as public firm, partnership, or subsidiary);
 - Firm leadership (such as corporate officers or partners);
 - Number of employees;
 - Number of employees engaged in work directly related to the Project;
 - Contact person for all correspondence regarding this RFP, to include name, title, phone number, fax number, postal address, and e-mail address;
 - List of subcontractors, if any, that the Offeror will use on the Project;
 - Any other background information that will help the evaluation committee gauge the Offeror's ability to successfully complete the Project

The Offeror must also include (3) references for which the Offeror has successfully provided services on projects that were similar in their nature, size, and scope to the Project. These references must be from current projects or projects that were completed within the past (7) years. This RFP includes an Offeror Reference Form as Attachment 7. The Offeror must complete this form for each reference.

Each reference shall be willing to discuss the Offeror's performance on the reference project with the evaluation committee.

2. **Subcontractor Profile.** For each proposed subcontractor, the Offeror must attach a letter from the subcontractor, signed by a representative authorized to legally bind the subcontractor, with the following included in the letter:
 - a. The subcontractor's legal name, tax identification number, and principal place of business address;
 - b. Printed name and phone number of the authorized subcontractor representative;
 - c. A description of the Work the subcontractor will perform;
 - d. A certified commitment to perform the Work if the Offeror is selected;
 - e. A certified statement that the subcontractor has read and understood the RFP and will comply with the requirements of the RFP.

3. **Offeror Performance.** The Offeror must provide the following information for this section for the past (7) years:
 - a. Whether the Offeror has had a contract terminated for default or cause. If so, the Offeror must submit full details, including the other party's name, address, and telephone number.
 - b. Whether the Offeror has been assessed any damages in excess of (\$100,000), including liquidated damages, under any of its existing or past contracts with any organization (including any governmental entity). If so, the Offeror must provide complete details, including the name of the other organization, the reason for the damages, and the amount for each incident.
 - c. Whether the Offeror was the subject of any governmental action limiting the right of the Offeror to do business with that entity or any other governmental entity.
 - d. Whether trading in the stock of the company has ever been suspended with the date(s) and explanation(s).
 - e. Whether the Offeror, any officer of the Offeror, or any owner of a 20% interest or greater in the Offeror has filed for bankruptcy, reorganization, a debt arrangement, moratorium, or any proceeding under any bankruptcy or insolvency law, or any dissolution or liquidation proceeding.
 - f. Whether the Offeror, any officer of the Offeror, or any owner with a 20% interest or greater in the Offeror has been convicted of a felony or is currently under indictment on any felony charge.

If the answer to any item in (a) through (f) is affirmative, the Offeror must provide complete details about the matter. While an affirmative answer to any of these items will not automatically disqualify an Offeror from consideration, such an answer and a review of the background details may result in a rejection of the Offeror's RFP Proposal, at the sole discretion of the evaluation committee. The committee will make this decision based on its determination of the seriousness of the matter, the matter's possible impact on the Offeror's performance on the Project, and the best interests of the Owner.

4. **Staffing Plan.** The Offeror must provide a staffing plan that identifies all personnel required to perform the Project. The plan must have the following information:
 - a. A matrix matching each key team member to the staffing requirements in this RFP.

- b. A contingency plan that shows the ability to add more staff if needed to meet the Project's due date(s).
- c. A discussion of the Offeror's ability to provide qualified replacement personnel.

The Offeror must submit a statement that clearly indicates the time commitment of the proposed Project team, including the Project Manager, to this Project and other projects during the term of the Contract. The Offeror must also include a statement indicating to what extent, if any, the Project Manager may be used on other projects during the term of the Contract. The evaluation committee may reject any RFP Proposal that commits the proposed Project Manager to other projects during the term of the Project if the committee believes that doing so will be detrimental to the Offeror's performance.

One of the criteria on which the Owner will base the award of the Contract is the quality of the Offeror's Project team. Switching personnel after Contract award shall not be permitted without the Owner's prior written approval.

5. Personnel Profile Summaries. Each RFP Proposal must include a profile for each member of the proposed Project team. The profile form is included in this RFP as Attachment 8. Offerors may duplicate this form and complete it for each team member. If additional space is needed for completion of the form for any team member, the Offeror should use the back of the form. Each form must be completed using the format given in the attachment. The various sections of the form are described below.

- a. Name and Title.
- b. Education and Training. This section must be completed to list the education and training of the proposed candidates and will demonstrate, in detail, the proposed candidate's ability to properly execute the Contract based on the relevance of the education and training to the requirements of the RFP.
- c. References. Provide (3) references for which the proposed candidate has successfully demonstrated meeting the requirements of the RFP on a project of similar size and scope within the past (7) years. If fewer references are provided, the Offeror must include an explanation. For each reference the following information must be provided:
 - 1. Contact Information. The contact name, phone number, company name, and address. An alternate contact name in the company, address, and phone number shall also be provided, in case the primary contact cannot be reached.
 - 2. Dates of Service. Must be completed to show the length of time the candidate performed the technical experience being described, not the length of time the candidate worked for the company. The Offeror must complete these dates with a beginning month and year and an ending month and year.
 - 3. Description of the Related Service Provided. Offerors must reiterate the technical experience being described, including the capacity in which the experience was performed and the role of the candidate in the project. It is the Offerors' responsibility to customize the description to clearly substantiate the candidate's qualification.
- d. Resume. The candidate's resume must follow the completed form.

6. **Technical Approach.** The Offeror must fully describe its approach, methods, and specific work steps for completing this Project and producing the deliverables required under the Contract. The Owner seeks insightful responses that demonstrate a thorough understanding of the nature of the Project and the Owner's needs and limitations. Recommended solutions should demonstrate that the Offeror would be prepared to quickly undertake and successfully complete the required tasks. The Offeror should describe the Offeror's experience and ability to work in an educational environment and campus setting occupied by a diverse student population.

The Offeror's work plan should be consistent with its staffing plan, project schedule, support requirements, and other parts of its RFP Proposal.

For each energy conservation measure ("ECM") listed in the work plan, the Offeror must complete the ECM Form included in this RFP as Attachment 9.

7. **Project Schedule.** The Offeror must provide a detailed Project schedule for significant Project milestones and deliverables. The Project schedule should be delivered as a Gantt chart, showing all major Project tasks on a week-by-week schedule to serve as the basis for managing the Project. The Offeror must also identify and describe all risk factors associated with the forecasted milestone schedule.
8. **Support Requirements.** The Offeror must describe the nature and extent of the support it requires from the Owner to accomplish the Project other than what the Owner has offered elsewhere in this RFP.

The Owner may not be able or willing to provide the additional support the Offeror lists in this part of its RFP Proposal. The Offeror must therefore indicate whether its request for additional support is a requirement for its performance. If any part of the list is a requirement, the Owner may reject the Offeror's RFP Proposal if the Owner is unwilling or unable to meet the requirements.

9. **Cost and Savings Summary.** This RFP includes a Cost and Savings Summary and Certification Form provided as Attachment 10. The Offeror must fill in all relevant blank spaces in the Cost and Savings Summary and Certification Form in ink or typewritten and not in pencil. The Offeror must initial any alteration or erasure on the Cost Summary Form. **A representative who is authorized to legally bind the Offeror must read the certification and sign the form.**

The Offeror must show all RFP Proposal amounts in both words and figures. In the case of a conflict between the words and figures, the amount shown in words shall govern, where such words are not ambiguous. When the Offeror's intention and the meaning of the words are clear, omissions or misspellings of words will not render the words ambiguous.

The figures from individual ECM Forms must be summed to equal the figures shown on the Cost and Savings Summary Form. The Offeror must indicate on the Cost and Savings Summary Form:

Item 1 - Guaranteed minimum average annual energy savings, in today's dollars, based upon the recommended ECM. Savings from electricity, natural gas, water and sewer, propane, diesel fuel, or other fuels may be included on this line. Maintenance savings must not be included in Line 1.

Item 2 - Fixed total installation payments necessary to achieve the savings of Item 1. This amount must include all costs associated with the Project, including without limitation: design, equipment, material, labor, disposal, warranties, equipment service agreements, and financing costs. The Project must not require capital funds in addition to the Item 2 amount, pursuant to O.R.C. Section 3345.64.

Item 3 - Estimated time of completion, in consecutive days following the date set forth in the Notice to Proceed. This line will receive no evaluation credit but will become part of the Contract Documents.

10. **Guarantee Bond and Performance Bond.** Before Contract execution, the Offeror must provide a Guarantee Bond in the amount of the energy savings listed on its Cost Summary Form and a Performance Bond assuring that the Contractor will perform the Work of the Contract. For the purposes of this RFP, the Offeror's Surety must provide a letter of commitment or other written assurance that it will deliver the necessary Guarantee Bond and Performance Bond should this Offeror be selected for the Project.
11. **Conflict of Interest.** Each RFP Proposal must include a statement indicating whether the Offeror or any Person that may work on the Project through the Offeror have a possible conflict of interest and, if so, the nature of that conflict. The Owner may, in its sole discretion, reject an RFP Proposal in which a conflict is disclosed or cancel the Contract if any interest is later discovered that could give the appearance of a conflict.
12. **Financial Requirements.** Part of the RFP Proposal evaluation criteria is the Offeror's financial ability to perform the Contract. In order to be considered responsive, an Offeror must provide its audited annual financial statements for the past 3 most recently completed fiscal years. An RFP Proposal may be rejected if the Offeror has not demonstrated to the satisfaction of the evaluation committee its financial ability to perform the Contract.
13. **Proof of Insurance.** In this section, the Offeror must provide the certificate(s) of insurance required by the General Conditions and Supplementary Conditions of the Contract and the Service Agreement.
14. **Service Agreement.** As a part of the RFP Proposal, and to assure that the Offeror has adequate access to and control over the operation and maintenance of the energy conservation measures to achieve the guaranteed energy cost savings, a separate Service Agreement will be entered into for the ongoing maintenance of the facility operating systems. This Service Agreement and associated requirements are included in Attachment 15. Attachment [11](#), Service Agreement Cost Summary Form, is to be provided in this section.
15. **Drug Free Workplace Program.** Evidence that the Offeror is enrolled and in good standing, prior to submitting an RFP Proposal, in a Drug- Free Workplace Program ("DFWP") approved by the Ohio Bureau of Worker's Compensation.

ATTACHMENT 2: SITE SPECIFIC INFORMATION

This attachment contains the following information for Owens Community College

1. Academic Calendar for Spring 2009 through Spring 2010
2. Site and Floor Plans
3. Lists of Major Equipment

Floor plans for the following buildings are included in this attachment.

Toledo Campus

College Hall (CH)
Administration Hall
Health Technologies Hall
Bicentennial Hall
Child Care Center
Alumni Hall
Facility Services
Transportation Technologies (TT)
Industrial & Engineering Technologies (ET)
Library (LB)
Audio/Visual Classroom Center (AV)
Math/Science Center (MS)
Student Health & Activities Center (SH)
Center for Fine & Performing Arts (PA)
Founders Hall (Formerly PCA Classrooms)

Findlay Campus

Education Center
Community Education and Wellness Center
Early Learning Child Care Center

Notes on Founders Hall

Founders Hall (Formerly PCA Classrooms) is being renovated. Included herein is a list of the new and existing HVAC Equipment that will be in operation upon completion of the renovation project. The renovation project has been designed for future intertie with a Central Utility Plant. The chiller, boilers, and associated pumps, have been specified as skid packages for ease of removal and relocation in the future when the building is tied into the new Central Utility Plant. Key Design Criteria for future connection to Central Utility Plant is as follows

:

- 56 deg F, 42 deg F chilled water temps (14 deg F Delta T), 30% propylene glycol.
- 190 deg F, 104 deg F hot water temps (86 deg F Delta T / 30 deg C Delta T).

**Owens Community College
Academic Schedule
Spring 2009 through Spring 2010**

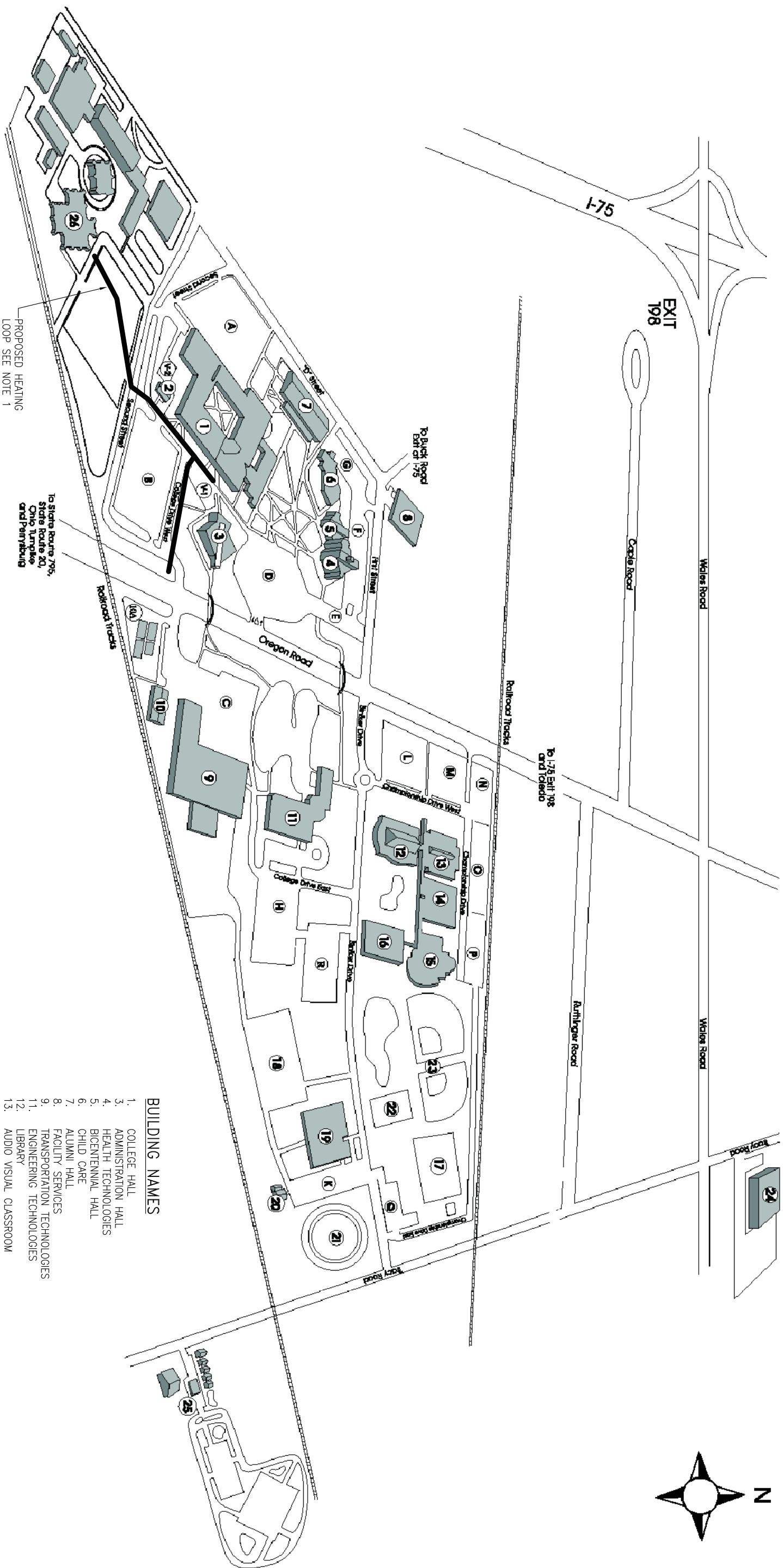
Spring Semester 2009	
January 5	Faculty Return
January 8	Spring Classes begin
January 16	Weekend College begins
January 19	Holiday - College Closed
March 6	Mid-Semester Break - College Closed
March 6-8	Weekend College Closed
March 9-15	Spring Break
March 13-15	Weekend College Closed
May 1	Last day of Classes
May 3	Last day of Weekend College Classes
May 4-8	Final Exam Week
May 8	Commencement
May 13	Last Faculty Duty Day
May 23-25	Holiday - College Closed

Summer Semester 2009	
May 26	First 5 week and 10 week sessions begin
June 1	8 week session begins
June 26	First 5 week session ends
June 29	Second 5 week session begins
July 2-5	Holiday - College Closed
July 24	8 week session ends
July 31	Second 5 week and 10 week sessions end

Fall Semester 2009	
August 10	Faculty Return
August 17	Fall Classes begin
September 5-7	Holiday - College Closed
November 24	No Classes - College Open
November 25-29	Holiday - College Closed
December 4	Last day of Classes
December 6	Last day of Weekend College Classes
December 7-11	Final Exam Week
December 11	Commencement
December 15	Last Faculty Duty Day
December 24-January 1	Holiday - College Closed

**Owens Community College
Academic Schedule
Spring 2009 through Spring 2010**

Spring Semester 2010	
January 4	Faculty Return
January 7	Spring Classes begin
January 15	Weekend College Classes begin
January 18	Holiday - College Closed
March 5	Mid-Semester Break - College Closed
March 8-14	Spring Break
April 30	Last day of Spring Classes
May 2	Last day of Weekend College Classes
May 3-May 7	Final Exam Week
May 7	Commencement
May 12	Last Faculty Duty Day
May 29-31	Holiday - College Closed



- BUILDING NAMES**
1. COLLEGE HALL
 3. ADMINISTRATION HALL
 4. HEALTH TECHNOLOGIES
 5. BICENTENNIAL HALL
 6. CHILD CARE
 7. ALUMNI HALL
 8. FACILITY SERVICES
 9. TRANSPORTATION TECHNOLOGIES
 11. ENGINEERING TECHNOLOGIES LIBRARY
 12. AUDIO VISUAL CLASSROOM
 13. MATH SCIENCE
 14. STUDENT HEALTH CENTER
 15. PERFORMING ARTS
 16. FIRE & POLICE TRAINING CENTER
 19. PCA CLASSROOMS (FORMERLY PENTA ADMINISTRATION)
 - 26.

Toledo Area Campus

NOTE:

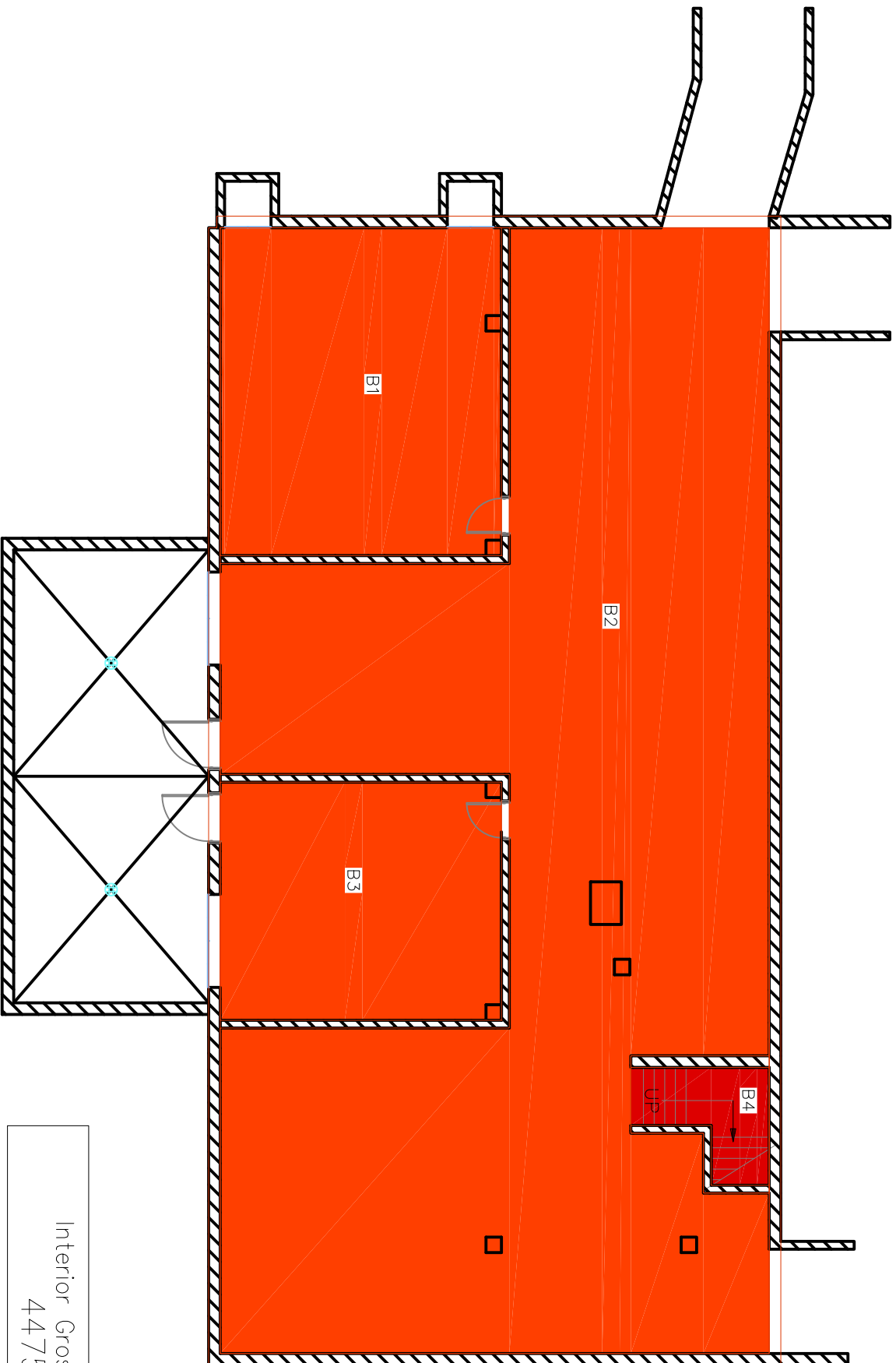
1. THIS DRAWING SHOWS THE APPROXIMATE LOCATION OF THE PROPOSED HEATING LOOP TO BE INSTALLED AS PART OF THE PARKING LOT IMPROVEMENTS.

REVISION		TITLE:	
		OWENS COMMUNITY COLLEGE TOLEDO, OHIO	

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DRAWN:	DATE:
CHKD:	
APP'D:	

ORBITAL TECHNICAL SOLUTIONS	SCALE:	PROJ./CONTRACT NO.	DRAWING NO.	REV.
	NONE	40-1285-00	M100	0

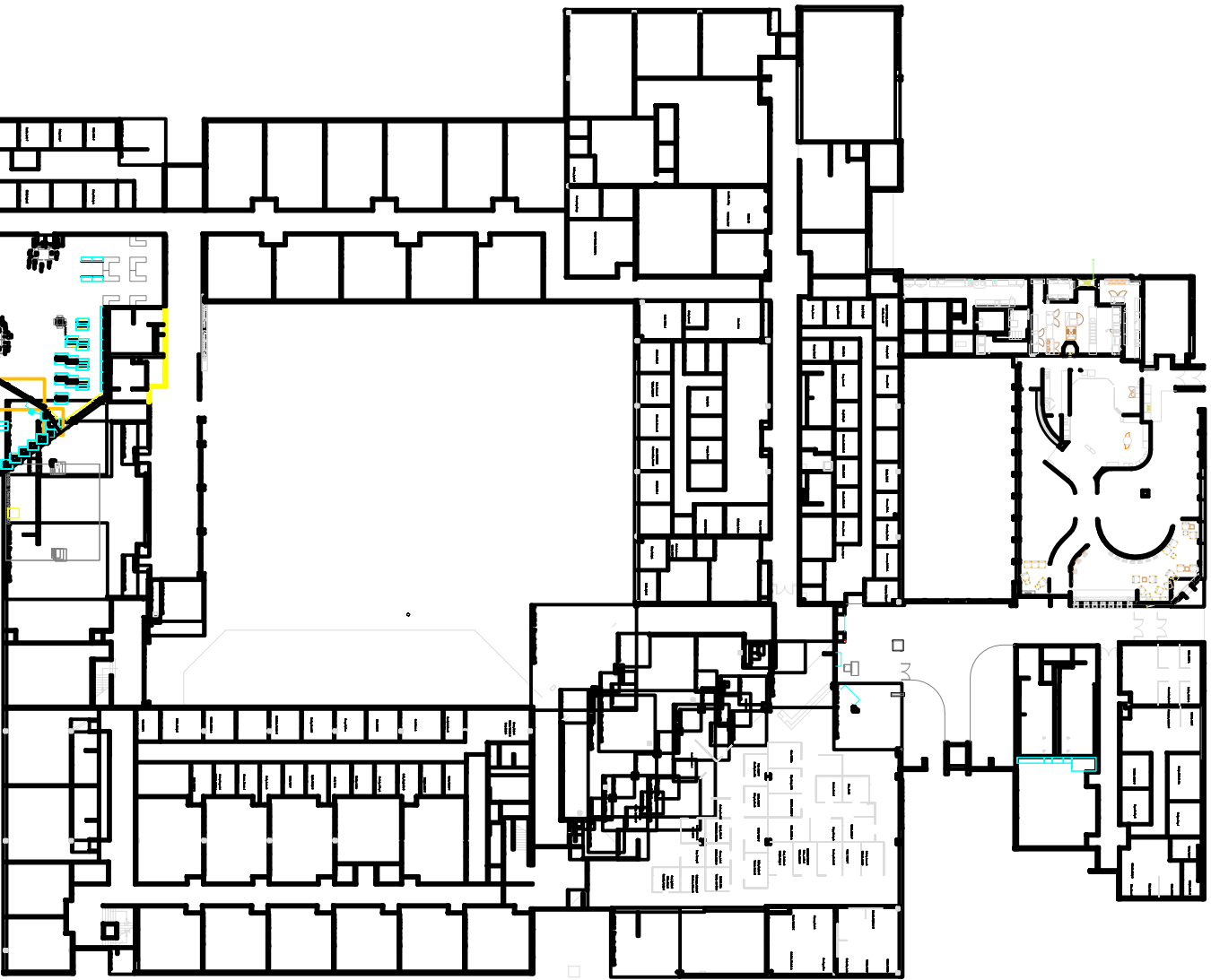


Interior Gross Area
4475

Exterior Gross Area
4875

College Hall (CH) Basement

	Area(SF)
Circulation	85
Mechanical	4392

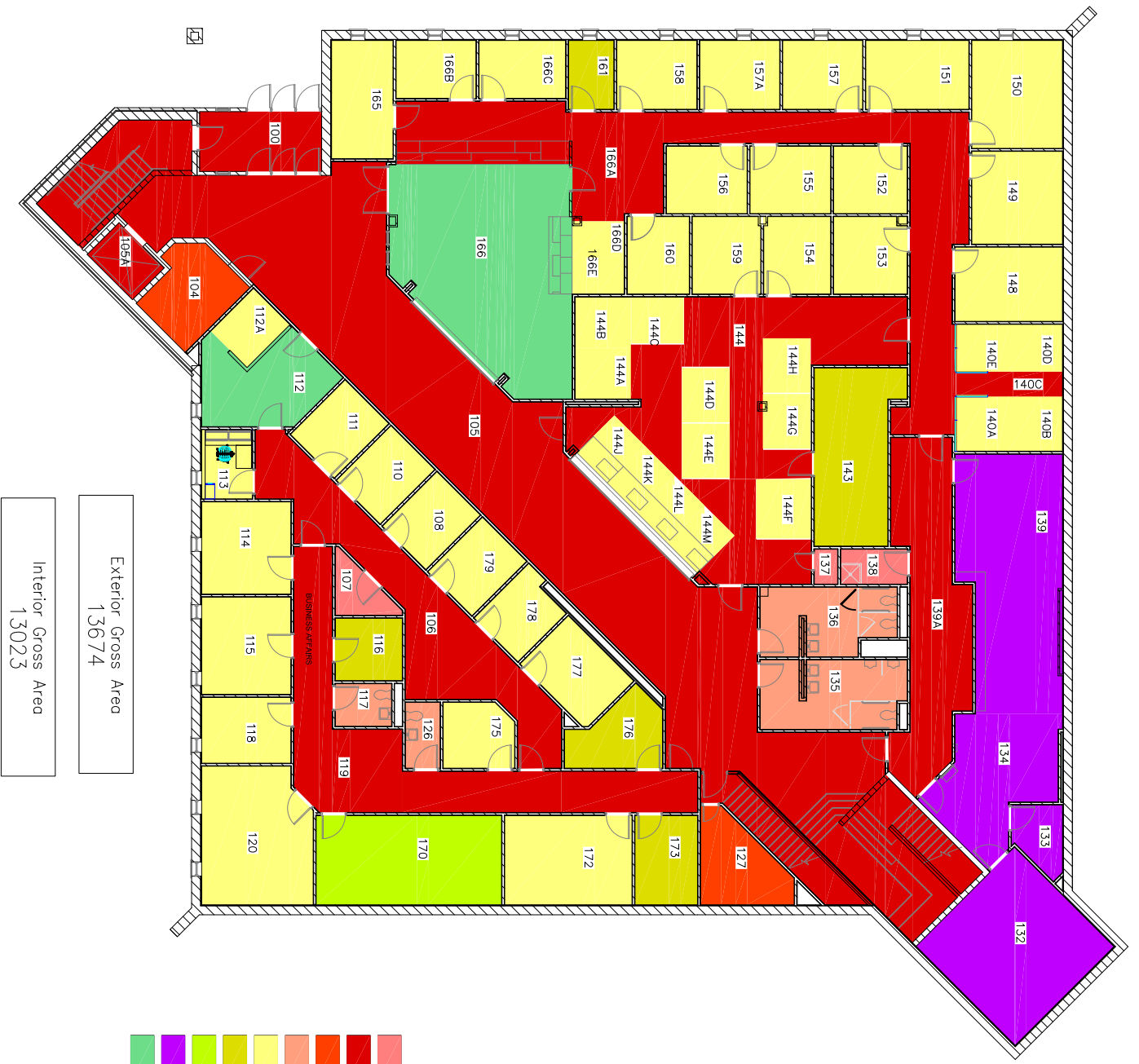


College Hall (CH)
First Floor



College Hall (CH) Second Floor

Interior Gross Area 19263
Exterior Gross Area 19895

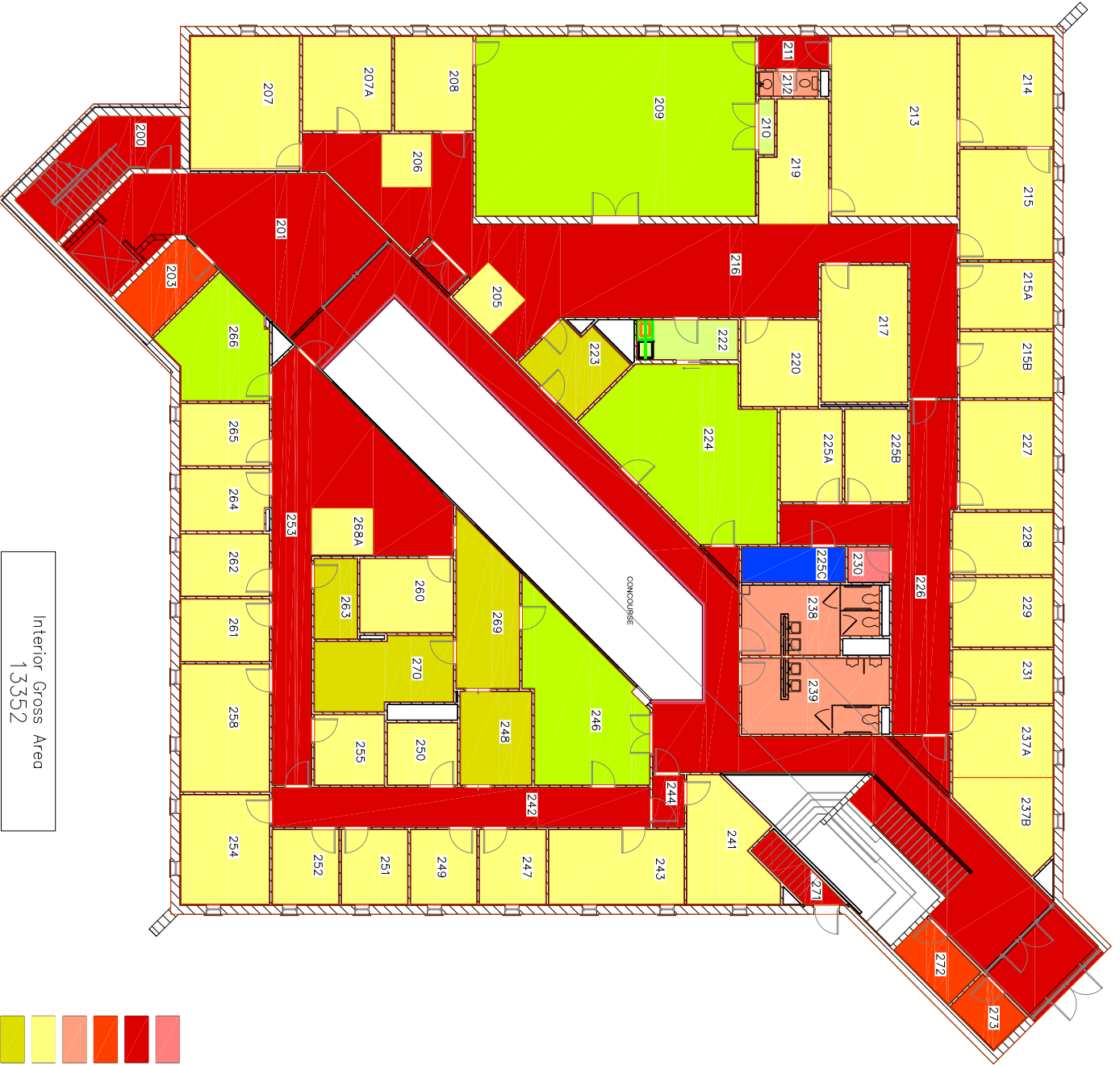


Administration Hall First Floor

Color	Room Type	Area(SF)
Light Pink	Custodial	95
Red	Circulation	4942
Orange	Mechanical	224
Light Orange	Toilet and Restroom	392
Yellow	Office	3992
Light Green	Office Service	542
Green	Conference Room	277
Light Blue	Central service	1026
Blue	Public Waiting	751

Exterior Gross Area
13674

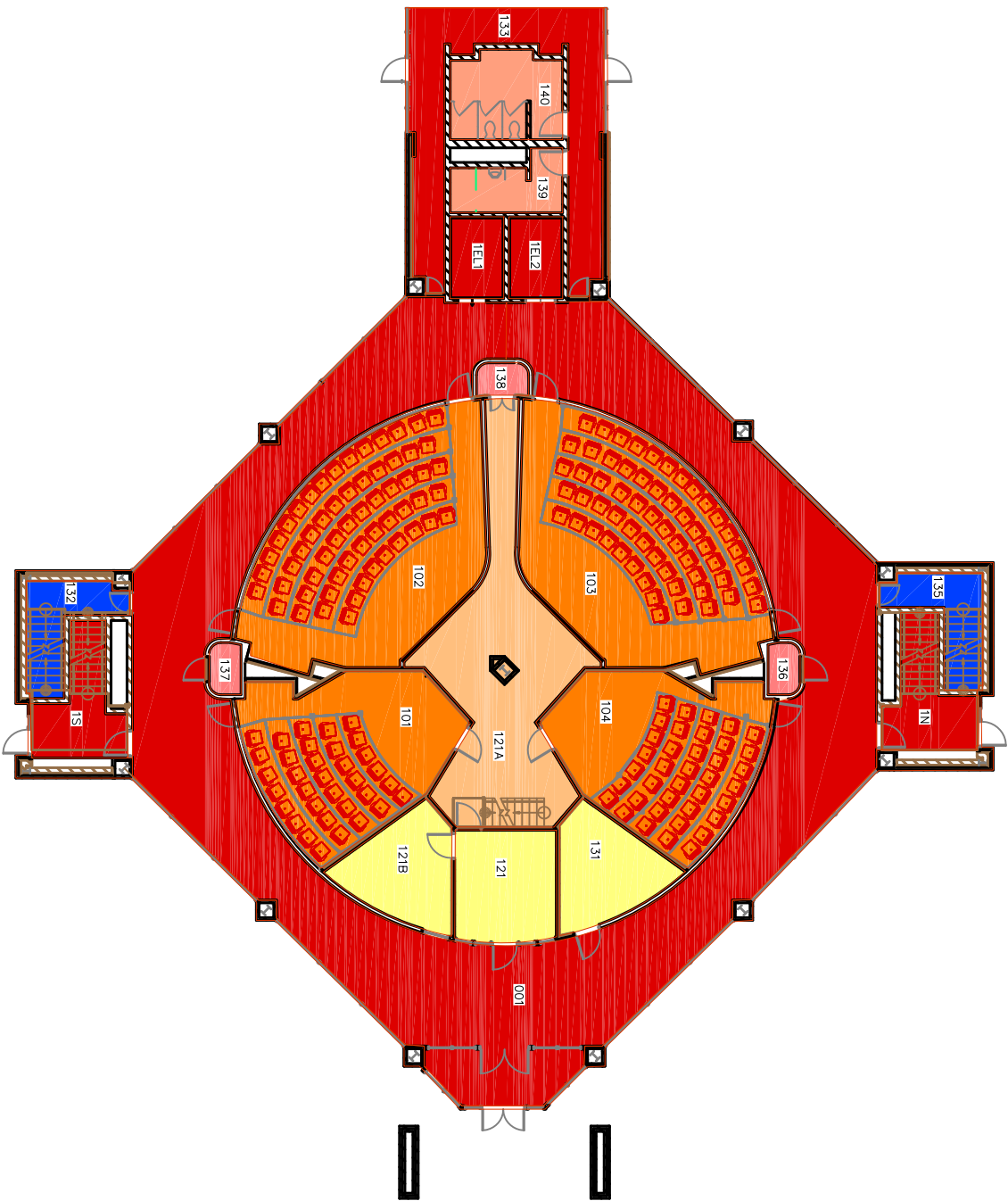
Interior Gross Area
13023



Administration Hall Second Floor

	Custodial	24
	Circulation	3898
	Mechanical	184
	Toilet and Restroom	351
	Office	4514
	Office Service	576
	Conference Room	1705
	Conference Room Service	82
	Central Computer or Telecommunications	60
Interior Gross Area		13352
Exterior Gross Area		13965

Area(SF)

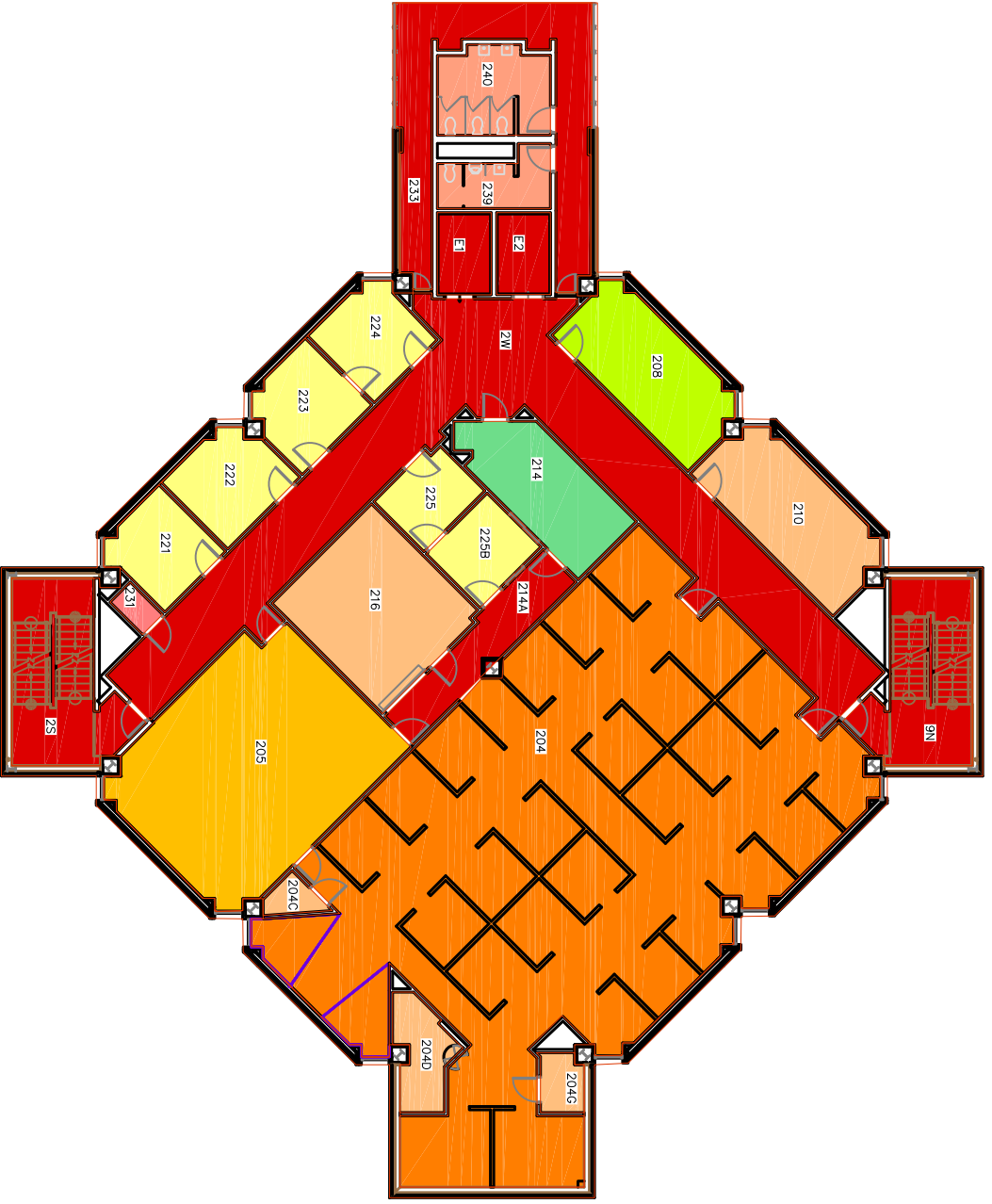


Interior Gross Area
7848

Exterior Gross Area
8182

Health Technologies Hall First Floor

- Custodial
- Circulation
- Toilet and Restroom
- Classroom
- Classroom Service
- Office
- Central Computer or Telecommunicati

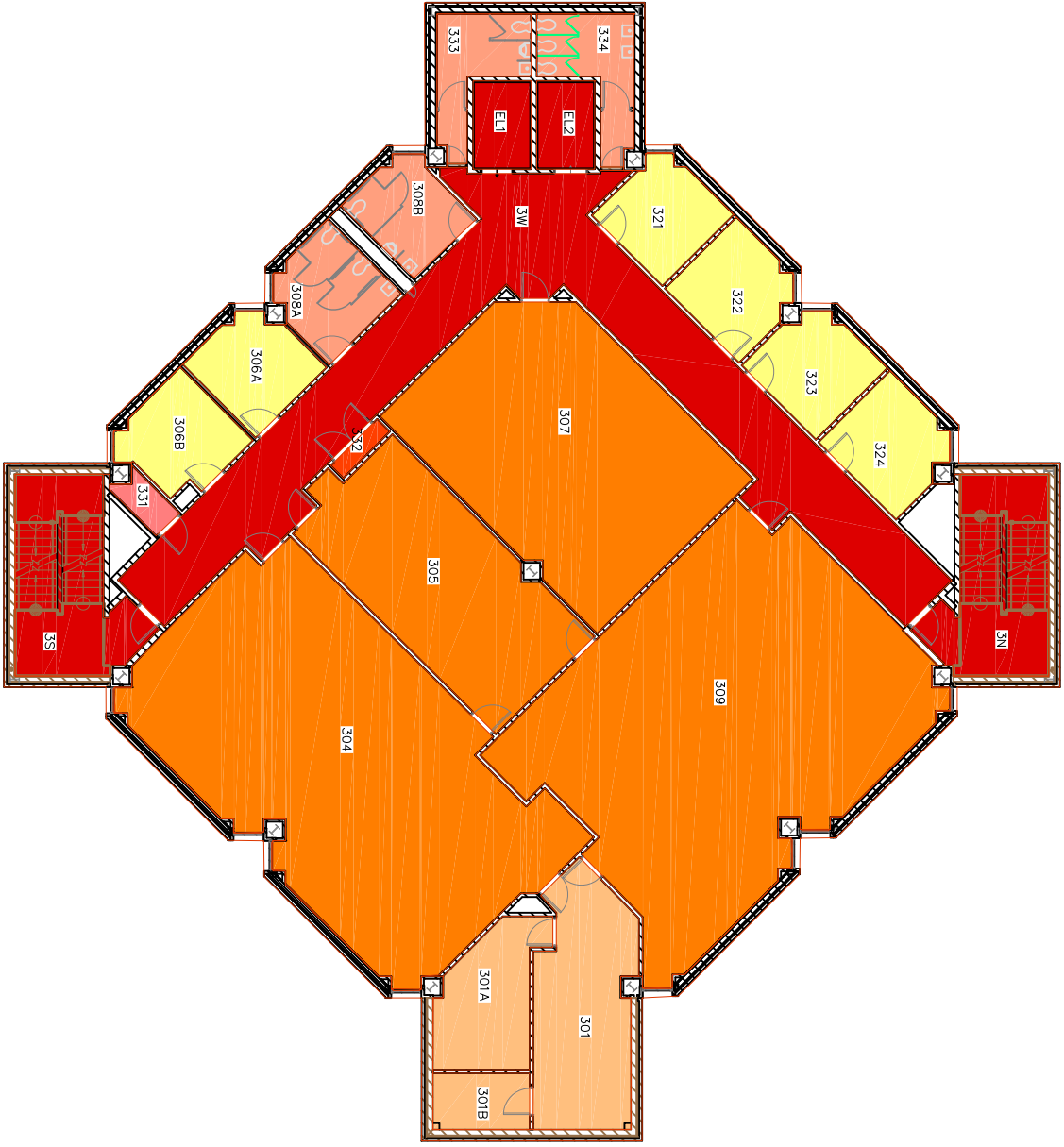


Interior Gross Area
8805

Exterior Gross Area
9386

Health Technologies Hall Second Floor

Room Type	Area(SF)
Custodial	20
Circulation	2318
Toilet and Restroom	236
Classroom	3035
Classroom Service	746
Class Laboratory	750
Office	722
Conference Room	255
Public Waiting	218

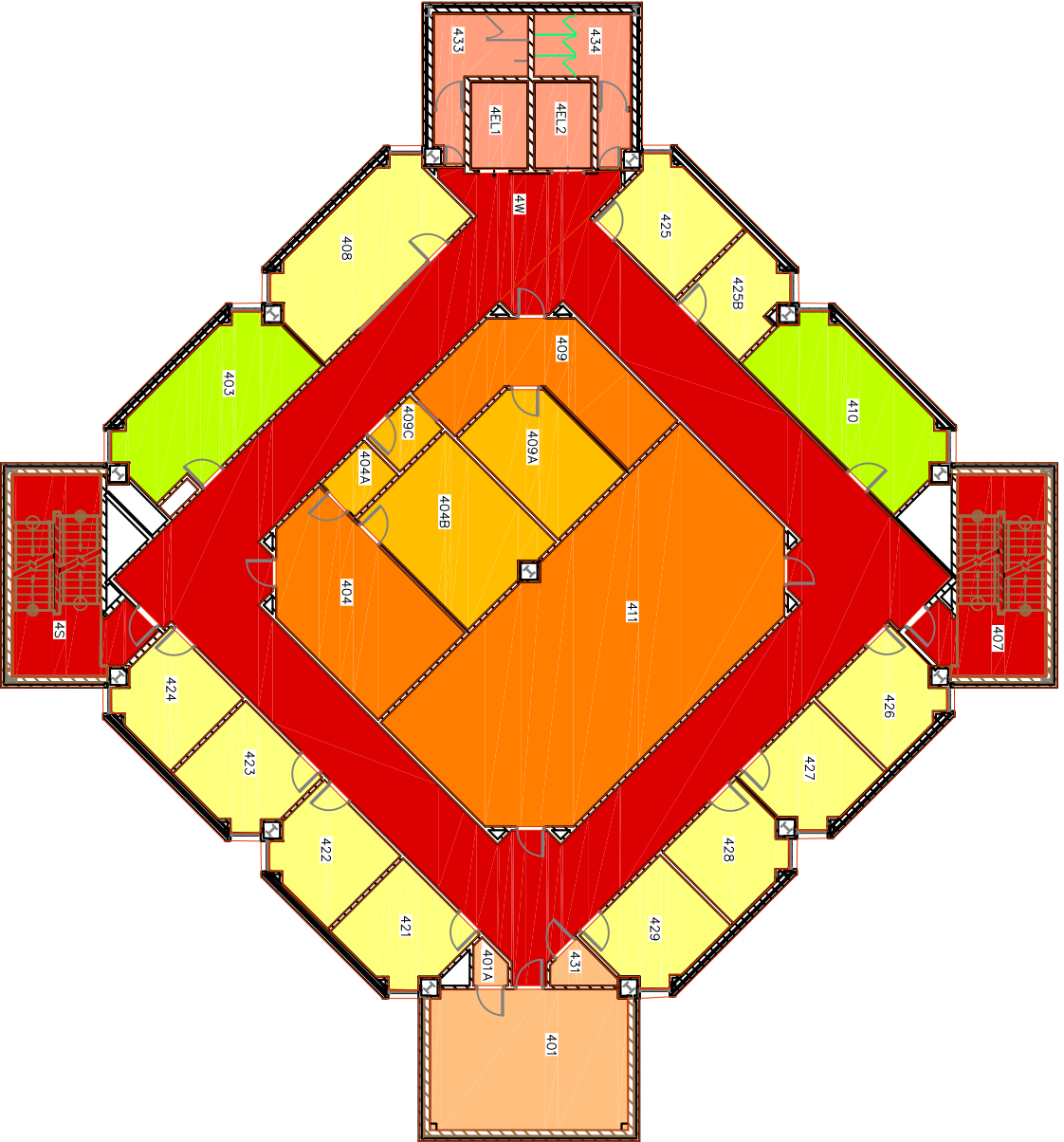


Interior Gross Area
8347

Exterior Gross Area
8955

Health Technologies Hall Third Floor

	Area(SF)
Custodial	27
Circulation	1738
Mechanical	16
Toilet and Restroom	479
Classroom	4293
Classroom Service	553
Office	800

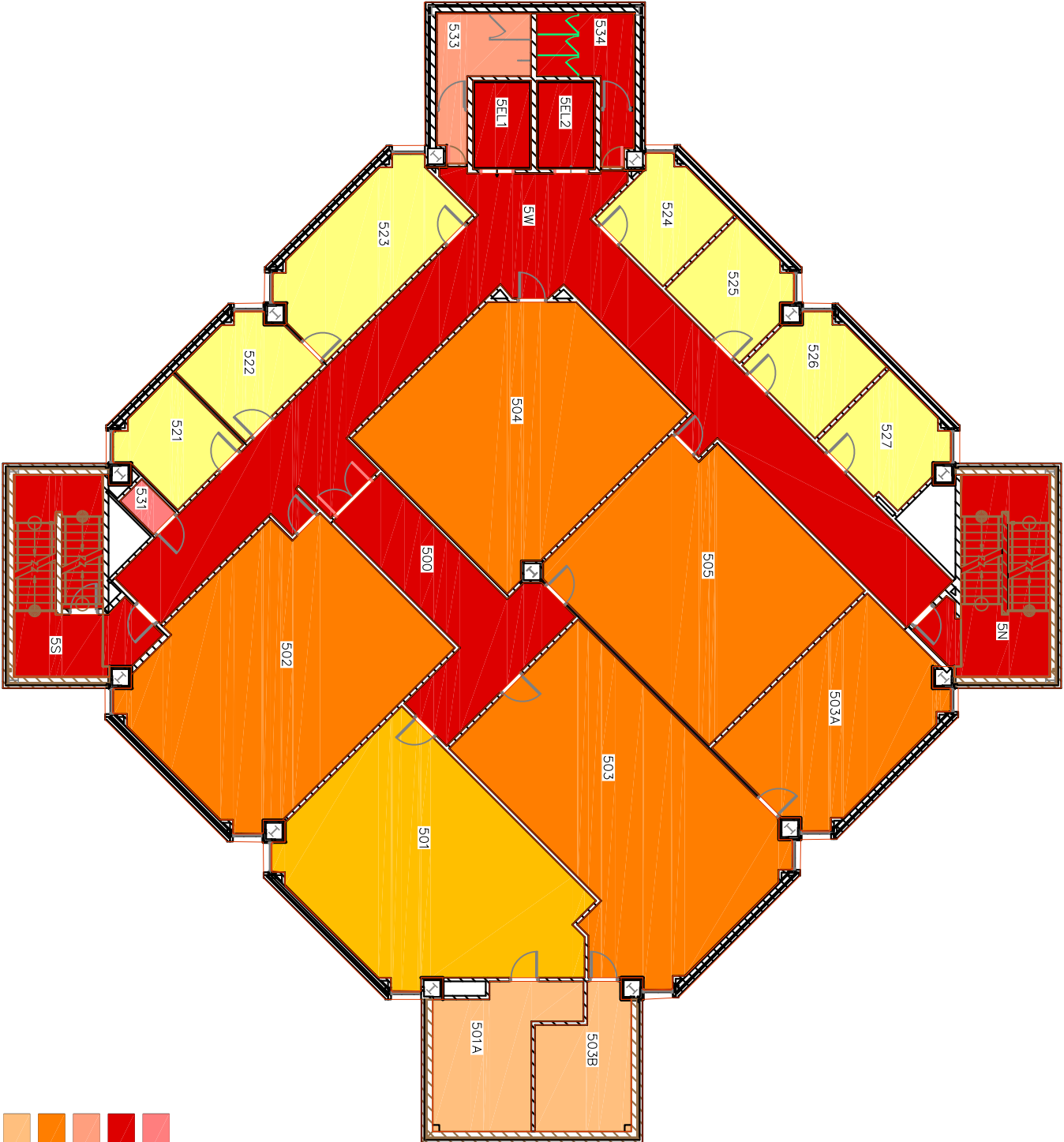


Interior Gross Area
8347

Exterior Gross Area
8955

Health Technologies Hall Fourth Floor

	Area(SF)
Circulation	2722
Toilet and Restroom	364
Classroom	1683
Classroom Service	410
Class Laboratory	506
Office	1615
Conference Room	532



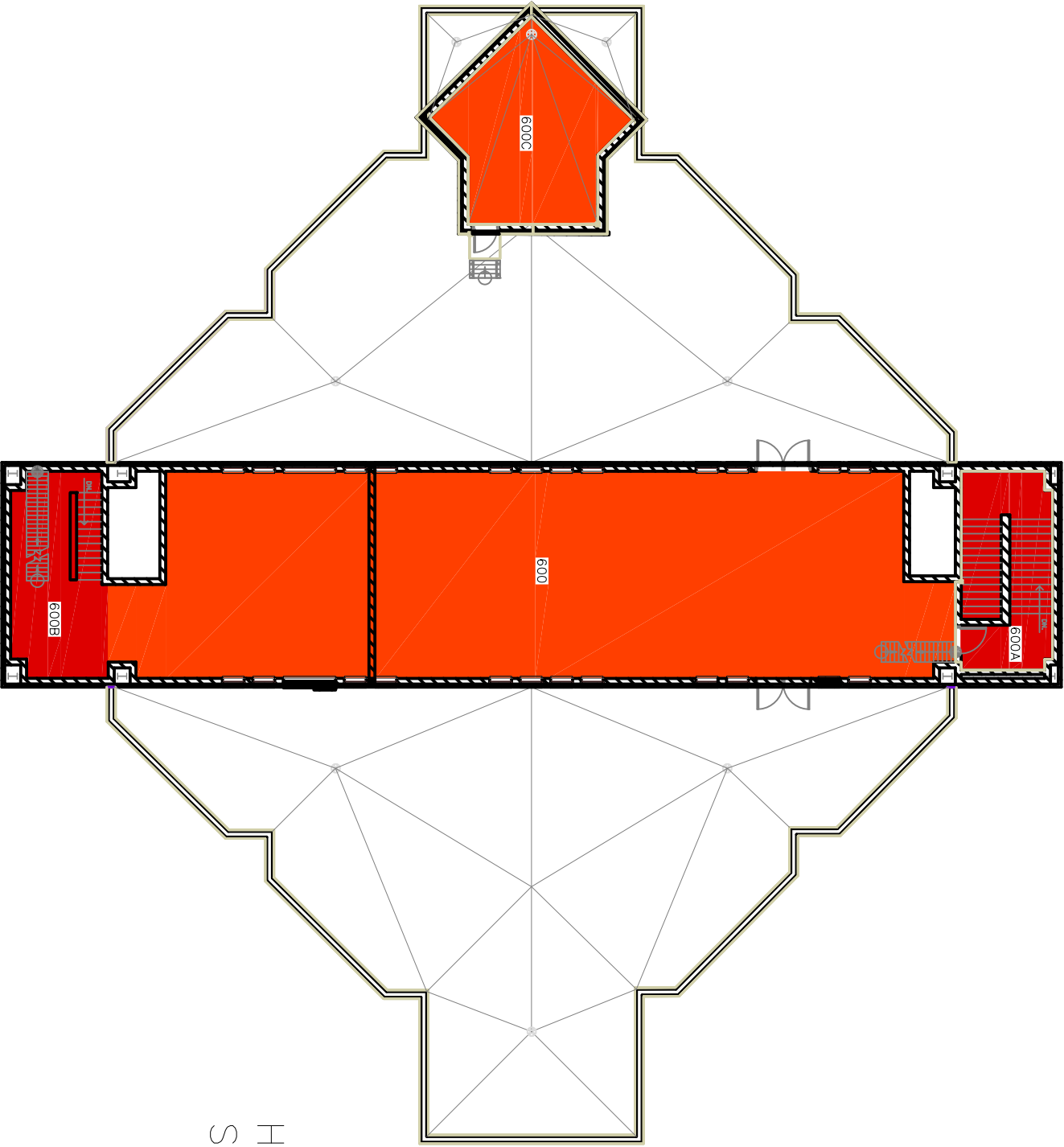
Interior Gross Area
8347

Exterior Gross Area
8955

Health Technologies Hall



Fifth Floor

	Area(SF)
Custodial	19
Circulation	2187
Toilet and Restroom	1111
Classroom	3445
Classroom Service	368
Class Laboratory	717
Office	1053

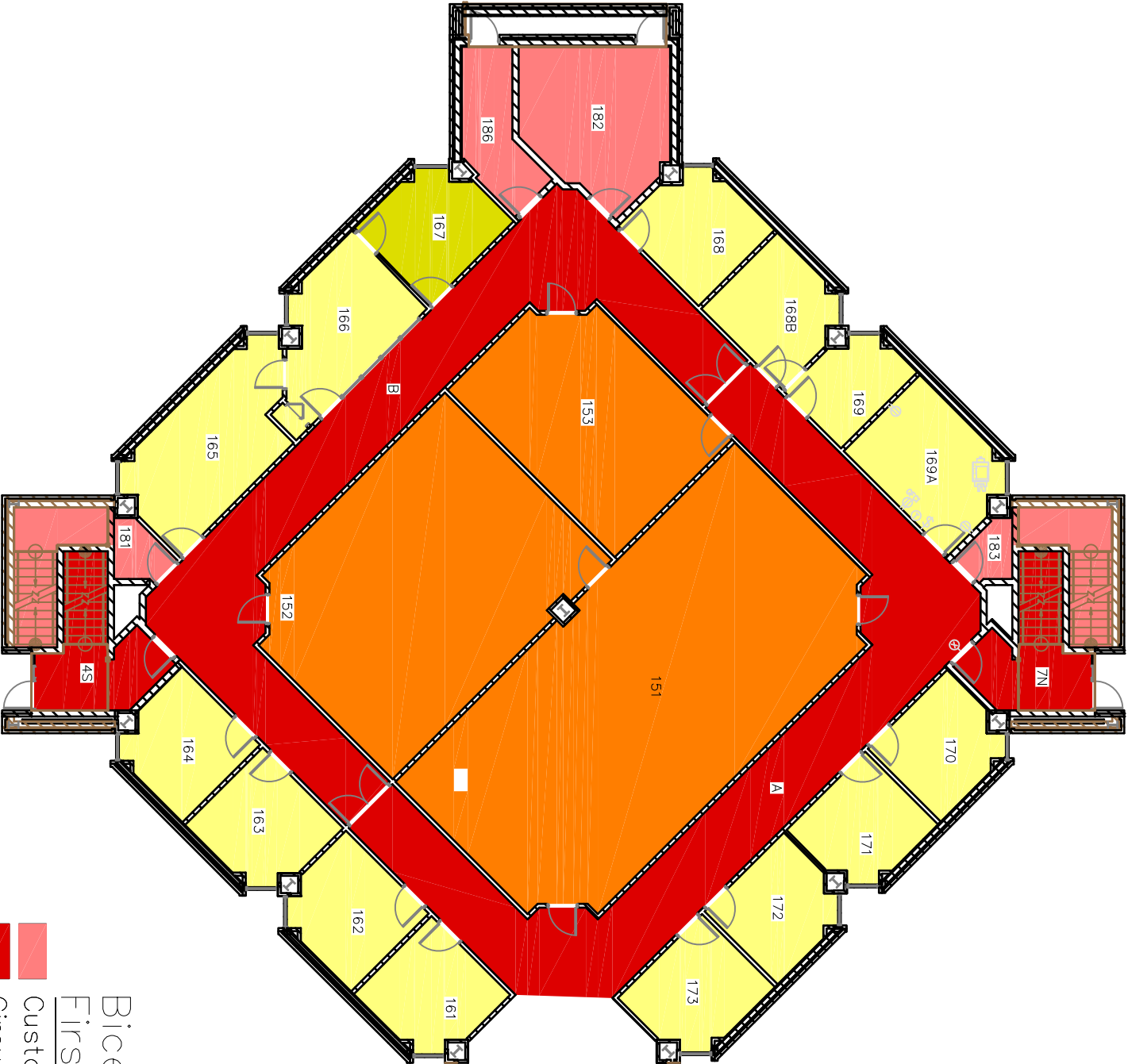


Health Technologies Hall

Sixth Floor

	Area(SF)
 Circulation	469
 Mechanical	2472

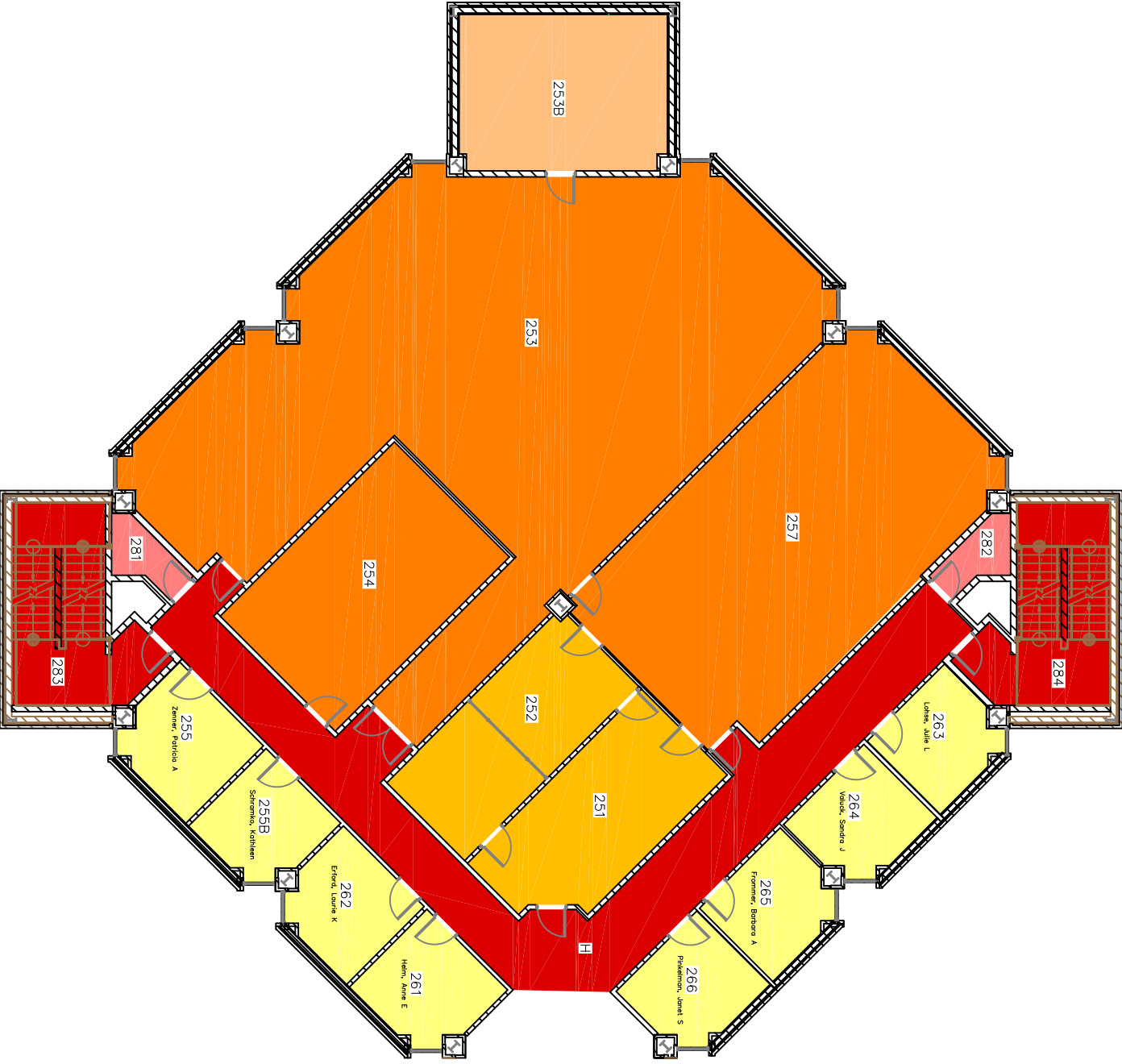
Interior Gross Area	3177
Exterior Gross Area	3547



- Custodial 603
- Circulation 1286
- Classroom 2575
- Office 2048
- Office Service 140

Bicentennial Hall
 First floor Area(SF)

Interior Gross Area	7752
Exterior Gross Area	8385

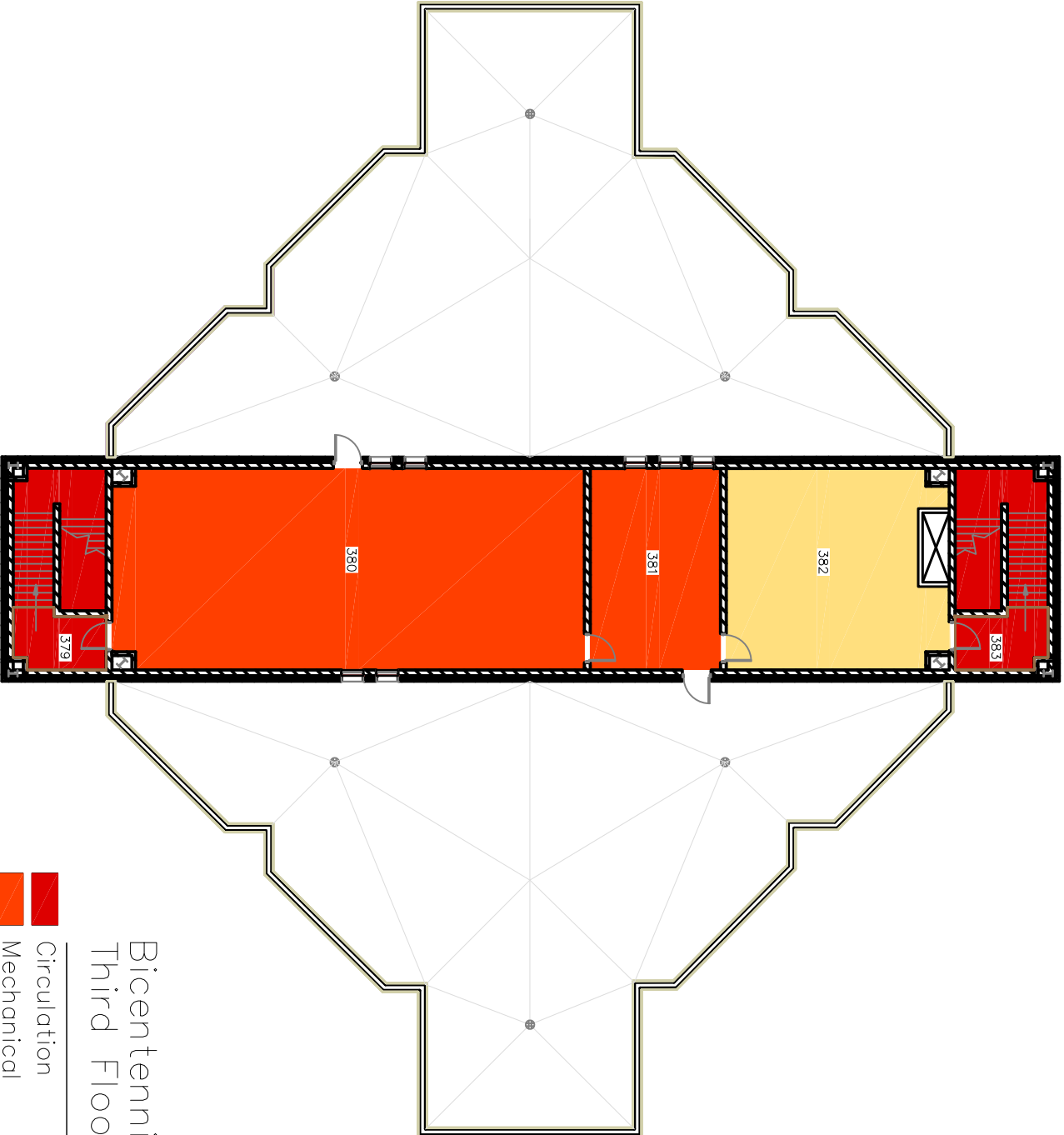


Classroom	3934
Class Laboratory	651
Office	1082
Circulation	1363
Custodial	87

Bicentennial Hall
Second Floor

Interior Gross Area	7868
Exterior Gross Area	8417

Area(SF)

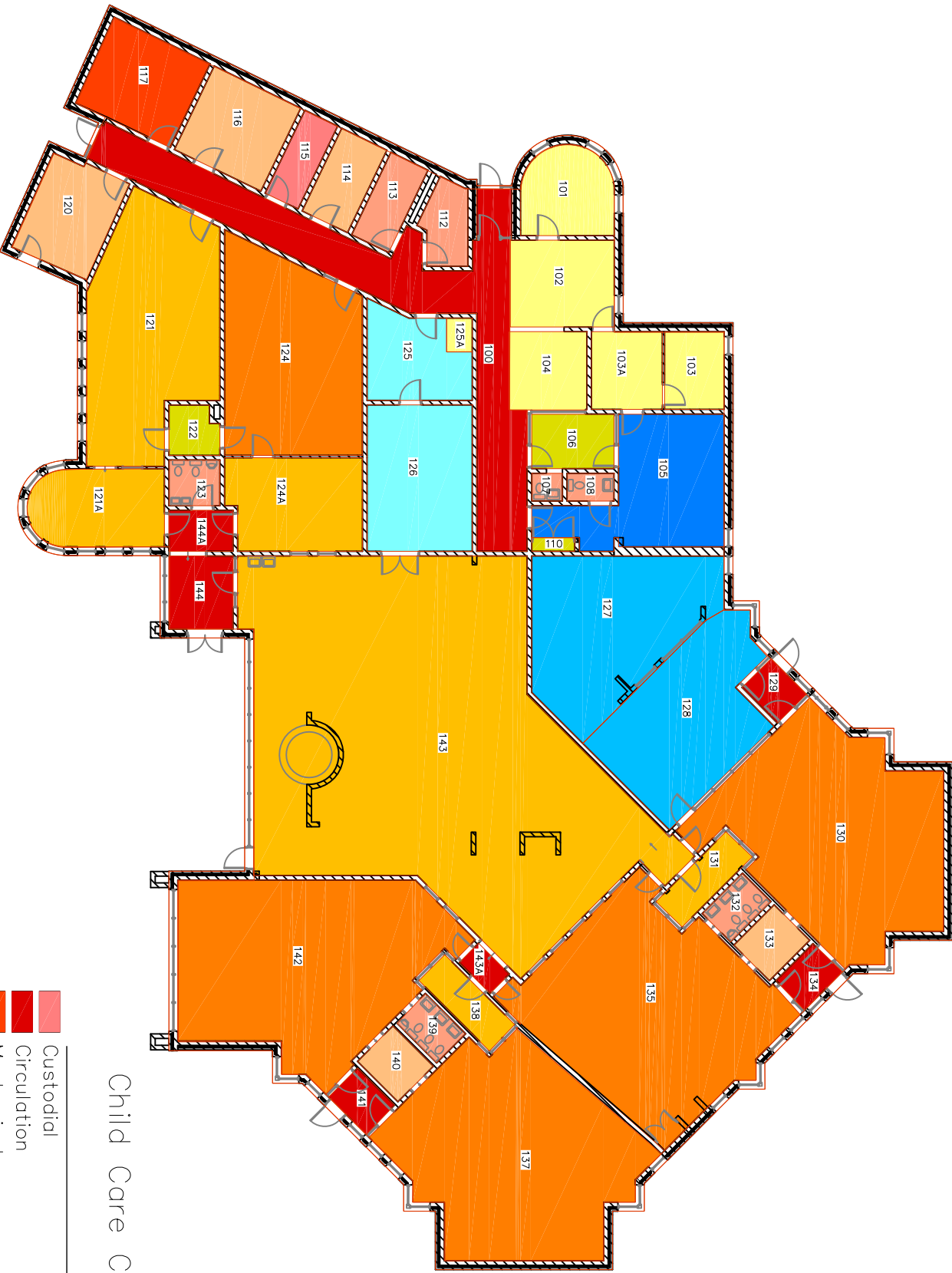


- Circulation 464
- Mechanical 1599
- Class Laboratory Service 553

Bicentennial Hall
Third Floor

Area(SF)

Interior Gross Area	2769
Exterior Gross Area	3144

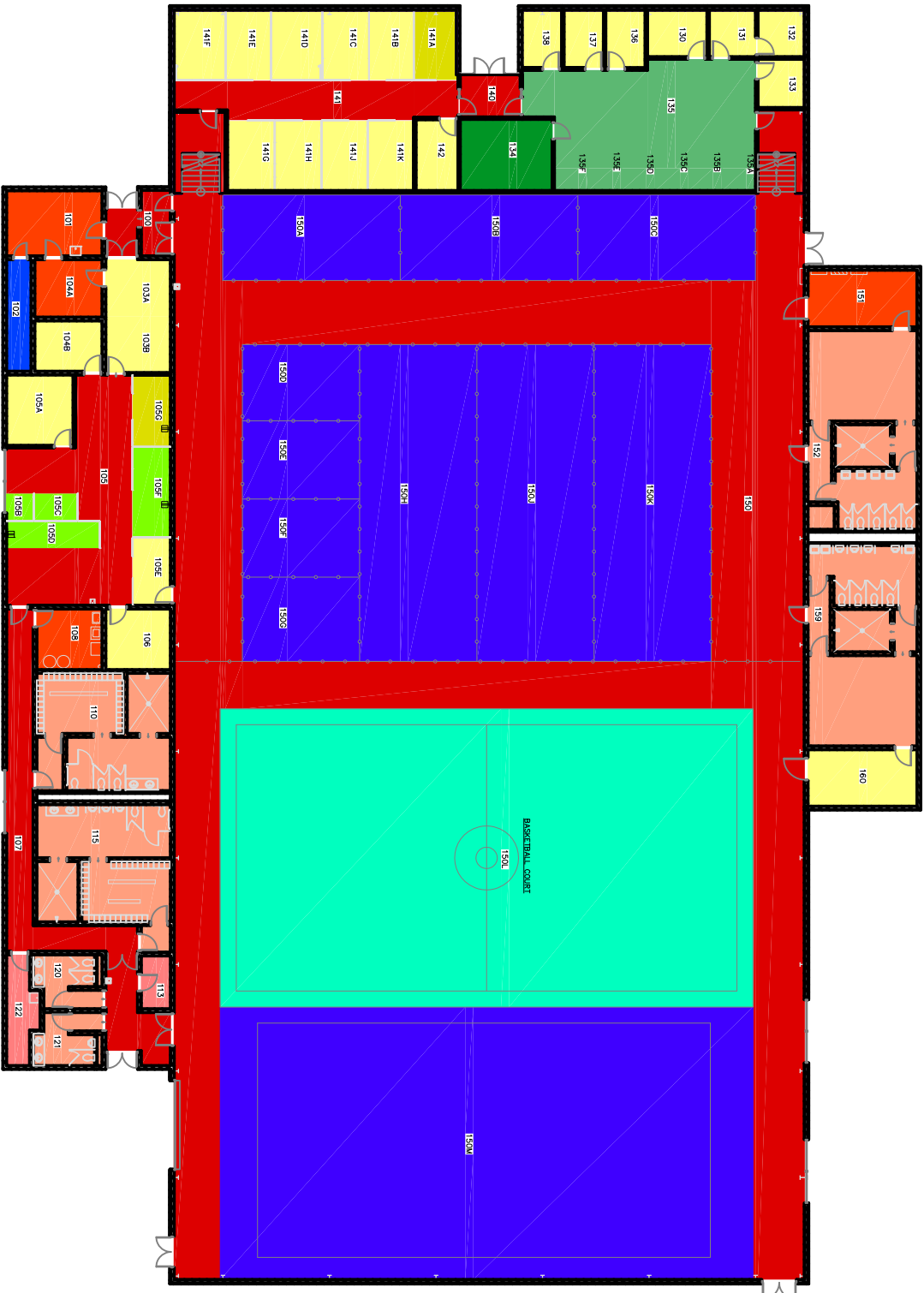


Child Care Center

	Custodial	71
	Circulation	1015
	Mechanical	210
	Toilet and Restroom	347
	Classroom	4124
	Classroom Service	591
	Class Laboratory	3708
	Office	717
	Office Service	158
	Food Facility Service	502
	Day Care	986
	Lounge	367

Interior Gross Area	13527
Exterior Gross Area	14346

Area(SF)

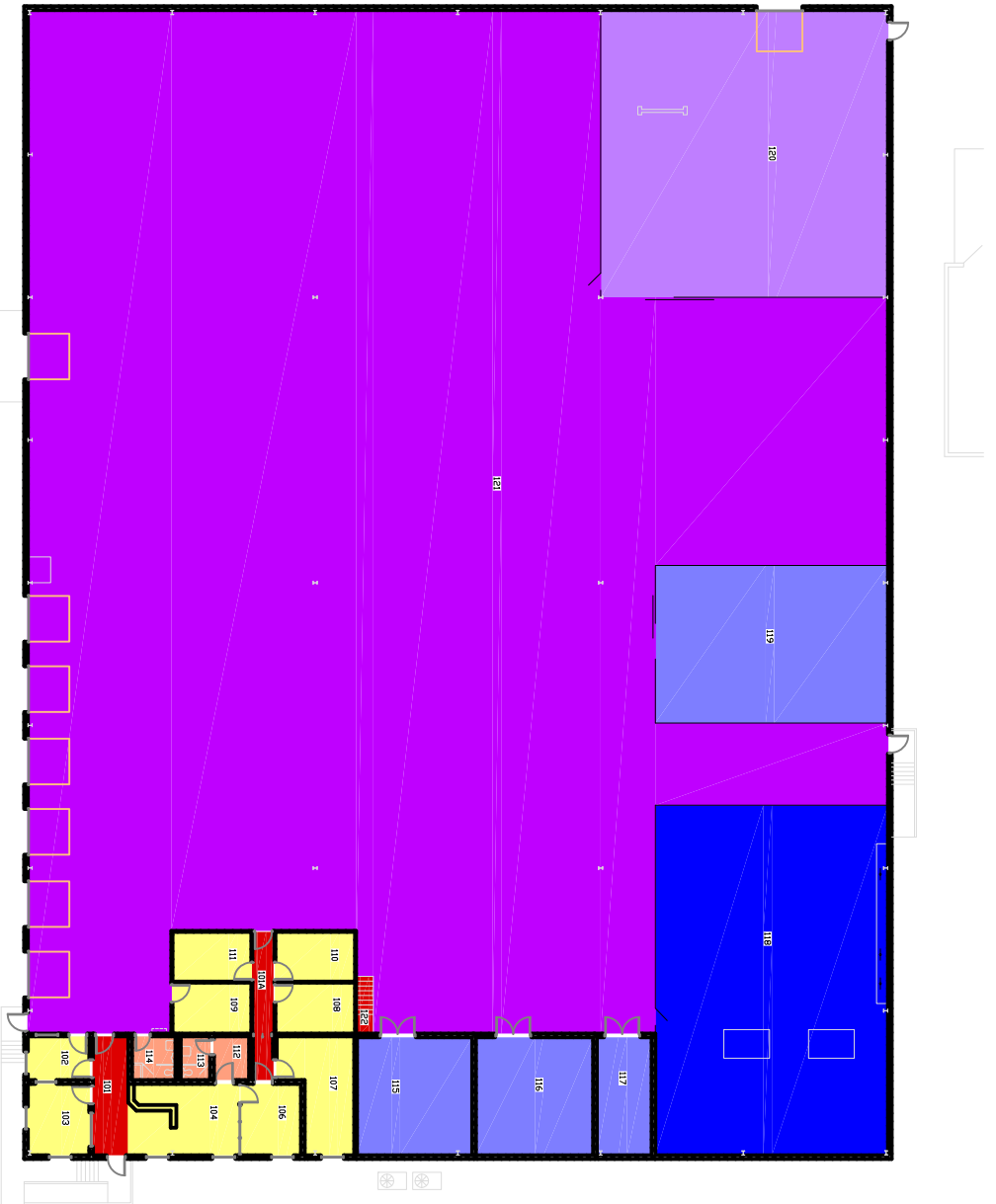


Interior Gross Area
35242

Exterior Gross Area
35923

Color	Room Name	Area(SF)
Red	Custodial	159
Red	Circulation	8684
Red	Mechanical	714
Red	Toilet and Restroom	2912
Red	Office	2699
Yellow	Office Service	198
Yellow	Study room	272
Yellow	Athletic or Physical Education	5600
Yellow	Central Computer or Telecommunications	96
Yellow	Central Storage	11953
Yellow	Staff On-Call Facility	953
Yellow	Staff On-Call Facility Service	231

Alumni Hall – Safety and Security/ Disability Services/Procurement

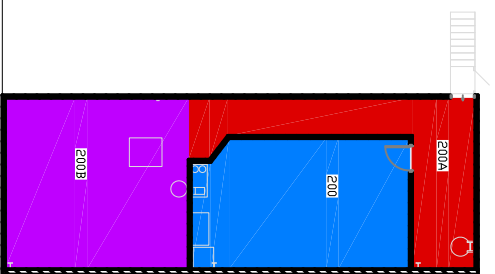


Interior Gross Area
30234

Exterior Gross Area
30704

Facility Services First Floor

Area(SF)	Description
251	Circulation
145	Toilet and Restroom
1296	Office
2499	Shop
2163	Shop Service
2533	Vehicle Storage Service
21118	Central service



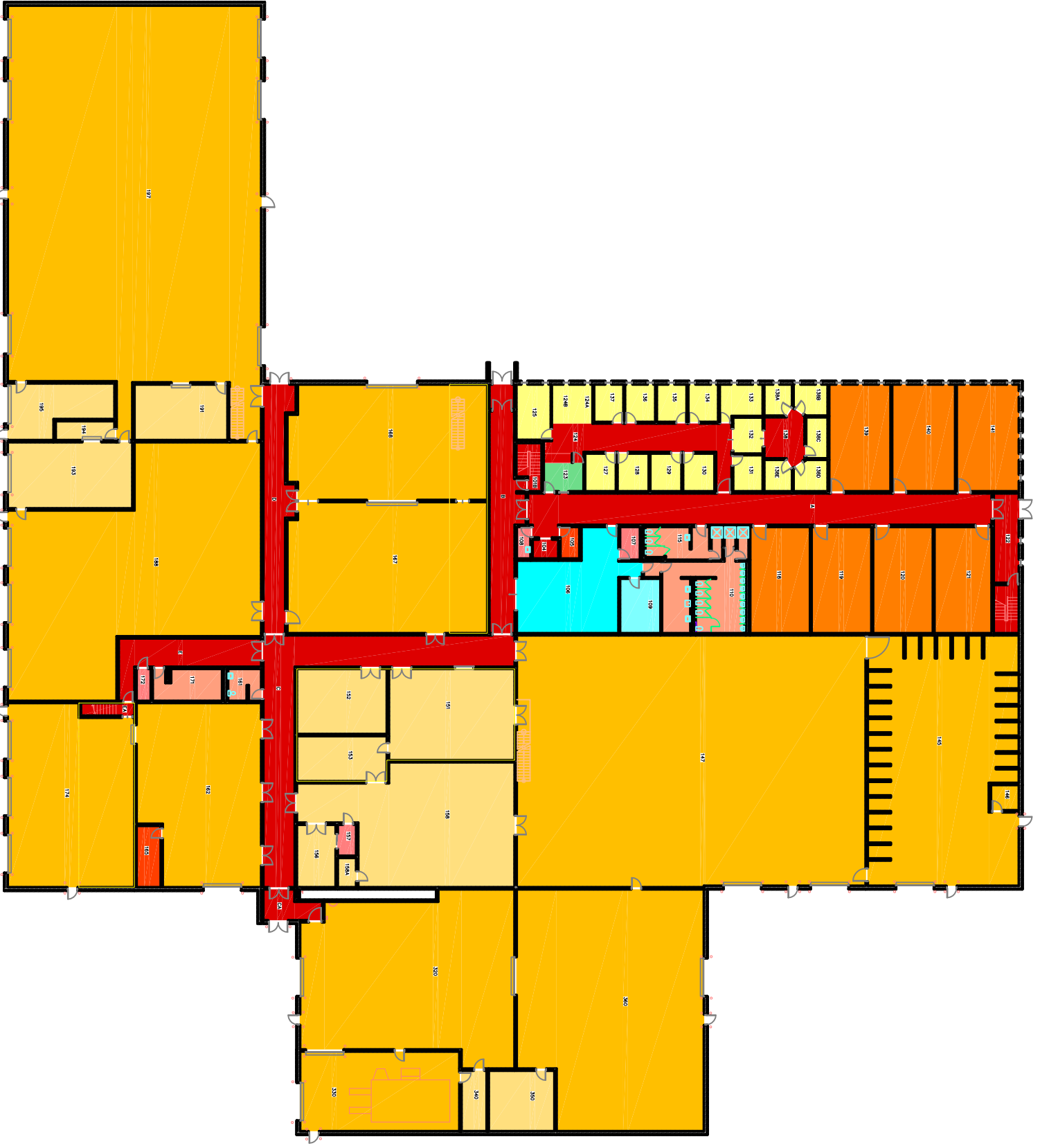
Interior Gross Area
1178

Exterior Gross Area
1283

Facility Services
Second Floor

Area(SF)

	Circulation	302
	Lounge	420
	Central service	472

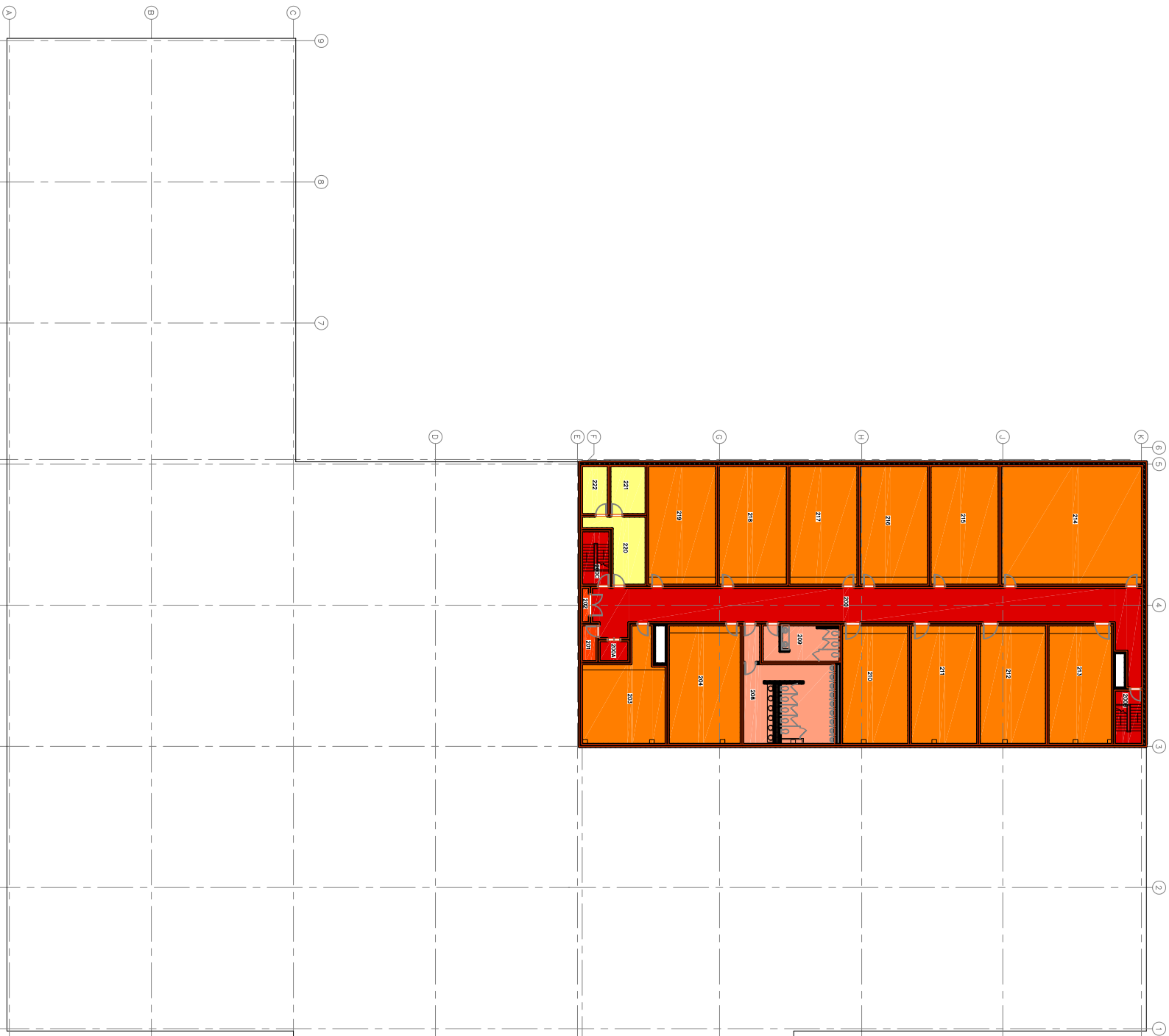


Interior Gross Area
71044

Exterior Gross Area
72919

Transportation Technologies (TT)
First Floor

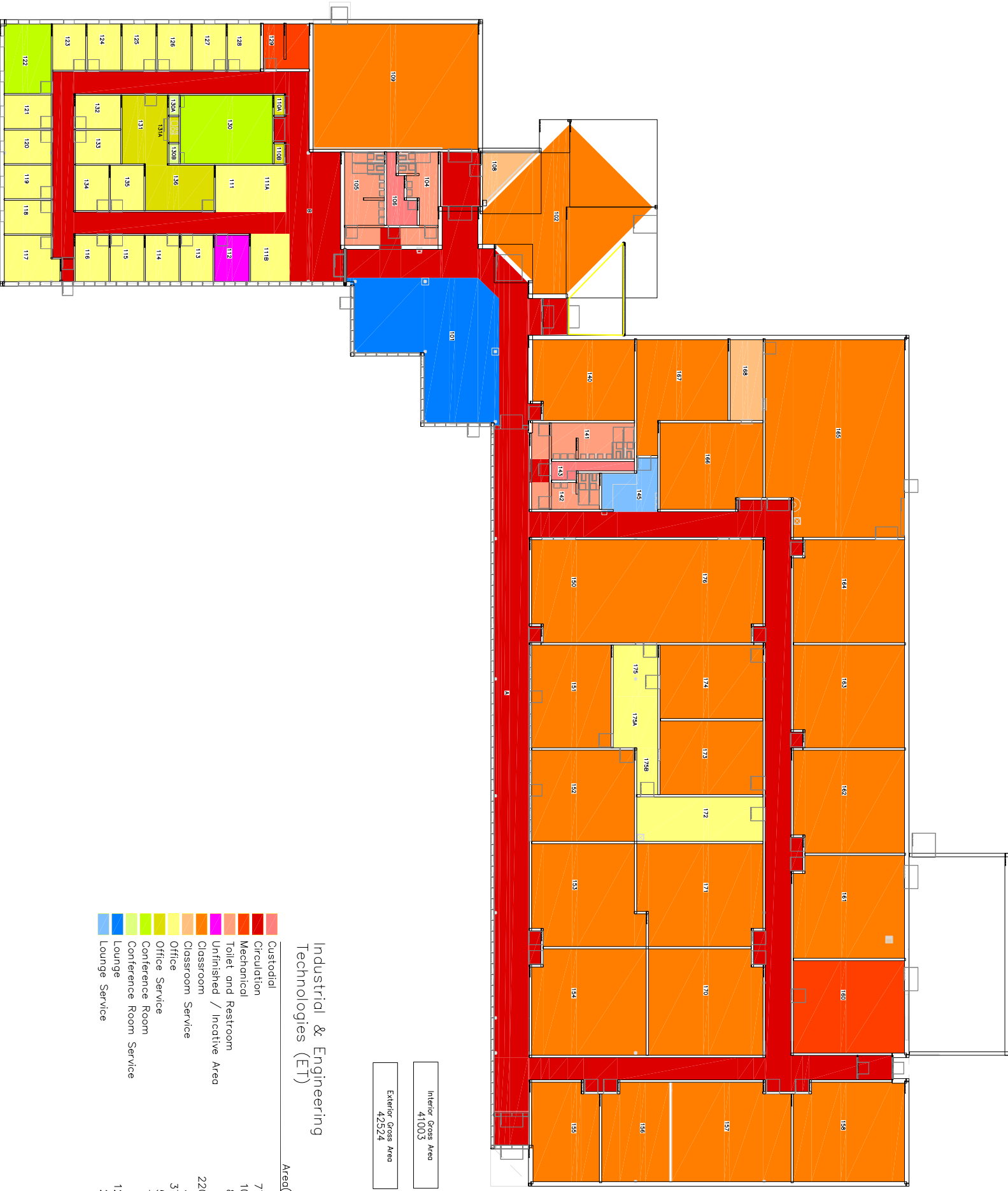
Color	Room Type	Area(SF)
Light Red	Custodial	213
Red	Circulation	6308
Orange	Mechanical	2110
Light Orange	Toilet and Restroom	1326
Yellow	Classroom	4546
Light Yellow	Class Laboratory	4503
Light Green	Class Laboratory Service	7109
Light Blue	Office	2102
Light Cyan	Food Facility	908
Light Green	Food Facility Service	222
Light Green	Public Waiting	114



Interior Gross Area	12545
Exterior Gross Area	12974

Transportation Technologies (TT)
Second Floor

Area(SF)	Area(SF)
Circulation	1999
Mechanical	67
Toilet and Restroom	879
Classroom	8500
Office	462

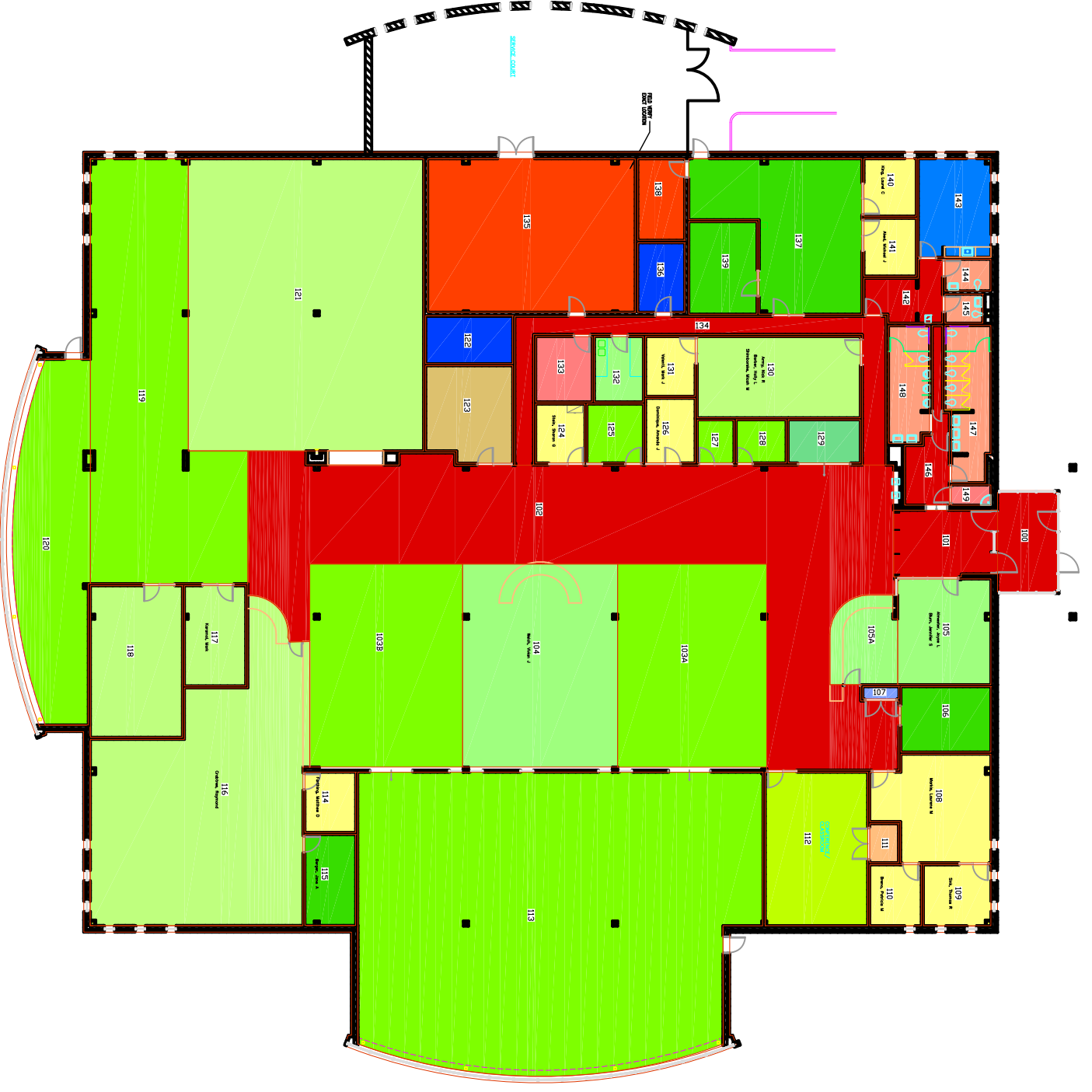


Industrial & Engineering Technologies (ET)

Color	Room Type	Area (SF)
Light Red	Custodial	197
Red	Circulation	7749
Dark Red	Mechanical	1004
Orange	Toilet and Restroom	890
Light Orange	Unfinished / Inactive Area	131
Yellow	Classroom	22062
Light Green	Classroom Service	339
Green	Office	3778
Light Green	Office Service	562
Light Green	Conference Room	778
Light Green	Conference Room Service	32
Blue	Lounge	1295
Light Blue	Lounge Service	202

Interior Gross Area
41003

Exterior Gross Area
42524

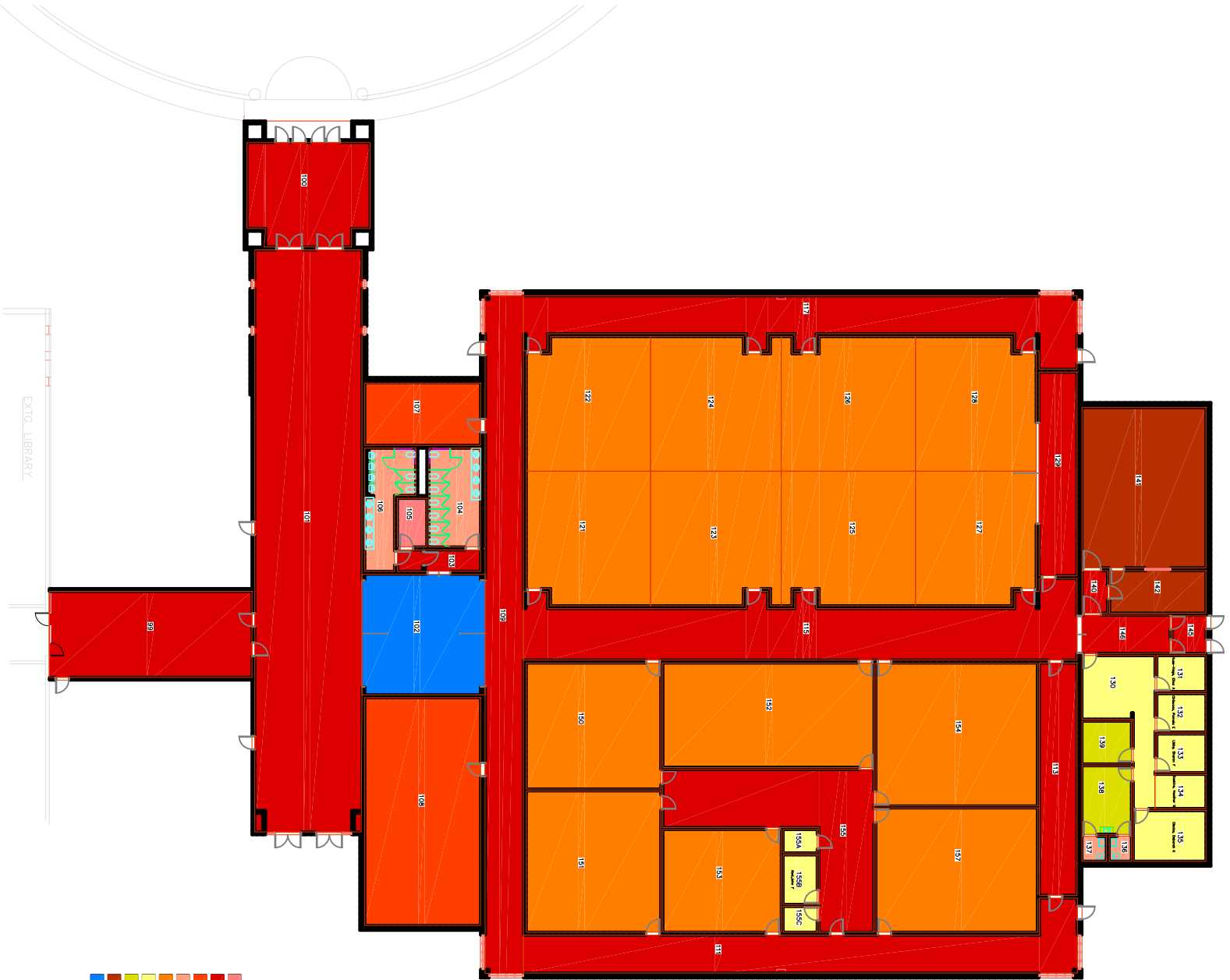


Interior Gross Area
29340

Exterior Gross Area
30231

Library First Floor

Color	Room Type	Area(SF)
Light Red	Custodial	170
Red	Circulation	4627
Orange	Mechanical	1348
Light Orange	Toilet and Restroom	524
Yellow-Orange	Classroom Service	43
Yellow	Open Laboratory	307
Light Green	Office	1390
Green	Conference Room	596
Light Green	Study room	9662
Light Green	Stack	5778
Light Green	Processing room	1896
Light Green	Study Service	1404
Light Green	Lounge	271
Blue	Central Computer or Telecommunications Service	281
Light Blue	Central Computer or Telecommunications Service	118

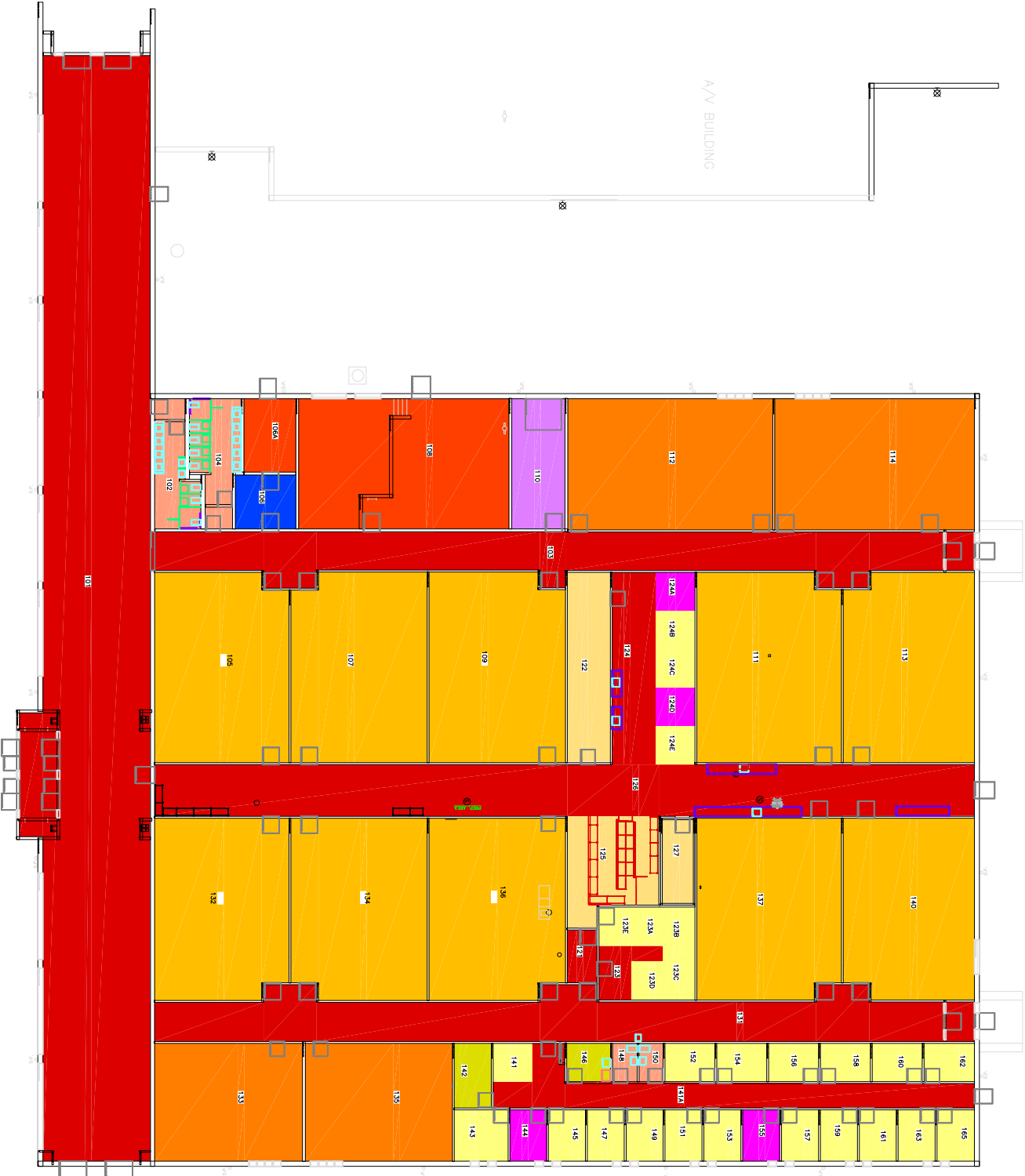


Interior Gross Area
33555

Exterior Gross Area
34628

Audio Visual Classroom Center

Color	Room Category	Area(SF)
Light Red	Custodial	77
Red	Circulation	12868
Dark Red	Mechanical	1817
Light Orange	Toilet and Restroom	591
Orange	Classroom	13388
Yellow	Office	1134
Light Green	Office Service	298
Dark Green	Media Production	1299
Blue	Lounge	803

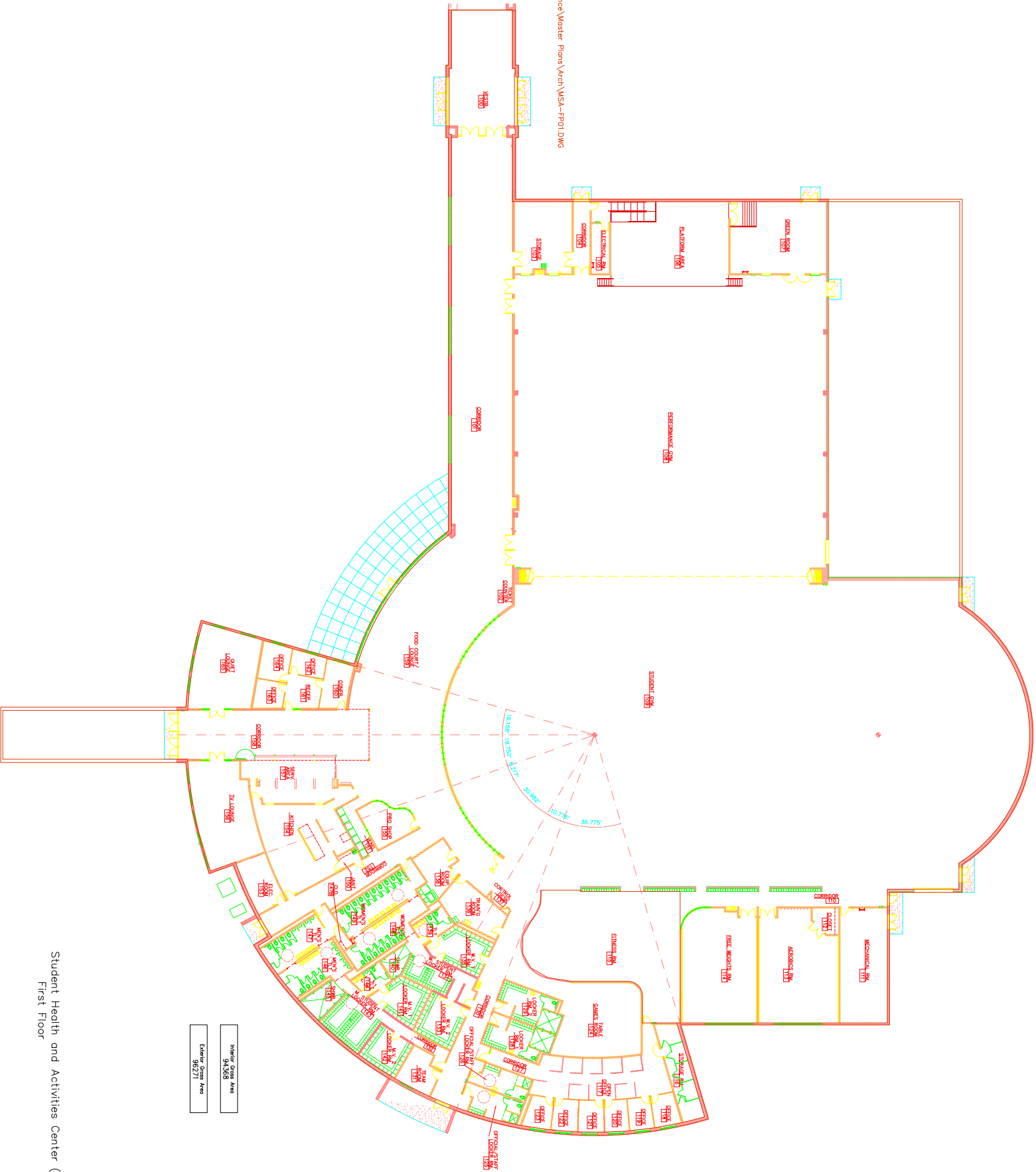


Interior Gross Area
40170

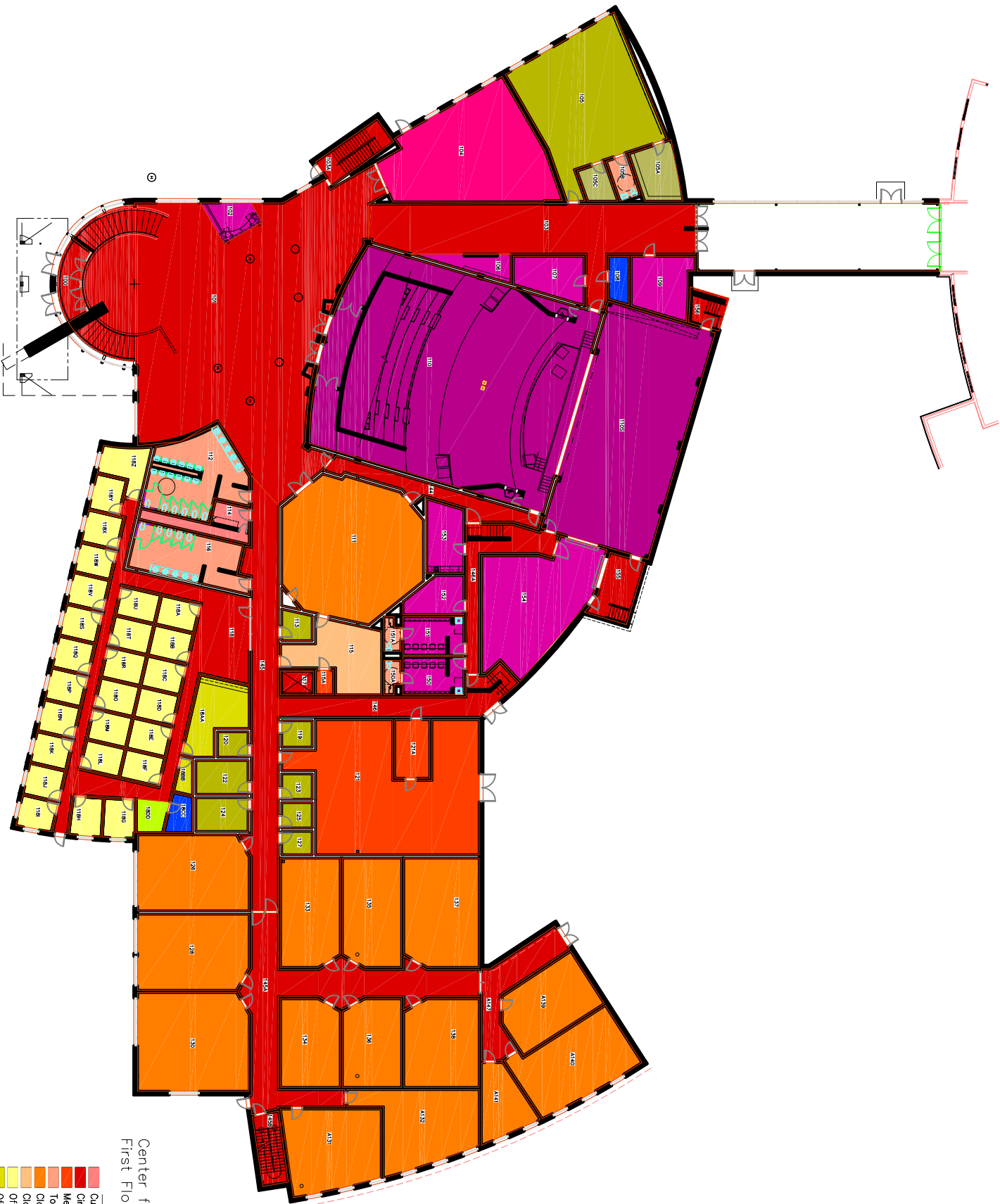
Exterior Gross Area
41285

Math/Science Center (MS) First Floor

Function	Area(SF)
Circulation	13694
Mechanical	1672
Toilet and Restroom	640
Unfinished / Inactive Area	363
Classroom	4717
Class Laboratory	13392
Class Laboratory Service	570
Office	2464
Office Service	219
Central Computer or Telecommunications	175
Central Service Support	372



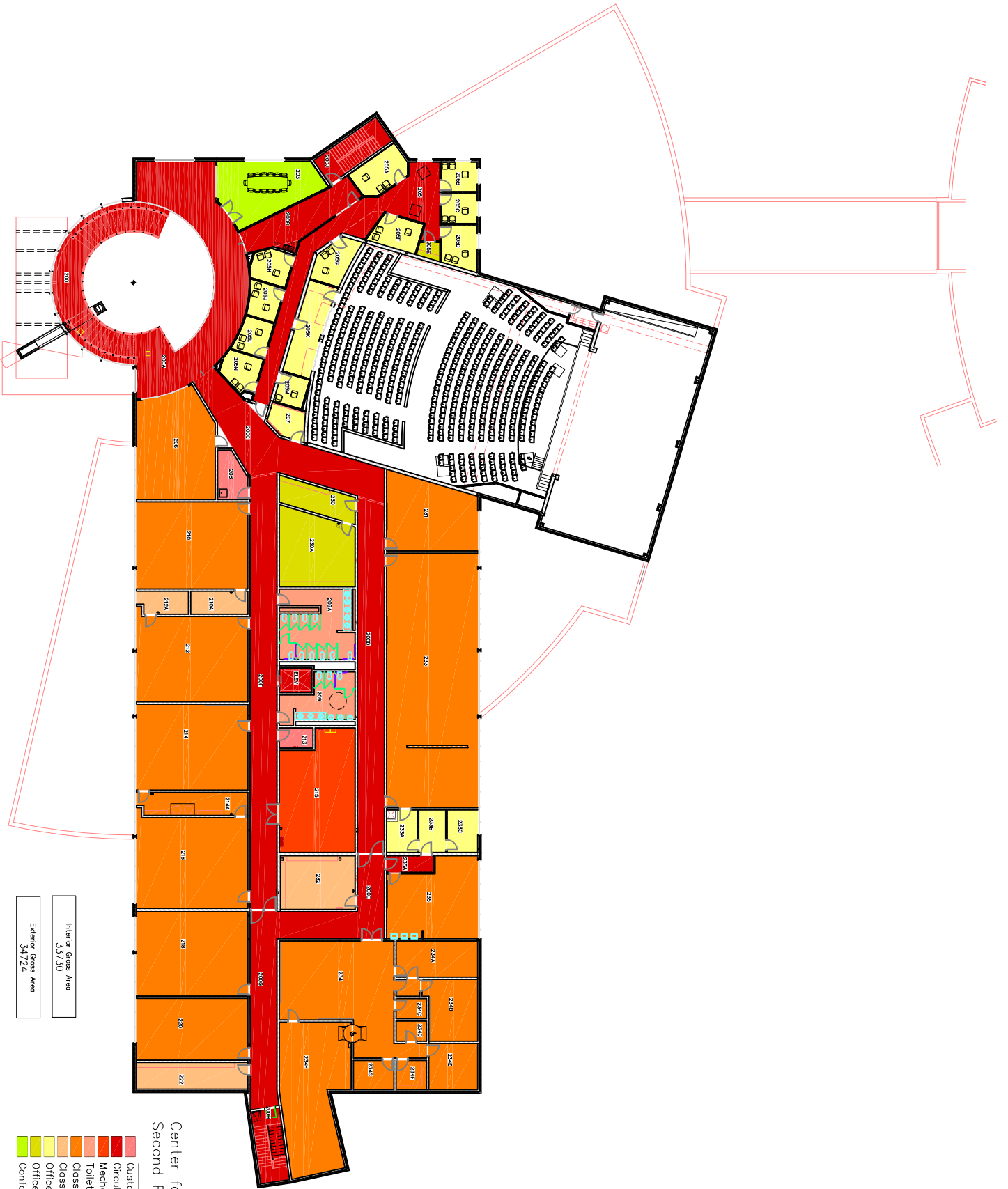
Student Health and Activities Center (CH)
First Floor



Center for Fine & Performing Arts (PA)
First Floor

Interior Gross Area	45244
Exterior Gross Area	46487

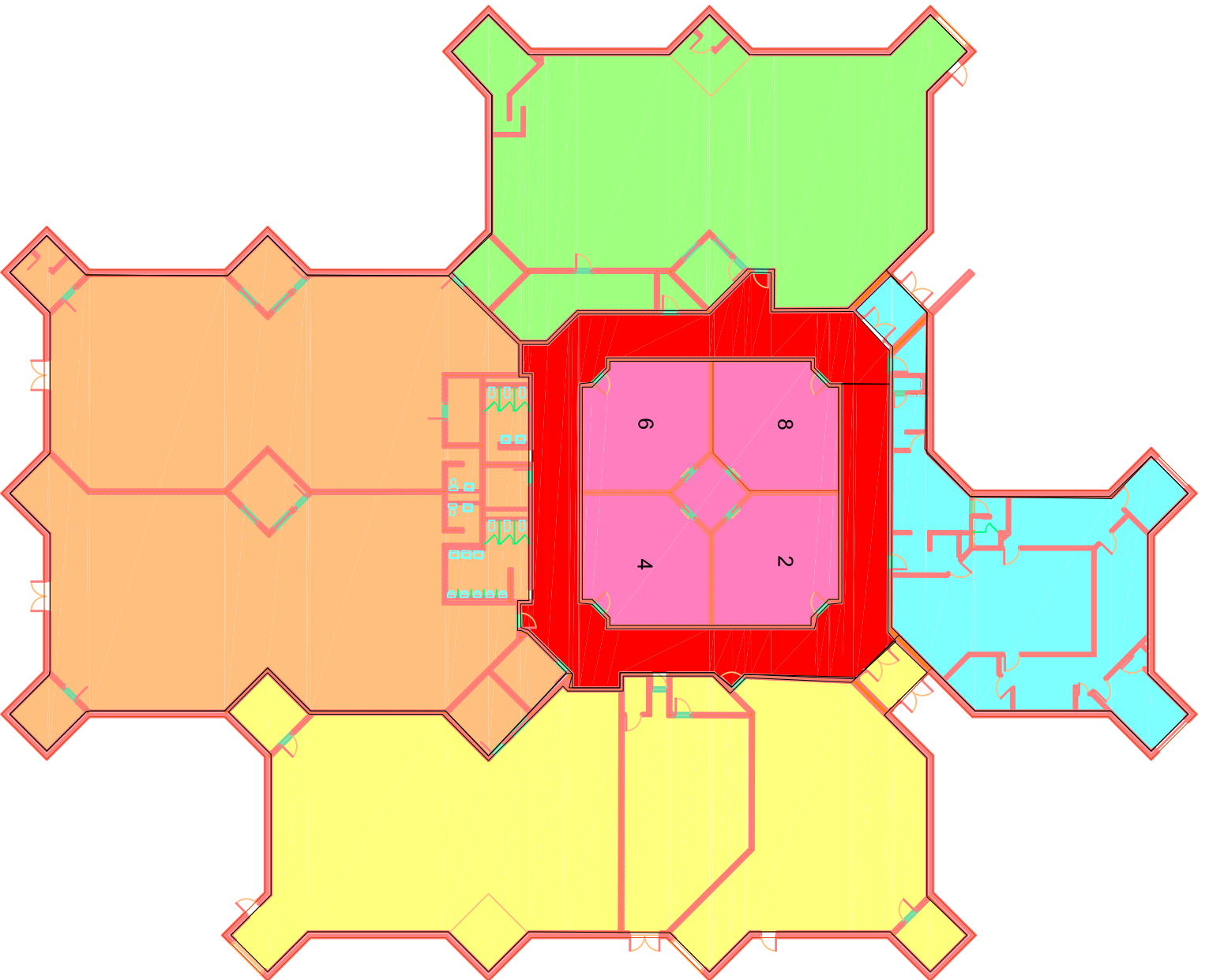
	Area(SF)
Custodial	185
Circulation	12423
Mechanical	19447
Toilet and Restroom	1228
Classroom	9965
Classroom Service	436
Office	2654
Office Service	353
Conference Room	84
Demonstration	2063
Demonstration Service	291
Assembly	6859
Assembly Service	2673
Exhibition	1303
Central Computer or Telecommunications	161



Center for Fine & Performing Arts (PA)
Second Floor

Interior Gross Area	33,730
Exterior Gross Area	34,724

Room Type	Area (SF)
Custodial	172
Circulation	6,714
Mechanical	759
Toilet and Restroom	725
Classroom	11,803
Classroom Service	829
Office	1,866
Office Service	686
Conference Room	456



FOUNDERS HALL
(Formerly PCA Classrooms)

Interior Gross Area
27596

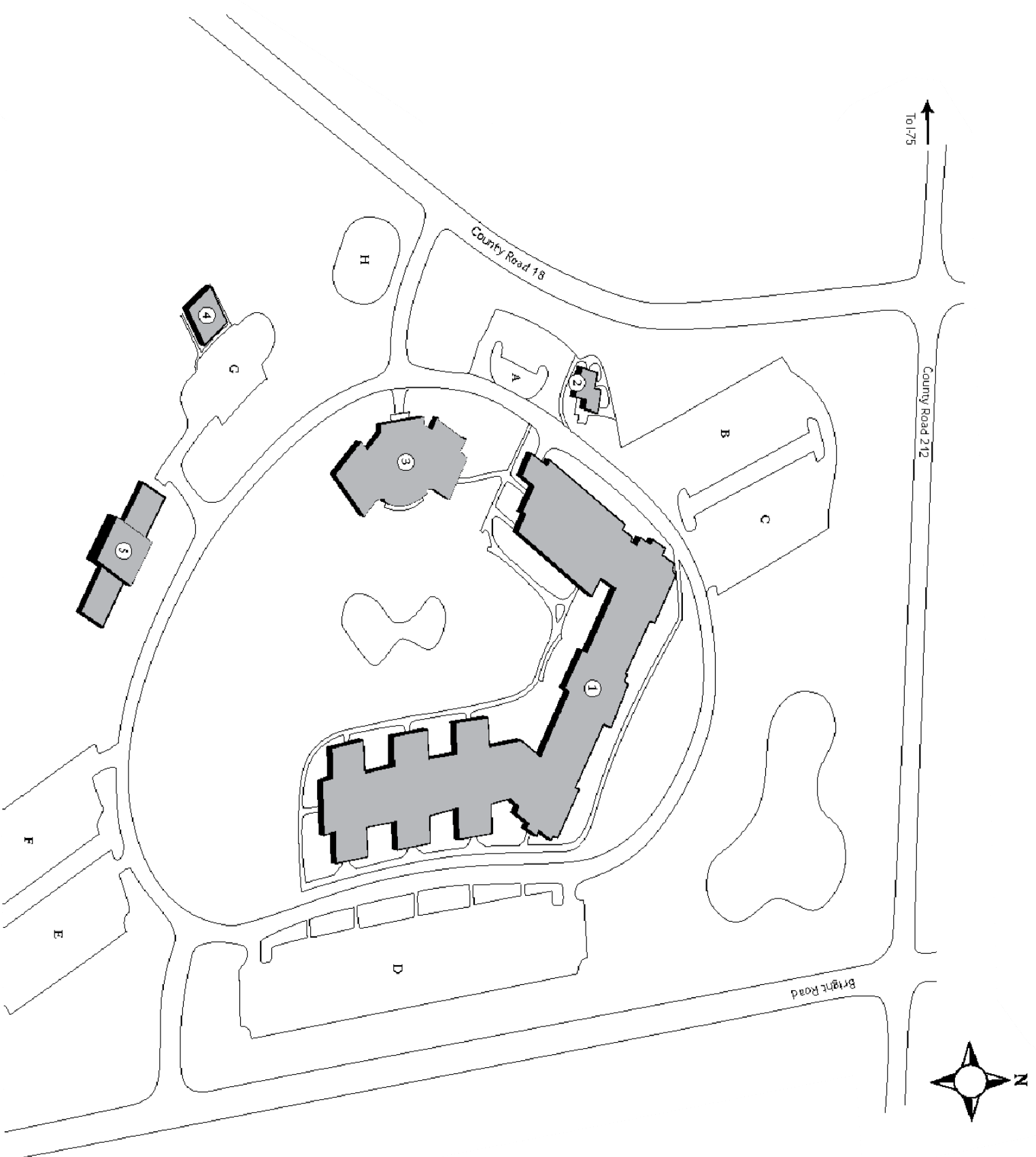
Exterior Gross Area
28727

- 8,503 sq. ft.
- 4,587 sq. ft.
- 2,602 sq. ft.
- 2,580 sq. ft.
- 20,995 sq. ft. less circulation
- 6,478 sq. ft.
- 7,863 sq. ft.

Findlay-area Campus

BUILDING NAMES:

1. EDUCATION CENTER
2. FINDLAY EDUCATION CENTER HOUSE
3. COMMUNITY EDUCATION & WELLNESS
4. CHILD CARE



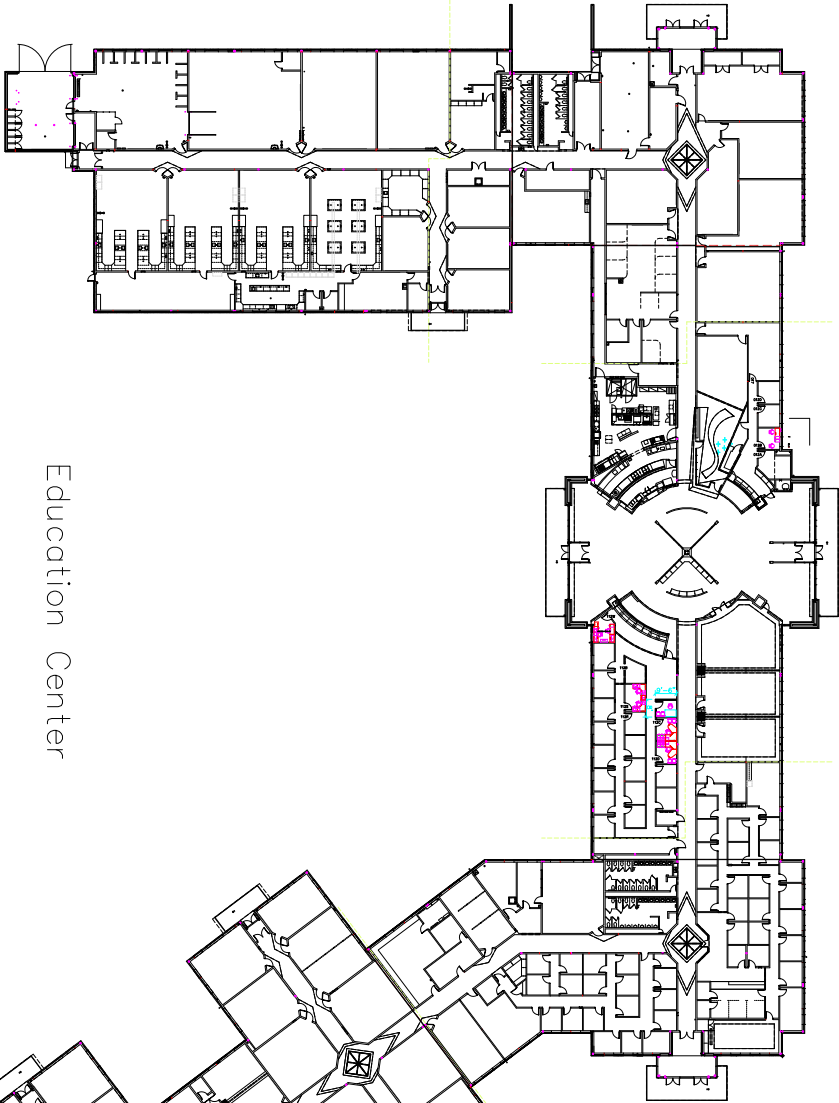
REVISION		TITLE:	
		OWENS COMMUNITY COLLEGE FINDLAY, OHIO	

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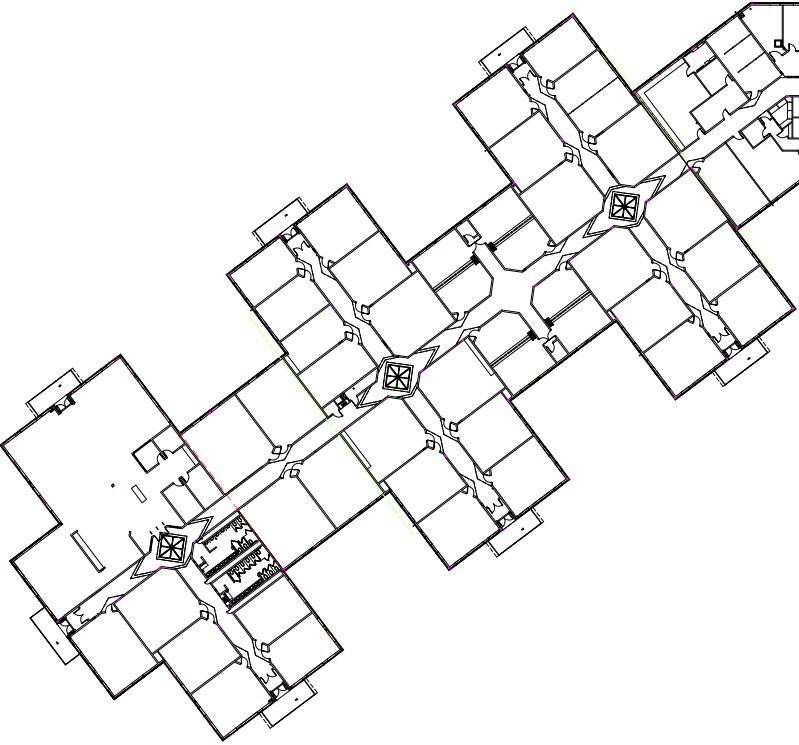
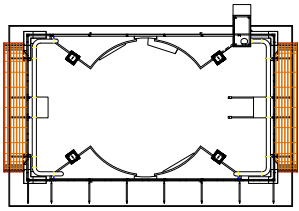
DATE	
DRAWN:	
CHKD:	
APP'D:	

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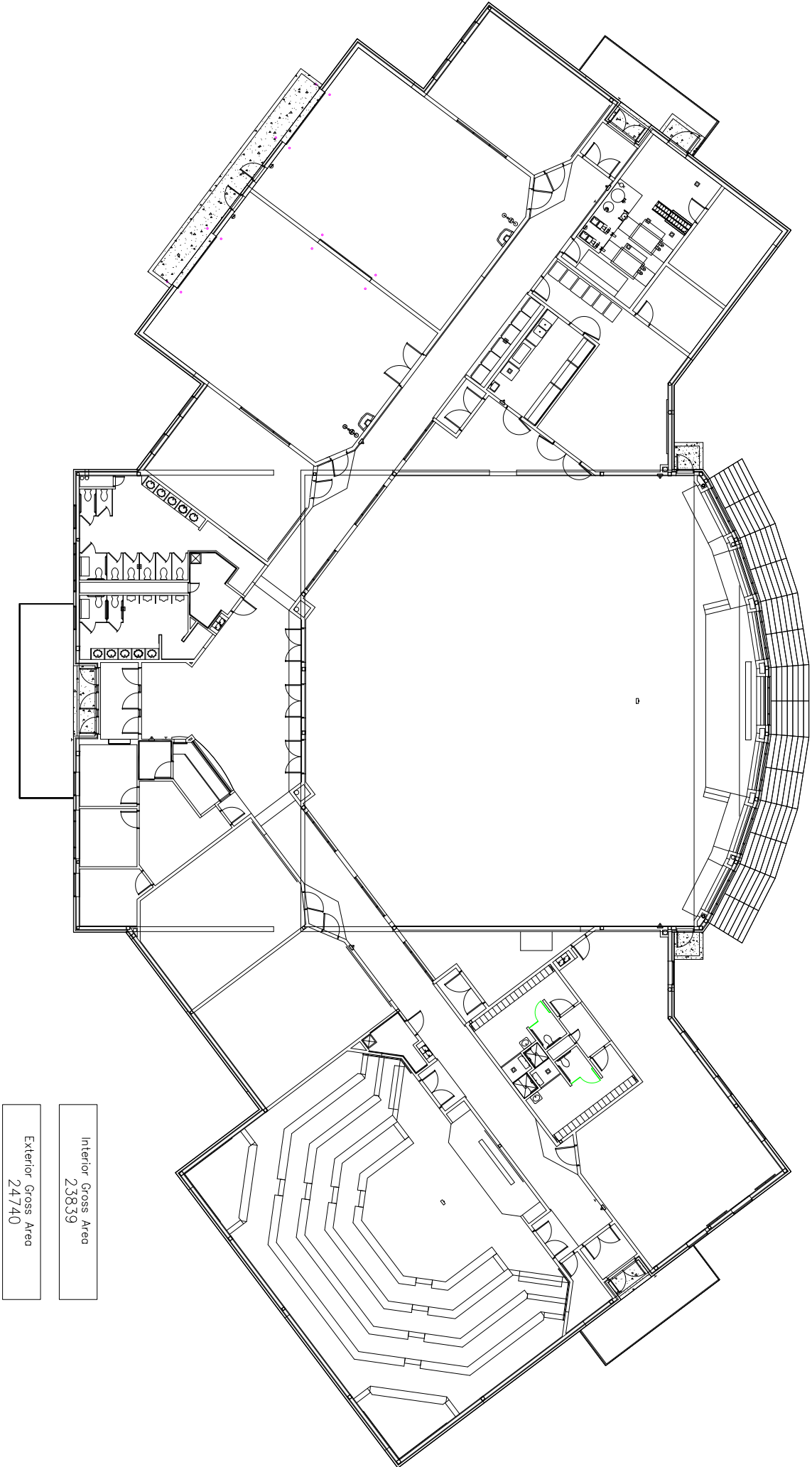




Education Center

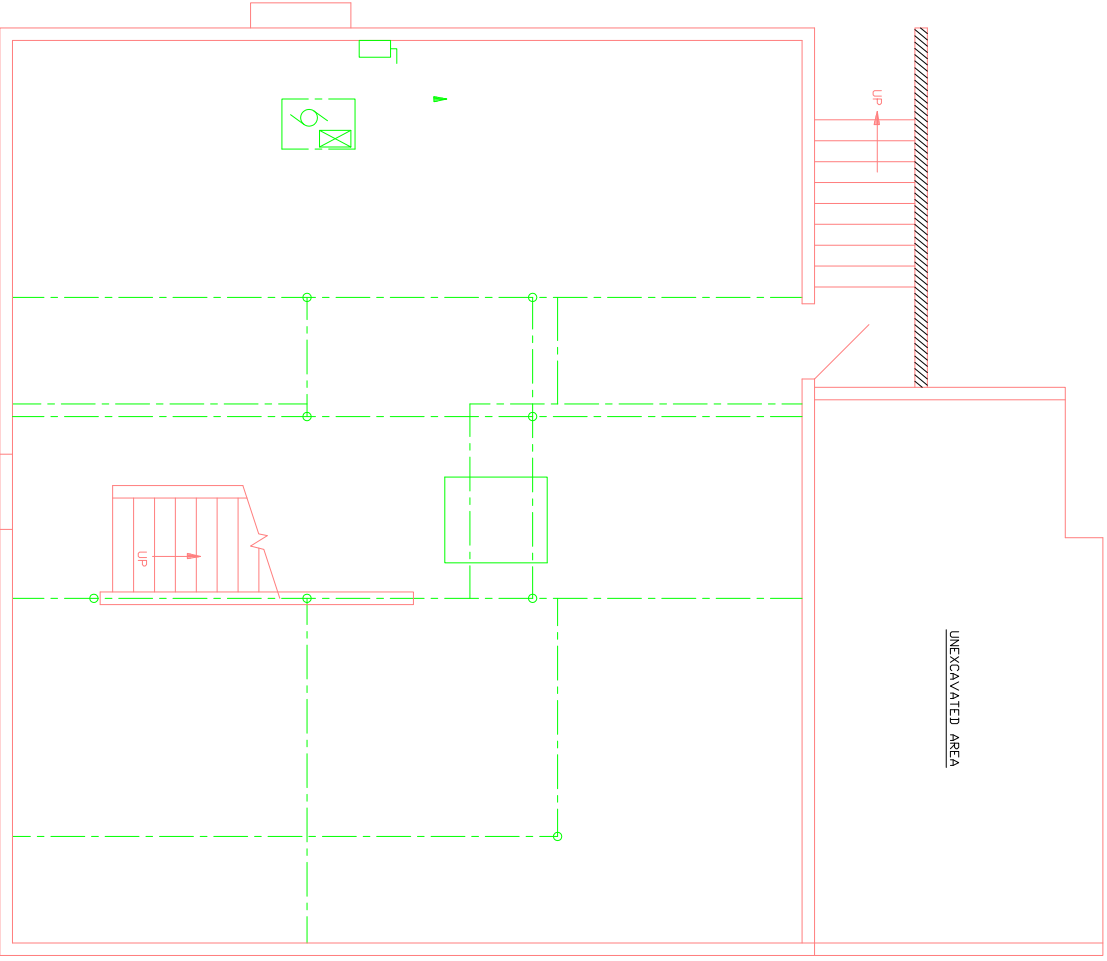


COMMUNITY EDUCATION & WELLNESS



Interior Gross Area
23839

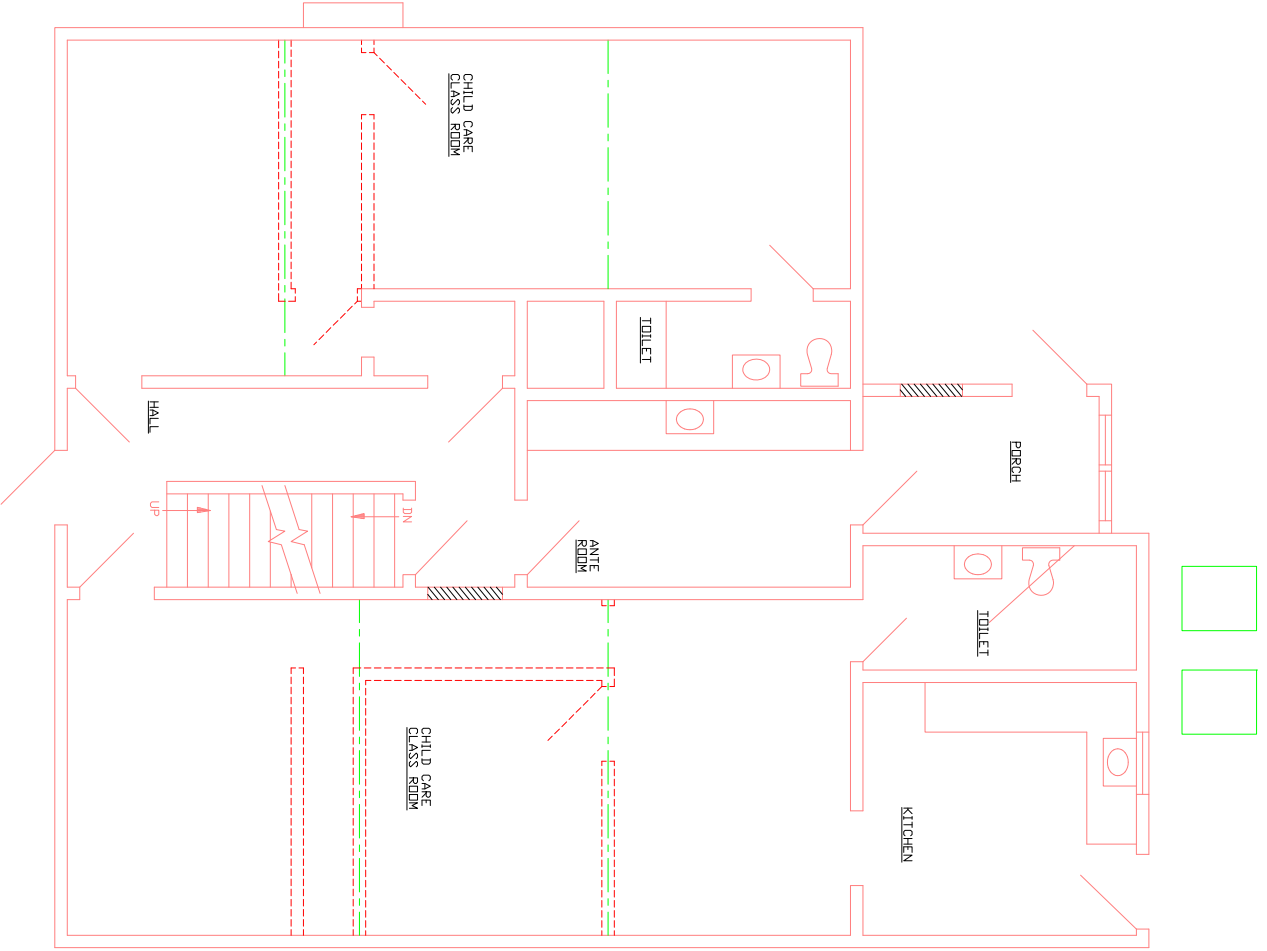
Exterior Gross Area
24740



Early Learning Child Care Center
Basement Floor

Interior Gross Area
1134

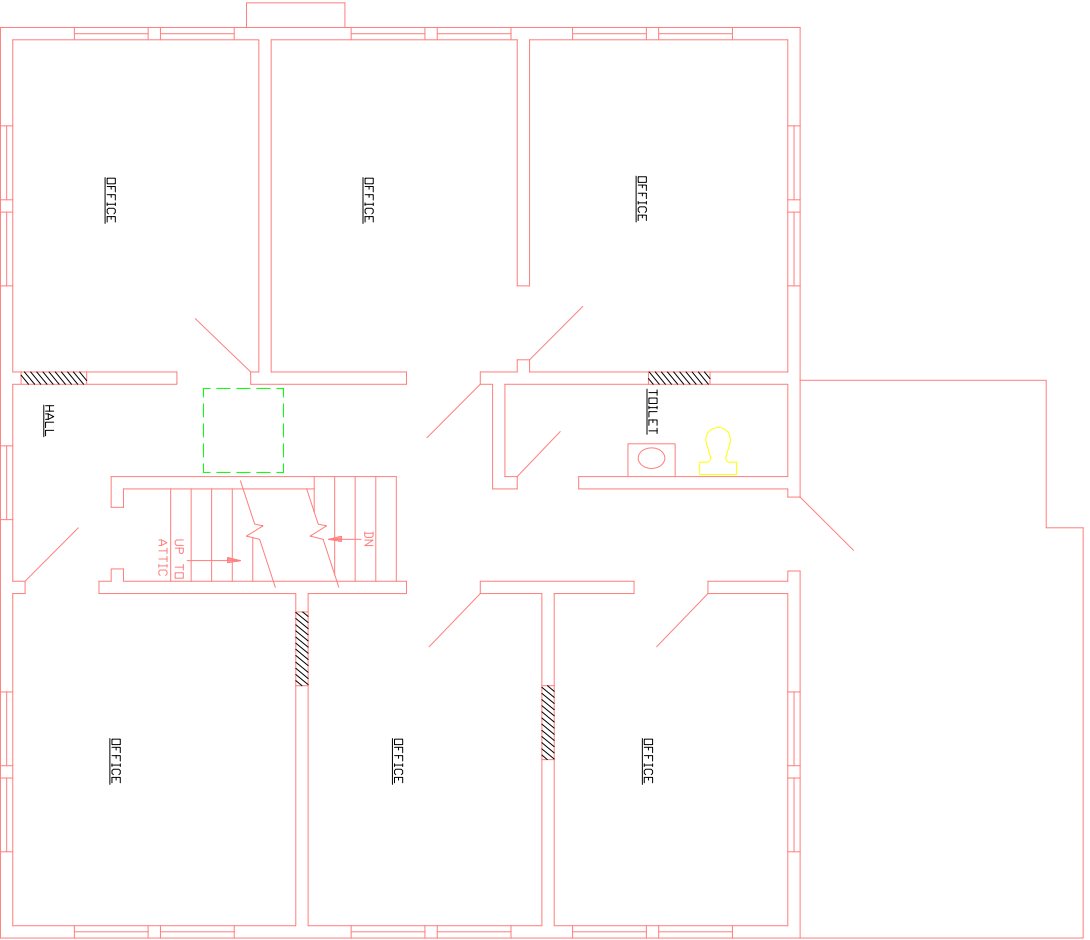
Exterior Gross Area
1202



Early Learning Child Care Center First Floor

Interior Gross Area
1373

Exterior Gross Area
1454



Early Learning Child Care Center
Second Floor

Interior Gross Area
1134

Exterior Gross Area
1202

Item	BRAND	Unit Location	MODEL NO	SERIAL NO	Date	Tons	Gas	Voltage	Amps	Comp.	Cond.	Cond. HP	Evap. #1	Evap. #1 HP	Evap. #2	Evap. #2 HP	Pwr Exh.	Pwr Exh. HP	INPUT BTU	OUTPUT BTU	Notes:
1	Trane Roof Top Unit	AD RT1	SEHFC704NUJ7C	C99J19157M		40	N	460	220	6	6	1	1	40			1	15			
2	Heatex Roof Top Unit	Alumni Hall	E5000-1B-12-3500																		
3	Trane Roof Top Unit	Alumni Hall	YCD060C3HOA	H25142628D																	
4	Trane Roof Top Unit	Alumni Hall	YCD060C3HOA	H25143501D																	
5	Trane Roof Top Unit	AVCH1	MCCA100GALO	K96D30075				460		2	75										75 HP
6	Trane Chiller	AVCC	RTAA1704YL01A1	U96F24876																	
7	Carrier Chiller	BHCH1	30GT-070-810-KA	3995F71017				460	225	2	6	1									
8	Dunham B Air Handler	BH	LSBC075																		
9	Trane Chiller	CDT	RTAA1554XK01	U95M21770																	NO DATA
10	Trane Roof Top Unit	CDT RT-3	TCD037C40GBC	K43101690D			N	460	90	1	1	0.25	1	0.33	1	0.4					
11	Trane Roof Top Unit	CDT RT-4	TCD037C40GBC	K43101691D			N	460	11.8	1	1	0.25	1	0.5	1	0.75					
12	Trane Roof Top Unit	CDT RT-8	TCD049C40GBC	K43101692D			N	460	11.8	1	1	0.25	1	0.5	1	0.75					
13	Trane Roof Top Unit	CDT RT-7	TCD049C40GBC	K43101693D			N	460	11.8	1	1	0.25	1	0.5	1	0.75					
14	Trane Roof Top Unit	CDT RT-5	TCD086C40GBC	K43101706D			N	460	18	1	1	0.5	1	1	1	2					
15	Trane Roof Top Unit	CDT RT-5	TCD086C40GBC	K43101705D			N	460	18	1	1	0.5	1	1	1	2					

Item	BRAND	Unit Location	MODEL NO	SERIAL NO	Date	Tons	Gas	Voltage	Amps	Comp.	Cond.	Cond. HP	Evap. #1	Evap. #2	Evap. #1 HP	Evap. #2 HP	Pwr Exh.	Pwr Exh. HP	INPUT BTU	OUTPUT BTU	Notes:
16	Trane Roof Top Unit	CDT RT-2	TCD181B40GDB	K43101296D			N	460	37	2	2	1	2		1						
17	Trane Roof Top Unit	CDT RT-1	TCD151B40GDB	K43101294D	10/95			460	32	2	2	0.5	1	3	1	5					
18	McQuay Air Cooled Chl	CFPA	ALS295CZ1-ER11	STNUJ020800063				460	493	3	18	1.5									
19	McQuay Air Handler #2	CFPA	CAH012FBFC	FB0U020600223																	NO DATA
20	McQuay Air Handler	CFPA	CAH021FDFC	FB0U020600228																	NO DATA
21	McQuay Air Handler #1	CFPA	CAH025FDDC	FB0U020600222																	NO DATA
22	McQuay Air Handler #6	CFPA	CAH025FDDC	FB0U020600227																	NO DATA
23	McQuay Air Handler #3	CFPA	CAH030FDDC	FB0U020600224																	NO DATA
24	McQuay Air Handler #4	CFPA	CAH041FBFM	FB0U020600225																	NO DATA
25	McQuay Air Handler #5	CFPA	CAH050FDDC	FB0U020600226																	NO DATA
26	Trane Chiller	CH 1	RTA2004XD01A1	US9H17537																	NO DATA
27	Modine Air Handler	CH BASEMENT MZ-4	CSM-1B22	2836	8/71																
28	Modine Air Handler	CH MECH RM	Unknown	Unknown																	
29	Trane Roof Top Unit	CH MZ-1	48MA034B	W595396	6/06			460	90	2	3		1	10	2			600,000	486,000		2 Burners
30	Trane Roof Top Unit	CH MZ-2	45MA034B	R597224	6/06			460	90	2	3		1	10	2			600,000	486,000		2 Burners

Item	BRAND	Unit Location	MODEL NO	SERIAL NO	Date	Tons	Gas	Voltage	Amps	Comp.	Cond.	Cond. HP	Evap. #1	HP	Evap. #2	Evap. #2 HP	Pwr Exh.	HP	Pwr Exh.	HP	INPUT BTU	OUTPUT BTU	Notes:
31	Trane Roof Top Unit	CH RT-10	SFHFC404HT10	C99119159M	7/00			460		4	4	1	1	7.5									1 BURNER 2
32	Trane Roof Top Unit	CH RT-1	YCD094HABE	R29103084D	7/00																		NOT READAB
33	Trane Roof Top Unit	CH RT-10	YCD060C3H0AA	H08143155D	2/93					1	1	1	1										
34	Trane Voyager Roof Top Unit	CH RT-11	YCD060C4H0AA	H18143425D	6/00					1	1	0.25	1	0.33	1	0.4					80,000	64,800	NO DATA
35	Trane Roof Top Unit	CH RT-12	YCD036C4LABE	R24101953D	5/93					1	1	1	1								135,000	108,000	
36	Trane Roof Top Unit	CH RT-13	TSC036A3R0A0VD	242101646L	10/02					1	1	0.2	1	0.33	1	0.5					120,000	97,000	
37	Liebert	CH Data Center	FR245AUJ00	NONE	12/91			480		2	1	7.6											
38	Trane Roof Top Unit	CH RT-1A	YCD300B4HAFB	F37104343D																			
39	Trane Roof Top Unit	CH RT-2	YCD036C4HABE	R12101982D	3/00			460	9.4														
40	Trane Roof Top Unit	CH RT-3	YCD060C3H0AA	H08143155D																			
41	Trane Voyager Roof Top Unit	CH RT-4			9/99			460	57	2	2	1	1	7.5							400,000	324,000	
42	York Roof Top Unit	CH RT-5	D2C G240N240	NAEM012934						4	2	1	1	7.5									
43	Trane Roof Top Unit	CH RTU-6	SXHFC4074EC6AD801	C06F05345				480	119	4	4	1	1	25									
44	Trane Roof Top Unit	CH RT-7	YCD036C4H0AA	H25142376D	6/93					1	1	0.2	1	0.33	1	0.5					120,000	97,000	
45	Trane Roof Top Unit	CH RT-8	YCD060C4H0AA	H18143642D						1	1	1	1								135,000	108,000	

Item	BRAND	Unit Location	MODEL NO	SERIAL NO	Date	Tons	Gas	Voltage	Amps	Comp.	Cond.	Gond.	HP	Evap. #1	HP	Evap. #2	Evap. #2	HP	Pwr Exh.	Pwr Exh.	HP	INPUT BTU	OUTPUT BTU	Notes:
46	Trane Roof Top Unit	CH RT-9	YCD080C4H0AA	H18744144D						1	1			1								135,000	108,000	
47	York Roof Top Unit	CH	DF080N10N4HAA7A	NOE5152101						1	1	1.5		0.5		1	0.07					125,000/HR		
48	Trane AIR HANDLER	CH SOUTH	MCCA040GAE0BB	K93G50836																				
49	York Roof Top Unit	Child Care	Y14AM22N8KDABCC	NEKM048271				230/208	263	4	4	1		25										
50	Trane Chiller	HT-CHT	RTAA0804XL01A3D	U99K02806				460	160	2	8	2.5												
51	Trane Chiller	HT-CH1	RTAA0804XL01A3D	U99K02807				460	160	2	8	1												
52	Air Enterprise AIR HANDLER	HT-AHU1	NO DATA	304																				No Access
53	Trane Chiller	IET	CGACD154EON	L87L05517																				Poor Condition
54	Trane Air Handler	IET AHU-1	CGDB60DNEH	K87M57374																				No Data
55	Trane Air Handler	IET AHU-2	CCDB21BNEG	L87L36298																				No Data
56	Trane Air Handler	IET AHU-3	CCDB31BNEG	L87L36149																				No Data
57	Trane Air Handler	LE AH1	MCCA080GAE0	K93J66229																				No Data
58	Trane Chiller	LE CH1	RTAA1304XB01	U93J18185																				No Data
59	Air Enterprise Air Handler	Library	NO DATA	NO DATA																				No Data
60	Trane Chiller	Library	RTAA1104YF01A0D	U95L31373																				No Data

Item	BRAND	Unit Location	MODEL NO	SERIAL NO	Date	Tons	Gas	Voltage	Amps	Comp.	Cond.	HP	Evap. #1	Evap. #2	Evap. #2	HP	Pwr Exh.	HP	INPUT BTU	OUTPUT BTU	Notes:	
61	Trane Air Handler	Math Science	MCCA040GANO	K97C36389				460				25										
62	Trane Air Handler	Math Science	MCCA050GANO	K97C36397																		No Data
63	Trane Chiller	Math Science MS CH1	RTAA240XMD1A3D	U97E01345				460	303	3	17	1.5										
64	McQuay Air Handler	SHAC AHU-1	RAH0047CSW	F80U020600222							1	15	1			30						
65	McQuay Air Handler	SHAC AHU-2	RAH0047CSW	NONE							1	15	1			25						
66	McQuay Air Handler	SHAC AHU-3	RDS802CLW	F80U99110029400				460			1	7.5	1			20						
67	McQuay Air Handler	SHAC AHU-4	RDS802CLW	F80U99110029600				460			1	7.5	1			20						
68	McQuay Air Handler	SHAC AHU-5	RDS800CYW	F80U020600226									1			7.5						
69	McQuay Air Handler	SHAC AHU-6		F80U020600227				460			1	7.5	1			20						
70	McQuay Air Handler	SHAC AHU-7		F80U99110029700																		
71	McQuay Air Cooled Chl	SHAC CH-1	ALS235BS27-ER10	STNU991200073				460	493	3	18	1.5										Not Working
72	McQuay Air Cooled Chl	SHAC CH-2	ALS235BS27-ER10	STNU991200051				460	493	1.74			1			3.7						
73	Lennox Roof Top Unit	SH RT-1	LGA060SH1G	5699L 08942							1	0.33	1			0.5						125,000
74	Lennox Roof Top Unit	SH RT-2	LGA060SH1G	5699L 08940							1	0.33	1			0.5						125,000
75	Lennox Roof Top Unit	SH RT-3	LGA102SH1G	5699L 08773							2	0.33	1			3						235,000

Item	BRAND	Unit Location	MODEL NO	SERIAL NO	Date	Tons	Gas	Voltage	Amps	Comp.	Cond.	HP	Evap. #1	HP	Evap. #2	Evap. #2	HP	Pwr Exh.	Pwr Exh. HP	INPUT BTU	OUTPUT BTU	Notes:	
76	Lennox Roof Top Unit	SH RT-4	LGA036SS1G	5699L 06373						1	1	0.33						1	0.5	78,000			
77	Lennox Roof Top Unit	SH RT-5	LGA042SS1G	5699L 06387						1	1	0.33						1	0.5	78,000			
78	Lennox Roof Top Unit	SH RT-6	LGA060SH1G	5699L 08941						1	1	0.33		0.5						125,000			
79	Lennox Roof Top Unit	SH RT-7	LGA048SH1G	5699L 06390						1	1	0.33		0.5						125,000			
80	Lennox Roof Top Unit	SH RT-8	LGA048SH1G	5699L 06388						1	1	0.33		0.5						125,000			
81	AAON Roof Top Unit	SHAC RT-7	RM-A03-3-0-AA01-212					460	9	1	1	0.33		1				1	0.09	69 MBH		56 MBH	
82	York Roof Top Unit	TT RT1	Y13CC02NK5DKBCC	NEKMD48272				208	192	3	3			1	10								
83	York Roof Top Unit	TT RT2	Y14BCD2N6KDKBCC	NEKMD48273				208		4	4			1	15	1	7.5						
84	Applied Air Sys. MAU UNITS 1-14 Roof Top Units	TT	DFC-218 FBLH					208			1	27.3								140,000/HR			

Owens Community College
Findlay Campus
HVAC - Phase 1

5/1/2009

Item	BRAND	MODEL NO	SERIAL NO	Tons	Gas	Voltage	Amps	Comp.	Cond.	Cond. HP	Evap.	Evap. HP	Pwr Exh.	Pwr Exh. HP	Notes:
1	Trane Roof Top Unit (RTU-5) Phase 1	SLHFC 404	C03M10956	40	N	460									
2	Trane Roof Top Unit (RTU-6) Phase 1	SLHFC 754	C03M10959	75	N	460									
3	Trane Roof Top Unit (RTU-7) Phase 1	SLHFC 754	C03M10943	75	N	460	225	6	6	1	1	30	1	7.5	
4	Trane Roof Top Unit (RTU-8) Phase 1	SLHFC 504	C03M10949	50	N	460									
5	Trane Chiller (CH-1) Phase 1	CGAFCS40A1A	C03M11248	40	N	460									
6	GREENCHECK Make Up Air (MAU-2) Phase 1	DG-112-HC2C-B13	04C00637		N	460	4.5 MAX. BTU 250,200								
7	Trane Make Up Air (MAU-3) Phase 1	DG-112-HC2C-B13	04C00635		N	460									
8	Leibert Leibert Unit Phase 1	MME60E	0404N87035		N	460									In accessible
9	Leibert Leibert Unit Phase 1	MME60E	040N87037		N	460									In accessible
10	Trane Roof Top Unit (RTU-1) Phase 1	SLHFC 404C	C03M10960	40	N	460									
11	Trane Roof Top Unit (RTU-2) Phase 1	SLHFC 404	L03M10951	40	N	460									
12	Trane Roof Top Unit (RTU-3) Phase 1	SLHFC 504	C03M10952	60	N	460	175	4	6	1	1	25	1	7.5	
13	Trane Roof Top Unit (RTU-4) Phase 1	SLHFC 504	C03M10953	50	N	460	150	4	6	1	1	20	1	5	
1	BOILERS TRANE Phase 1	FLX	1318531												No Data
2	TRANE Phase 1	FLX	5930												No Data

Item	BRAND	MODEL NO	SERIAL NO	Tons	Gas	Voltage	Amps	Comp.	Cond.	Cond. HP	Evap.	Evap. HP	Pwr Exh.	Pwr Exh. HP	Notes:
14	Aaon Inc. Roof Top Unit Phase 2	RN-060-3-0-NA04-EJN	200608-BNWX00337	50	N	460									
15	Aaon Inc. Roof Top Unit Phase 2	RN-060-3-0-NA04-EJN	200607-BNWX00336	60	N	460	148	4	6	0.75	2	15	1	5	
16	Aaon Inc. Roof Top Unit (RTU-4) Phase 2	RM-010-3-0-AA02-243	200607-AMGJ26791		N	460	27	2	1		1		1		
17	Aaon Inc. Roof Top Unit Phase 2	RM-010-30-AA02-243	20067-AMQJ26792		N	460									
18	Leibert Leibert Unit Phase 2	MME603	C404N87039		N	460									
19	GREENCHECK Make Up Air (MAU-1) Phase 2	IGX-112-H22-DB	C4G00640		N	460									Not on List
				INPUT BTU 300,000	OUTPUT BTU 240,000	MIN. BTU 150,000/HR	5.7								
1	BOILERS Lochinvar Phase 2	PBN1300-M9	106H00191257												No Data
2	Lochinvar Phase 2	PBN1300-M9	106H00191257												No Data

Owens Community College
 Founders Hall (Formerly PCA Classrooms)
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TAG	NEW OR EXISTING	DESCRIPTION
AC-5	EXISTING	Existing indoor air handler serves North Classrooms. Includes existing R-22 cooling coil, existing 25-ton nominal air cooled condensing unit, new VFD on supply fan, with new parallel fan-powered terminal boxes with hot water reheat coil, and controls and instruments through building management system. Utilizes existing Fans located in the return plenum for building pressurization control.
HV-1	EXISTING	Existing indoor air handler serves East Classrooms and South Offices. Includes new chilled water cooling coil (42 deg F entering, 56 deg F leaving), new 52-ton nominal air cooled chiller and pump package, new hot water heating coil (190 deg F entering, 104 deg F leaving), new (2) 800 MBH hot water condensing boilers and pump package, new VFD on supply fan, with new parallel fan-powered terminal boxes with hot water reheat coil, and controls and instruments through building management system. Utilizes existing Fans located in the return plenum for building pressurization control.
HV-2	EXISTING	Existing indoor air handler serves West Offices. Includes existing R-22 cooling coil, existing 12.5-ton nominal air cooled condensing unit, existing 28 KW electric heating coil, new VFD on supply fan, with new parallel fan-powered terminal boxes with hot water reheat coil, and controls and instruments through building management system. Utilizes existing Fans located in the return plenum for building pressurization control.
AC-1	NEW	New split system air conditioning unit serves Data Room. Nominal 1-ton unit includes inverter driven compressor.
FVAV-01	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-02	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-03	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-04	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-05	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-06	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-07	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-08	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-09	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-10	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-11	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-12	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-13	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-14	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.

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TAG	NEW OR EXISTING	DESCRIPTION
FVAV-15	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-16	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-17	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-18	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature sensor, and controls and instruments through building management system.
FVAV-19	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-20	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-21	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-22	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, averaging space temperature sensors, and controls and instruments through building management system.
FVAV-23	NEW	New parallel fan powered variable air volume terminal box with hot water reheat (190 deg F entering, 104 deg F leaving), interlock to space occupancy sensor to allow 0 cfm minimum when un-occupied, space temperature, and controls and instruments through building management system.
F-7	EXISTING	Existing roof mounted toilet exhaust fan, interlocked with occupancy sensor.
F-8	EXISTING	Existing roof mounted building pressure relief fan, interlocked with building pressure transmitter, with controls and instruments through building management system.
F-9	EXISTING	Existing roof mounted building pressure relief fan, interlocked with building pressure transmitter, with controls and instruments through building management system.
F-10	EXISTING	Existing roof mounted building pressure relief fan, interlocked with building pressure transmitter, with controls and instruments through building management system.
F-11	EXISTING	Existing roof mounted building pressure relief fan, interlocked with building pressure transmitter, with controls and instruments through building management system.
F-14	EXISTING	Existing roof mounted building pressure relief fan, interlocked with building pressure transmitter, with controls and instruments through building management system.
F-16	EXISTING	Existing roof mounted building pressure relief fan, interlocked with building pressure transmitter, with controls and instruments through building management system.
CH-1	NEW	New 25-ton nominal air cooled chiller, R-410A, 56 deg F entering water temperature, 42 deg F leaving water temperature, 30% propylene glycol, manufacturer control panel, with interlock to building management system.
B-1	NEW	New 800 MBH hot water condensing boiler, 190 deg F leaving water temperature, 104 deg F entering water temperature, manufacturer control panel, with interlock to building management system.

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TAG	NEW OR EXISTING	DESCRIPTION
B-2	NEW	New 800 MBH hot water condensing boiler, 190 deg F leaving water temperature, 104 deg F entering water temperature, manufacturer control panel, with interlock to building management system.
P-1	NEW	New hot water primary pump skid-package, constant volume boiler circulating pump.
P-2	NEW	New hot water primary pump skid-package, constant volume boiler circulating pump.
P-3	NEW	New hot water secondary pump skid-package, variable volume distribution pump to air handler and parallel fan powered terminal boxes heating coils.
P-4	NEW	New hot water secondary pump skid-package, variable volume distribution pump to air handler and parallel fan powered terminal boxes heating coils.
P-5	NEW	New chilled water pump skid-package, constant volume.
P-6	NEW	New chilled water pump skid-package, constant volume.
P-7	NEW	New automatic glycol fill pump skid-package.

ATTACHMENT 3: UTILITY INFORMATION

This attachment contains the following utility information for Owens Community College

1. Electric History – Usage
2. Natural Gas History – Usage and Cost
3. Water and Sewer History – Usage and Cost

Toledo Campus Electric Usage 2006						January	February	March	April	May	June	July	August	September	October	November	December
No.	Area	0.09290304	m ² /ft ²		Year	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	
		ft ²	m ²	kWh/m ²	kWh/a	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	
1 to 7	Westside	273,243	25,385	266	6,762,000	531,000	536,400	558,600	594,600	542,400	585,600	630,600	573,000	591,000	514,200	547,800	556,800
8	Facility Service Bldg.	32,708	3,039	70	213,600	18,880	18,360	19,200	16,760	15,840	17,840	18,880	18,400	16,840	15,560	19,080	17,960
9 + 11	ET & Transportation	133,820	12,432	140	1,746,000	132,600	105,600	132,000	144,600	133,800	163,200	172,800	151,200	188,400	168,600	121,800	131,400
12	Library	30,887	2,869	250	717,700	42,000	47,200	50,600	58,900	53,800	74,600	77,300	67,200	75,000	71,700	50,700	48,700
13	Audio Visual Classroom	33,560	3,118	244	761,900	44,400	47,000	49,400	60,100	55,600	88,100	108,700	79,000	73,100	61,300	44,700	50,500
14	Math Science	41,951	3,897	290	1,131,000	74,300	74,400	71,500	83,800	78,000	117,600	129,500	123,300	126,600	102,200	71,500	78,300
15	Student Health	92,268	8,572	225	1,927,040	109,760	126,400	140,800	155,200	162,240	188,320	192,160	196,480	216,800	175,680	126,080	137,120
16	CFPA	74,396	6,912	185	1,281,760	72,800	78,880	85,280	106,080	102,720	132,640	142,720	128,800	146,080	116,160	79,840	89,760
19	Law Enforcement	35,776	3,324	262	871,700	50,600	51,700	59,500	64,900	62,200	92,100	99,300	94,400	84,300	89,500	57,400	65,800
24	WCSD heat	53,994	5,016	271	971,000	109,900	95,800	91,800	82,900	61,800	70,200	75,100	68,900	65,400	76,100	69,400	103,700
24	WCSD lights				389,700	30,900	35,900	38,600	37,300	32,300	33,000	32,900	26,800	25,900	33,400	28,700	34,000
24	WCSD Chrysler				100	0	100	0	0	0	0	0	0	0	0	0	0
	Total Buildings	802,603	74,564	225	16,773,500	1,217,140	1,217,740	1,297,280	1,405,140	1,300,700	1,563,200	1,679,960	1,527,480	1,609,420	1,424,400	1,217,000	1,314,040
	Modulars				168,400	19,600	28,920	25,600	15,200	6,280	1,120	2,080	1,560	8,360	14,640	20,960	24,080
	Complex Outside Lighting				38,800	3,023	3,405	3,162	2,636	1,999	1,987	1,969	2,139	4,085	4,779	4,501	5,115
	HT Bridge Outside Lighting				5,142	446	369	414	419	394	417	427	374	461	461	493	467
	Shooting Range				9,741	909	895	861	699	597	635	655	653	635	875	1,116	1,211
	North 20mph sign				0	0	0	0	0	0	0	0	0	0	0	0	0
	South 20mph sign				5,863	688	562	530	449	359	342	350	341	453	484	633	672
	Center Emergency Prep.				89,700	13,800	13500	13,500	8,700	8100	1500		4200	3900	4200	4,500	13,800
	Others				317,646	38,466	47,651	44,067	28,103	17,729	6,001	5,481	9,267	17,894	25,439	32,203	45,345
	Toledo Campus Total	802,603	74,564	229	17,091,146	1,255,606	1,265,391	1,341,347	1,433,243	1,318,429	1,569,201	1,685,441	1,536,747	1,627,314	1,449,839	1,249,203	1,359,385

Findlay Campus Electric Usage 2006																	
Building				Year	January	February	March	April	May	June	July	August	September	October	November	December	
	ft ²	m ²	kWh/m ²	kWh/a	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	
1	Bright Road	119,407	11,093	209	2,317,100	199,200	187,000	168,000	186,400	172,400	233,400	232,200	296,400	235,800	196,200	193,600	16,500
2		2,000	186	0	0												
3	Activities Center	24,772	2,301	0	0												
4	Child Care Center	3,377	314	83	26,154	1,914	2,220	1,875	1,500	1,546	3,648	2,691	3,139	1,965	1,828	1,843	1,985
5	Maintenance Building	9,000	836	0	0												
	Findlay Campus Total	158,556	14,730	159	2,343,254	201,114	189,220	169,875	187,900	173,946	237,048	234,891	299,539	237,765	198,028	195,443	18,485

Toledo Campus Electric Usage 2007					January	February	March	April	May	June	July	August	September	October	November	December	Max. Load	Load hours	
No.	Area	0.09290304 ft ²	m ² /ft ² m ²	Year kWh/m ² kWh/a	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Load kW	h/a div. F/S	
1 to 7	Westside	273,243	25,385	263	6,675,600	518,400	536,400	639,600	606,600	484,200	573,000	552,000	615,000	613,800	520,800	519,600	496,200	1,590	4,198
8	Facility Service Bldg.	32,708	3,039	73	221,200	17,200	18,360	19,880	18,480	16,680	18,480	17,640	20,480	19,040	16,680	17,320	20,960	43	5,168
9 + 11	ET & Transportation	133,820	12,432	140	1,743,600	101,400	130,800	121,800	138,600	156,600	157,800	162,600	180,600	177,600	152,400	154,800	108,600	480	3,633
12	Library	30,887	2,869	246	705,900	40,800	51,600	50,500	53,000	64,300	65,300	68,200	78,900	69,900	66,900	53,800	42,700	208	3,394
13	Audio Visual Classroom	33,560	3,118	233	726,300	38,900	46,300	41,700	49,100	70,300	71,900	72,200	86,100	76,500	72,800	57,400	43,100	252	2,882
14	Math Science	41,951	3,897	307	1,195,100	59,100	72,800	72,800	82,200	114,500	126,600	130,500	150,400	126,900	115,600	84,200	59,500	410	2,915
15	SHAC	92,268	8,572	231	1,981,920	116,160	137,600	130,080	139,680	188,800	208,640	213,440	256,160	140,000	198,720	139,360	113,280	674	2,942
16	CFPA	74,396	6,912	196	1,352,160	70,080	83,040	80,000	97,600	131,360	138,240	143,680	162,720	144,160	133,760	95,040	72,480	470	2,874
19	Law Enforcement	35,776	3,324	213	707,800	44,700	44,700	53,800	60,400	76,700	74,400	109,400	92,900	80,100	59,800	55,600	271	2,612	
24	WCSD heat	53,994	5,016	280	1,047,800	96,200	138,100	84,900	81,800	82,000	70,300	78,000	92,900	74,500	79,300	71,400	98,400	0	0
24	WCSD lights				359,200	27,000	43,500	31,700	32,000	27,200	23,700	24,700	28,500	26,500	32,500	30,800	31,100	105	3,421
24	WCSD Chrysler				2	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	Total Buildings	802,603	74,564	224	16,716,582	1,085,240	1,303,201	1,326,760	1,359,460	1,412,640	1,528,360	1,462,960	1,781,160	1,561,801	1,469,560	1,283,520	1,141,920	4,503	3,712
	Modulars				191,520	23,760	46,400	26,000	21,480	6,800	1,160	1,400	4,400	8,880	9,400	18,480	23,360	102	1,870
	Complex Outside Lighting				31,386	2,747	3,529	2,914	3,590	3,049	1,311	393	1,808	2,168	3,068	3,462	3,347	0	0
	HT Bridge Outside Lighting				5,164	460	369	505	448	443	475	380	386	440	400	424	434	0	0
	Shooting Range				11,328	1,104	1,164	929	866	792	563	742	773	777	816	1,300	1,502	0	0
	North 20mph sign				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	South 20mph sign				5,786	687	562	507	459	353	343	318	395	451	481	592	638	0	0
	Center Emergency Prep.				96,960	23,760	13800	14,400		8,400	600	3600	5400	5100	5700	7,200	9,000	80	1,212
	Others				342,144	52,518	65,824	45,255	26,843	19,837	4,452	6,833	13,162	17,816	19,865	31,458	38,281	182	1,876
	Toledo Campus Total	802,603	74,564	229	17,058,726	1,137,758	1,369,025	1,372,015	1,386,303	1,432,477	1,532,812	1,469,793	1,794,322	1,579,617	1,489,425	1,314,978	1,180,201	4,685	3,641

Findlay Campus Electric Usage 2007					January	February	March	April	May	June	July	August	September	October	November	December	Max. Load	Load hours	
Building	ft ²	m ²	kWh/m ²	Year kWh/a	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Load kW	h/a	
1	Bright Road Main	119,407	11,093	236	2,613,000	175,000	195,400	167,400	183,800	198,600	283,600	229,600	320,600	278,800	216,000	191,400	172,800	953	2,742
2		2,000	186	0	0														
3	Activities Center	24,772	2,301	215	495,000		99,800	29,600	37,200	40,200	48,600	42,400	52,600	46,800	37,200	31,800	28,800	178	2,781
4	Child Care Center	3,377	314	117	36,605	2,016	2,239	1,916	1,958	1,924	2,819	3,264	5,573	5,097	3,877	2,842	3,080		
5	Maintenance Building	9,000	836	93	77,552		1,854	11,556	6,295	3,332	7,382	7,571	9,261	8,281	7,989	7,008	7,023		
	Findlay Campus Total	158,556	14,730	219	3,222,157	177,016	299,293	210,472	229,253	244,056	342,401	282,835	388,034	338,978	265,066	250,000	250,000	1,131	2,849

Toledo Campus Electric Usage 2008					January	February	March	April	May	June	July	August	September	October	November	December	Max. Load	Load hours	
No.	Area	0.09290304	m ² /ft ²	Year	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Load	h/a	
		ft ²	m ²	kWh/m ²	kWh/a	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kW	div. F/S	
1 to 7	Westside	273,243	25,385	262	6,658,200	552,000	588,000	562,800	516,000	503,400	586,200	577,800	597,600	559,200	553,200	529,800	532,200	1,416	4,702
8	Facility Service Bldg.	32,708	3,039	71	215,080	16,080	19,240	18,720	16,240	16,080	18,720	18,240	20,400	17,600	18,240	16,880	18,640	43	4,979
9 + 11	ET & Transportation	133,820	12,432	142	1,759,800	106,800	138,600	132,600	138,600	140,400	179,400	177,000	159,600	172,800	166,800	135,600	111,600	450	3,911
12	Library	30,887	2,869	245	701,900	42,800	51,000	45,600	52,200	55,400	77,100	77,500	71,600	68,800	65,800	51,800	42,300	234	3,000
13	Audio Visual Classroom	33,560	3,118	243	756,800	43,800	48,300	44,100	52,000	58,700	84,200	86,500	84,400	80,900	72,600	52,600	48,700	227	3,334
14	Math Science	41,951	3,897	280	1,092,200	59,000	70,900	63,500	73,700	81,900	128,200	138,200	116,100	118,900	105,100	76,100	60,600	334	3,270
15	SHAC	92,268	8,572	224	1,923,840	118,720	142,880	124,960	140,480	150,560	208,800	212,640	200,640	178,560	177,280	144,640	123,680	562	3,423
16	CFPA	74,396	6,912	188	1,299,040	70,560	80,960	70,880	89,440	104,000	148,800	158,560	146,400	140,480	123,680	88,800	76,480	459	2,829
19	Law Enforcement	35,776	3,324	245	815,000	52,800	59,200	55,600	59,200	61,300	90,300	87,700	79,300	74,700	83,300	59,700	51,900	244	3,340
24	WCSD heat	53,994	5,016	289	1,025,600	98,200	114,200	90,000	70,000	67,700	79,800	86,100	80,600	73,700	77,200	79,700	108,400		
24	WCSD lights				422,600	31,000	39,200	35,500	30,900	32,600	32,100	30,600	30,900	31,400	39,200	38,300	50,900	119	3,551
24	WCSD Chrysler				0														
	Founders Hall				419,104							22,918	105,050	95,398	92,884	102,854	211		
	Total Buildings	802,603	74,564	229	17,089,164	1,191,760	1,352,480	1,244,260	1,238,760	1,272,040	1,633,620	1,650,840	1,610,458	1,622,090	1,577,798	1,366,804	1,328,254	4,300	3,975
	Modulars				167,000	22,600	31,160	24,760	15,680	5,520	1,400	1,200	3,600	9,080	12,200	17,520	22,280	100	1,670
	Complex Outside Lighting				32,256	3,036	3,672	2,917	2,244	1,865	1,800	1,730	1,854	2,429	3,357	3,630	3,722		
	HT Bridge Outside Lighting				4,205	474	380	416	380	390	406	305	297	273	292	274	318		
	Shooting Range				9,795	381	1,116	884	714	669	706	699	706	833	1,056	1,328	703	44	
	North 20mph sign				0														
	South 20mph sign				5,954	698	575	535	398	384	369	329	454	429	537	580	666		
	Center Emergency Prep.				0														
	Others				0														
	Toledo Campus Total	802,603	74,564	229	17,089,164	1,191,760	1,352,480	1,244,260	1,238,760	1,272,040	1,633,620	1,650,840	1,610,458	1,622,090	1,577,798	1,366,804	1,328,254	4,300	3,975

Findlay Campus Electric Usage 2008					January	February	March	April	May	June	July	August	September	October	November	December	Max. Load	Load hours	
Building	Year	January	February	March	April	May	June	July	August	September	October	November	December	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	ft ²	m ²	kWh/m ²	kWh/a	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kwh	kW	
1	Bright Road Main	119,407	11,093	227	2,520,400	176,600	181,800	173,200	201,600	180,400	258,600	263,400	264,600	261,000	206,400	190,600	162,200	824	3,060
2		2,000	186	0	0														
3	Activities Center	24,772	2,301	190	437,000	31,200	32,600	33,400	39,200	37,200	40,000	43,800	49,000	39,800	30,000	29,600	31,200	183	2,394
4	Child Care Center	3,377	314	123	38,618	3,125	3,952	4,004	4,189	2,385	3,117	3,188	3,340	3,180	2,735	2,720	2,683		
5	Maintenance Building	9,000	836	97	80,982	6,738	6,349	6,134	6,558	5,993	7,310	7,462	7,410	7,582	6,656	7,042	5,748		
	Findlay Campus Total	158,556	14,730	209	3,077,000	217,663	224,701	216,738	251,547	225,978	309,027	317,850	324,350	311,562	245,791	229,962	201,831	1,006	3,058

Toledo Campus Electric Usage 2009					January	February	March	April	May	June	July	August	September	October	November	December	Max. Load	Load hours
No.	Area	0.09290304 ft ²	m ² /ft ² m ²	Year kWh/m ² kWh/a	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Load kW	h/a div. F/S
1 to 7	Westside	273,243	25,385	84	2,130,600	521,400	589,200	510,000	510,000								1,362	1,564
8	Facility Service Bldg.	32,708	3,039	23	69,600	16,880	18,920	16,720	17,080								38	1,832
9 + 11	ET & Transportation	133,820	12,432	40	501,600	105,000	143,400	126,600	126,600								384	1,306
12	Library	30,887	2,869	65	186,300	40,200	48,700	47,900	49,500								155	1,202
13	Audio Visual Classroom	33,560	3,118	57	176,700	41,300	46,200	44,300	44,900								143	1,236
14	Math Science	41,951	3,897	62	241,900	55,900	63,800	61,000	61,200								220	1,100
15	SHAC	92,268	8,572	64	548,000	120,960	157,120	132,480	137,440								435	1,260
16	CFPA	74,396	6,912	46	315,520	71,360	79,040	79,040	86,080								323	977
19	Law Enforcement	35,776	3,324	57	190,500	46,200	53,600	47,100	43,600								192	992
24	WCSD heat	53,994	5,016	105	356,900	104,000	103,100	82,200	67,600								520	686
24	WCSD lights				169,100	49,300	46,800	38,200	34,800								128	1,321
24	WCSD Chrysler				0													
	Founders Hall				425,361	103,141	112,930	108,714	100,576								196	2,170
	Total Buildings	802,603	74,564	71	5,312,081	1,275,641	1,462,810	1,294,254	1,279,376	0	0	0	0	0	0	0	4,096	1,297
	Modulars				80,800	26,520	26,320	16,240	11,720								96	842
	Complex Outside Lighting				10,460	2,674	3,107	2,595	2,084								11	951
	HT Bridge Outside Lighting				1,317	431	406	148	332								14	94
	Shooting Range				1,821	509	495	437	380									
	North 20mph sign				0													
	South 20mph sign				2,123	622	597	482	422								5	425
	Center Emergency Prep.				0													
	Others				0													
	Toledo Campus Total	802,603	74,564	71	5,312,081	1,275,641	1,462,810	1,294,254	1,279,376	0	0	0	0	0	0	0	4,096	1,297

Findlay Campus Electric Usage 2009					January	February	March	April	May	June	July	August	September	October	November	December	Max. Load	Load hours
Building	ft ²	m ²	kWh/m ²	Year kWh/a	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Consumption kwh	Load kW	h/a
1	Bright Road Main	119,407	11,093	33	361,400	178,600	182,800										665	544
2		2,000	186	0	0													
3	Activities Center	24,772	2,301	22	51,000	26,800	24,200										140	365
4	Child Care Center	3,377	314	542	170,114	83,540	86,574											
5	Maintenance Building	9,000	836	16	13,563	6,404	7,159											
	Findlay Campus Total	158,556	14,730	40	596,077	295,344	300,733	0	0	0	0	0	0	0	0	0	804	741

Toledo Campus Natural Gas Usage 2006																			
			0.09290304		0.000293071	102,000	Year	Jan.	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
			m ² /ft ²		kWh/BTU	BTU/ccf		Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
	Area							Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
	Building	ft ²	m ²	kWh/a*m ²	kWh/a	BTU/a	ccf/a	calculated	calculated	read	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf
1	College Hall	134,551	12,500	233	2,911,573	9,934,698,000	97,399	16,767	15,128	5,776	10,770	6,020	4,380	7,626	3,080	5,584	5,296	7,233	9,739
2	Computer Tech	1,872	174	0	0	0	0												
3	Administration Hall	26,025	2,418	170	410,106	1,399,338,000	13,719	2,313	2,386	935	1,864	535	964	991	793	221	672	595	1,450
4	Health Technologie Hall	42,457	3,944	0	0	0	0												
5	Bicetenial Hall	18,113	1,683	0	0	0	0												
6	Child Care	14,005	1,301	234	305,061	1,040,910,000	10,205	1,361	1,788	764	1,286	535	596	540	442	451	549	845	1,048
7	Alumini Hall	36,319	3,374	141	475,273	1,621,698,000	15,899	3,620	3,565	1,423	2,232	2,102	393	98	14	8	238	304	1,902
8	Facility Services	32,708	3,039	132	402,064	1,371,900,000	13,450	3,859	3,182	1,886	1,976	1,029	465	-1,434	68	64	245	643	1,467
9	Transportation Tech	89,997	8,361	122	1,019,928	3,480,138,000	34,119	7,232	7,278	4,683	4,766	2,582	1,046	75	38	37	501	1,828	4,053
11	Engineering Tech	43,823	4,071	230	936,257	3,194,640,000	31,320	5,026	4,759	3,723	4,440	1,534	1,018	2,130	228	213	636	3,925	3,688
12	Library	30,887	2,869	250	716,123	2,443,512,000	23,956	4,492	3,891	2,110	2,776	1,644	940	1,272	455	703	849	2,249	2,575
13	Audio Visual	33,560	3,118	306	953,206	3,252,474,000	31,887	4,039	3,878	3,296	3,065	3,294	1,644	2,395	1,236	717	1,301	3,699	3,323
14	Math Sceince	41,951	3,897	404	1,576,032	5,377,644,000	52,722	8,837	8,603	4,489	6,212	2,822	2,932	1,914	2,168	1,654	2,458	5,122	5,511
15	Student Health	92,268	8,572	256	2,195,062	7,489,860,000	73,430	15,131	9,643	11,257	9,245	2,908	2,350	2,938	602	2,611	2,436	6,283	8,026
16	CFPA	74,396	6,912	186	1,285,230	4,385,388,000	42,994	5,759	4,495	4,481	4,540	3,068	2,578	2,674	2,087	2,544	2,699	3,919	4,150
19	Law Enforcement	35,776	3,324	282	935,659	3,192,600,000	31,300	5,638	5,230	5,286	4,285	359	2,881	-1,507	859	1,037	1,308	2,910	3,014
24	Workforce an Comm. Serv.	53,994	5,016	0	0	0	0												
Toledo Campus Total		802,702	74,573	189	14,121,572	48,184,800,000	472,400	84,074	73,826	50,109	57,457	28,432	22,187	19,712	12,070	15,844	19,188	39,555	49,946
		With gas	63,756	221															

Findlay Campus Natural Gas Usage 2006																			
							Year	Jan.	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
								Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
	Area							Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
	Building	ft ²	m ²	kWh/a*m ²	kWh/a	BTU/a	ccf/a	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf
1	Bright Road Main	119,407	11,093	260.55	2,890,379	9,862,380,000	96,690	13,513	17,103	12,599	12069	4582	5,023	1,749	4,153	2,903	4,898	8371	9,727
2	Vorhees' House	2,000	186	308.41	57,305	195,534,000	1,917	425	421	381	190	83	47	3	1	0	1	178	187
3	Activities Center	24,772	2,301	0.00	0	0	0												
4	Child Care Center	3,377	314	177.61	55,721	190,128,000	1,864	488	291	343	225	103	22	28	8	8	14	160	174
5	Maintenance Building	9,000	836	0.00	0	0	0												
Findlay Campus Total		158,556	14,730	204	3,003,405	10,248,042,000	100,471	14,426	17,815	13,323	12,484	4,768	5,092	1,780	4,162	2,911	4,913	8,709	10,088

Toledo Campus Natural Gas Usage 2007																			
		0.09290304		0.000293071		102,000		Year											
		m ² /ft ²		kWh/BTU		BTU/ccf		Jan.	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
		Area						Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
Building	ft ²	m ²	kWh/a*m ²	kWh/a	BTU/a	ccf/a	calculated	read - ccf	read	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	
1	College Hall	134,551	12,500	162	2,025,716	6,912,030,000	67,765	6,904	10,767	13,854	8,160	4,097	5,104	1,924	1,918	1,854	2,045	3,436	7,702
2	Computer Tech	1,872	174	0	0	0	0												
3	Administration Hall	26,025	2,418	198	478,471	1,632,612,000	16,006	2,640	2,637	675	1,657	253	680	280	516	4,550	550	928	640
4	Health Technologie Hall	42,457	3,944	0	0	0	0												
5	Bicetenial Hall	18,113	1,683	0	0	0	0												
6	Child Care	14,005	1,301	224	291,489	994,602,000	9,751	1,384	1,336	1,780	980	1,371	554	405	183	80	88	268	1,322
7	Alumini Hall	36,319	3,374	162	546,060	1,863,234,000	18,267	4,091	3,120	3,156	1,843	674	205	1,842	11	89	54	577	2,605
8	Facility Services	32,708	3,039	150	455,902	1,555,602,000	15,251	2,453	2,277	5,313	1,532	1,186	254	-73	67	77	78	129	1,958
9	Transportation Tech	89,997	8,361	125	1,041,511	3,553,782,000	34,841	4,746	6,014	7,773	3,480	3,474	441	406	38	171	113	1,094	7,091
11	Engineering Tech	43,823	4,071	191	776,268	2,648,736,000	25,968	4,660	5,548	4,236	3,257	1,977	588	1,156	100	96	106	985	3,259
12	Library	30,887	2,869	247	710,144	2,423,112,000	23,756	3,318	3,532	4,324	2,370	1,975	840	1,151	589	776	740	1,170	2,971
13	Audio Visual	33,560	3,118	281	875,215	2,986,356,000	29,278	3,489	4,496	988	2,703	1,075	1,233	6,018	493	2,041	1,644	1,860	3,238
14	Math Sceince	41,951	3,897	463	1,805,313	6,159,984,000	60,392	8,611	8,611	8,611	5,309	4,285	2,484	4,380	1,943	4,020	3,232	3,692	5,214
15	Student Health	92,268	8,572	256	2,196,168	7,493,634,000	73,467	9,622	10,791	14,675	7,061	4,539	2,382	2,792	1,634	2,941	2,480	5,410	9,140
16	CFPA	74,396	6,912	192	1,330,070	4,538,388,000	44,494	5,085	4,893	6,545	3,943	2,735	2,697	2,785	2,355	2,478	2,619	3,579	4,780
19	Law Enforcement	35,776	3,324	191	633,259	2,160,768,000	21,184	3,206	2,293	3,147	452	1,773	2,763	1,218	1,098	1,014	515	828	2,877
24	Workforce an Comm. Serv.	53,994	5,016	0	0	0	0												
Toledo Campus Total		802,702	74,573	177	13,165,586	44,922,840,000	440,420	60,209	66,315	75,077	42,747	29,414	20,225	24,284	10,945	20,187	14,264	23,956	52,797
		With gas	63,756	206															

Findlay Campus Natural Gas Usage 2007																			
						Year		Jan.	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
		Area						Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.	Cons.
Building	ft ²	m ²	kWh/a*m ²	kWh/a	BTU/a	ccf/a	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	calculated	read - ccf	
1	Bright Road Main	119,407	11,093	264.39	2,932,917	10,007,526,000	98,113	12,693	16,731	15,887	11351	6098	3,587	3,095	3,534	3,260	3,788	6649	11,440
2	Vorhees' House	2,000	186	287.66	53,449	182,376,000	1,788	293	385	377	276	98	32	0	0	0	3	102	222
3	Activities Center	24,772	2,301	161.82	372,410	1,270,716,000	12,458		2,226	3,225	1916	659	584	216	133	174	390	838	2,097
4	Child Care Center	3,377	314	159.69	50,101	170,952,000	1,676	257	404	358	213	95	11	9	6	8	9	98	208
5	Maintenance Building	9,000	836	37.54	31,388	107,100,000	1,050					89	127	44	36	39	80	175	460
Findlay Campus Total		158,556	14,730	234	3,440,265	11,738,670,000	115,085	13,243	19,746	19,847	13,756	7,039	4,341	3,364	3,709	3,481	4,270	7,862	14,427

Owens Community College
2008 Natural Gas Usage - CCF

Building/ Location	Columbia Gas of Ohio Account No.	Area ft ²	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Toledo Campus															
Student Health		92,268	11,170	11,150	11,020	9,300	4,340	3,940	1,470	2,320	2,420	2,210	4,120	8,660	72,120
CFPA		74,396	6,010	5,430	4,990	4,820	3,440	3,140	2,680	2,450	2,720	2,410	3,480	4,970	46,540
Balance of Toledo Campus		636,038	55,710	57,800	56,400	51,050	15,160	13,650	16,300	4,380	14,150	4,940	28,240	44,510	362,290
Total Toledo Campus		802,702	72,890	74,380	72,410	65,170	22,940	20,730	20,450	9,150	19,290	9,560	35,840	58,140	480,950
Findlay Campus															
Education Center		119,407	15,720	17,760	15,960	13,140	5,770	4,890	3,520	3,840	3,620	2,900	7,400	12,329	106,849
Vorhees' House	122468630090002	2,000	395	384	345	79	74	2	0	0	0	126	195	412	2,012
Activities Center	122468630120007	24,772	3,330	3,129	1,366	734	839	195	300	243	618	1,117	2,293	3,292	17,456
Child Care Center	122468630110008	3,377	414	346	401	84	35	10	11	10	10	128	204	411	2,064
Maintenance Building	122468630130006	9,000	769	751	564	184	45	45	38	41	43	251	347	743	3,821
Total Findlay Campus		158,556	20,628	22,370	18,636	14,221	6,763	5,142	3,869	4,134	4,291	4,522	10,439	17,187	132,202
PCA Classrooms (Formerly Penta County)															
30335 Oregon Road	175359570010001									47	29	366	1,013	0	1,455
30335 Oregon Road	175359590010007									59	29	736	5,426	7,179	13,429
30335 Oregon Road	175359540010007									18	29	2,958	5,871	8,823	17,699
30335 Oregon Road	112221670160009									0	0	0	0	0	0
30095 Oregon Road	112221670180007									18	29	2,622	5,306	7,972	15,947
30095 Oregon Road	112221670170008									0	1	48	95	0	144
Total PCA Classrooms										142	117	6,730	17,711	23,974	48,674
Total Toledo, Findlay & PCA Natural Gas Use			93,518	96,750	91,046	79,391	29,703	25,872	24,319	13,426	23,698	20,812	63,990	99,301	661,826

2008 Natural Gas Cost - Includes Commodity and Transportation

Building/ Location	Columbia Gas of Ohio Account No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug (1)	Sep	Oct	Nov	Dec	Total	
Buildings Involved in Ohio Schools Council Natural Gas Purchasing Program															
Student Health - Toledo		\$2,242	\$2,238	\$2,212	\$1,872	\$891	\$811	\$332	\$599	\$526	\$483	\$874	\$1,801	\$14,881	
CFPA - Toledo		\$1,221	\$1,106	\$1,069	\$986	\$713	\$653	\$579	\$631	\$588	\$524	\$743	\$1,047	\$9,858	
Balance of Toledo Campus Not Listed Below		\$10,889	\$11,292	\$11,070	\$9,990	\$3,032	\$2,733	\$3,361	\$1,102	\$2,922	\$1,040	\$5,961	\$9,009	\$72,402	
Education Center - Findlay		\$3,142	\$3,546	\$3,190	\$2,632	\$1,174	\$1,000	\$751	\$970	\$771	\$624	\$1,543	\$2,797	\$22,140	
Vorhees' House		\$76	\$74	\$67	\$20	\$19	\$7	\$7	\$7	\$7	\$29	\$40	\$634	\$986	
Activities Center		\$557	\$526	\$243	\$140	\$158	\$52	\$71	\$61	\$121	\$203	\$385	\$532	\$3,048	
Child Care Center		\$79	\$67	\$77	\$21	\$13	\$9	\$9	\$9	\$8	\$29	\$41	\$64	\$425	
Maintenance Building		\$141	\$138	\$105	\$39	\$14	\$14	\$14	\$14	\$14	\$50	\$66	\$105	\$715	
Subtotal - Transportation		\$18,347	\$18,988	\$18,034	\$15,701	\$6,013	\$5,279	\$5,124	\$3,392	\$4,957	\$2,980	\$9,653	\$15,988	\$124,455	
Commodity Pricing for Above Locations		\$53,649	\$53,649	\$53,649	\$53,649	\$53,649	\$53,649	\$100,414	\$157,582	\$72,479	\$72,479	\$67,647	\$67,647	\$860,142	
Total Commodity and Transportation for Above Locations		\$71,996	\$72,637	\$71,683	\$69,350	\$59,662	\$58,928	\$105,538	\$160,974	\$77,436	\$75,459	\$77,300	\$83,635	\$984,598	
Corresponding Natural Gas Use - CCF		93,518	96,750	91,046	79,391	29,703	25,872	24,319	13,284	23,581	14,082	46,279	75,327	613,152	
Average Natural Gas Cost - \$/MMBTU		7.70	7.51	7.87	8.74	20.09	22.78	43.40	121.18	32.84	53.59	16.70	11.10	16.06	
PCA Classrooms - Commodity and Transportation															
30335 Oregon Road	175359570010001								\$69	\$53	\$540	\$2,543	\$0	\$3,206	
30335 Oregon Road	175359590010007								\$85	\$53	\$1,068	\$7,558	\$8,131	\$16,895	
30335 Oregon Road	175359540010007								\$31	\$53	\$4,220	\$8,176	\$9,987	\$22,467	
30335 Oregon Road	112221670160009								\$0	\$0	\$0	\$0	\$12	\$12	
30095 Oregon Road	112221670180007								\$31	\$53	\$3,744	\$7,392	\$9,026	\$20,246	
30095 Oregon Road	112221670170008								\$7	\$8	\$76	\$140	\$0	\$231	
Total for PCA Classrooms									\$222	\$221	\$9,648	\$25,809	\$27,156	\$63,057	
Corresponding Natural Gas Use - CCF									142	117	6,730	17,711	23,974	48,674	
Average Natural Gas Cost - \$/MMBTU									15.66	18.91	14.34	14.57	11.33	12.95	
Total Natural Gas Cost for Toledo, Findlay and PCA Classrooms		\$71,996	\$72,637	\$71,683	\$69,350	\$59,662	\$58,928	\$105,538	\$161,196	\$77,657	\$85,107	\$103,110	\$110,791	\$1,047,654	
Corresponding Natural Gas Use - CCF		93,518	96,750	91,046	79,391	29,703	25,872	24,319	13,426	23,698	20,812	63,990	99,301	661,826	
Average Natural Gas Cost - \$/MMBTU		7.70	7.51	7.87	8.74	20.09	22.78	43.40	120.06	32.77	40.89	16.11	11.16	15.83	

Note (1): August commodity cost includes true up for 07-08 Academic Year.

Owens Community College
2009 Natural Gas Usage - CCF

Building/ Location	Columbia Gas of Ohio Account No.	Area ft ²	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Toledo Campus															
Student Health		92,268	15,300	12,680	9,230	7,180									44,390
CFPA		74,396	5,870	5,990	4,050	4,010									19,920
Balance of Toledo Campus		636,038	50,300	65,080	40,760	32,710									188,850
Total Toledo Campus		802,702	71,470	83,750	54,040	43,900									253,160
Findlay Campus															
Education Center		119,407	17,610	11,830	12,720	5,360									47,520
Vorhees' House	122468630090002	2,000	626	335	242	110									1,313
Activities Center	122468630120007	24,772	3,107	2,386	967	928									7,388
Child Care Center	122468630110008	3,377	544	318	237	108									1,207
Maintenance Building	122468630130006	9,000	1,075	508	376	213									2,172
Total Findlay Campus		158,556	22,962	15,377	14,542	6,719									59,600
PCA Classrooms (Formerly Penta County)															
30335 Oregon Road	175359570010001			2,002	852										2,854
30335 Oregon Road	175359590010007			6,467	3,540										10,007
30335 Oregon Road	175359540010007			7,431	4,731										12,162
30335 Oregon Road	112221670160009			10											10
30095 Oregon Road	112221670180007		8,396	6,511	4,146	71									19,124
30095 Oregon Road	112221670170008		98	76	21										195
Total PCA Classrooms			8,494	22,497	13,290	71									44,352
Total Toledo, Findlay & PCA Natural Gas Use			102,926	121,624	81,872	50,690									357,112

Natural Gas Cost - Includes Commodity and Transportation

Building/ Location	Columbia Gas of Ohio Account No.	Jan	Feb	Mar	Apr	May	Jun	Jul (1)	Aug	Sep	Oct	Nov	Dec	Total
Buildings Involved in Ohio Schools Council Natural Gas Purchasing Program														
Student Health - Toledo		\$2,922	\$2,437	\$1,981	\$1,561									\$8,902
CFPA - Toledo		\$1,195	\$1,172	\$909	\$903									\$4,178
Balance of Toledo Campus Not Listed Below		\$9,297	\$11,998	\$8,407	\$6,798									\$36,499
Education Center - Findlay		\$3,353	\$2,279	\$2,704	\$1,183									\$9,518
Vorhees' House		\$106	\$70	\$54	\$32									\$262
Activities Center		\$584	\$516	\$248	\$245									\$1,593
Child Care Center		\$94	\$67	\$53	\$32									\$246
Maintenance Building		\$173	\$113	\$77	\$50									\$413
Subtotal - Transportation		<u>\$17,724</u>	<u>\$18,651</u>	<u>\$14,433</u>	<u>\$10,803</u>									<u>\$61,611</u>
Commodity Pricing for Above Locations		<u>\$67,647</u>	<u>\$67,647</u>	<u>\$67,647</u>	<u>\$67,647</u>									<u>\$270,588</u>
Total Commodity and Transportation for Above Locations		\$85,371	\$86,299	\$82,080	\$78,450									\$332,199
Corresponding Natural Gas Use - CCF		94,432	99,127	68,582	50,619									312,760
Average Natural Gas Cost - \$/MMBTU		9.04	8.71	11.97	15.50									10.62
PCA Classrooms - Commodity and Transportation														
30335 Oregon Road	175359570010001		\$2,382	\$893										\$3,275
30335 Oregon Road	175359590010007		\$7,536	\$3,510										\$11,046
30335 Oregon Road	175359540010007		\$8,648	\$4,667										\$13,315
30335 Oregon Road	112221670160009	\$12	\$14	\$12	\$12									\$51
30095 Oregon Road	112221670180007	\$9,768	\$7,587	\$4,099	\$74									\$21,528
30095 Oregon Road	112221670170008	\$125	\$99	\$33										\$257
Total for PCA Classrooms		<u>\$9,905</u>	<u>\$26,266</u>	<u>\$13,215</u>	<u>\$87</u>									<u>\$49,472</u>
Corresponding Natural Gas Use - CCF		8,494	22,497	13,290	71									44,352
Average Natural Gas Cost - \$/MMBTU		11.66	11.68	9.94	12.22									11.15
Total Natural Gas Cost for Toledo, Findlay and PCA Classrooms		\$95,276	\$112,564	\$95,295	\$78,537									\$381,671
Corresponding Natural Gas Use - CCF		102,926	121,624	81,872	50,690									357,112
Average Natural Gas Cost - \$/MMBTU		9.26	9.26	11.64	15.49									10.69

Owens Community College

Water and Sewer January - March 2008 Data

Toledo Campus

Building	Invoice Date	No. of Months	CCF	Water	Sewer	Total
Administration Hall	1/23/2008	1	17	\$126.09	\$90.40	\$216.49
	2/20/2008	1	25	\$147.19	\$120.24	\$267.43
	3/20/2008	1	19	\$148.88	\$70.48	\$219.36
Alumni Hall	4/4/2008	3	61	\$291.21	\$335.94	\$627.15
Audio Visual	4/4/2008	3	133	\$338.33	\$483.94	\$822.27
Child Care	1/23/2008	1	23	\$161.30	\$75.22	\$236.52
	2/20/2008	1	40	\$205.11	\$113.54	\$318.65
	3/20/2008	1	30	\$167.40	\$89.52	\$256.92
CDT	4/4/2008	3	256	\$394.75	\$888.27	\$1,283.02
CFPA	4/4/2008	3	153	\$541.33	\$402.12	\$943.45
College Hall	1/23/2008	1	114	\$327.40	\$380.48	\$707.88
	2/20/2008	1	274	\$689.41	\$851.76	\$1,541.17
	3/20/2008	1	179	\$623.49	\$421.45	\$1,044.94
Engineering Tech	4/4/2008	3	106	\$305.43		\$305.43
Facility Services	4/4/2008	3	36	\$125.62	\$158.28	\$283.90
Health Tech	1/23/2008	1	16	\$194.80	\$107.83	\$302.63
	2/20/2008	1	126	\$464.55	\$349.62	\$814.17
	3/20/2008	1	62	\$249.96	\$218.92	\$468.88
Industrial Tech	2/7/2008	1	22	\$224.49	\$153.47	\$377.96
	2/22/2008	1	70	\$317.31	\$284.99	\$602.30
	3/20/2008	1	99	\$396.69	\$310.37	\$707.06
Law Enforcement	4/7/2008	3	144	\$522.33	\$578.42	\$1,100.75
Library	4/4/2008	3	63	\$441.75	\$347.89	\$789.64
Math/Science	1/23/2008	1	22	\$179.85	\$143.34	\$323.19
	2/20/2008	1	53	\$249.86	\$223.27	\$473.13
	3/20/2008	1	39	\$201.96	\$179.11	\$381.07
SHAC	4/4/2008	3	300	\$913.62	\$1,107.77	\$2,021.39
Total Jan - March			2,482	\$8,950.11	\$8,486.64	\$17,436.75

Average Date

Water Cost	3.61	\$/CCF
Sewer Cost	3.42	\$/CCF
Usage	827	CCF/Month

**Owens Community College
Findlay Campus
2008 Water and Sewer Data**

Maintenance/Safety & Security Building

Month	Use CCF	Water	Sewer	Storm	Total
Jan	6	\$47.74	\$100.72	\$2.00	\$150.46
Feb	3	\$41.56	\$95.83	\$2.00	\$139.39
Mar	4	\$43.62	\$97.46	\$2.00	\$143.08
Apr	4	\$43.62	\$97.46	\$2.00	\$143.08
May	4	\$43.62	\$97.46	\$2.00	\$143.08
June	4	\$43.62	\$97.46	\$2.00	\$143.08
July	4	\$43.62	\$97.46	\$2.00	\$143.08
Aug	4	\$43.62	\$97.46	\$2.00	\$143.08
Sept	5	\$45.68	\$99.09	\$2.00	\$146.77
Oct	6	\$47.74	\$100.72	\$2.00	\$150.46
Nov	4	\$43.62	\$97.46	\$2.00	\$143.08
Dec	4	\$43.62	\$97.46	\$2.00	\$143.08
Total	52	\$531.68	\$1,176.04	\$24.00	\$1,731.72

Community Education & Wellness Center

Month	Use CCF	Water	Sewer	Storm	Total
Jan	9	77.62	162.13	\$2.00	\$241.75
Feb	16	92.04	173.54	\$2.00	\$267.58
Mar	13	85.86	168.65	\$2.00	\$256.51
Apr	2	63.2	150.72	\$2.00	\$215.92
May	23	106.46	184.95	\$2.00	\$293.41
June	10	79.68	163.76	\$2.00	\$245.44
July	9	77.62	162.13	\$2.00	\$241.75
Aug	8	75.56	160.5	\$2.00	\$238.06
Sept	12	83.8	167.02	\$2.00	\$252.82
Oct	13	85.86	168.65	\$2.00	\$256.51
Nov	11	81.74	165.39	\$2.00	\$249.13
Dec	11	81.74	165.39	\$2.00	\$249.13
Total	137	\$991.18	\$1,992.83	\$24.00	\$3,008.01

**Owens Community College
Findlay Campus
2008 Water and Sewer Data**

Education Center

Month	Use CCF	Water	Sewer	Storm	Total
Jan	5	319.04	567.17	\$2.00	\$888.21
Feb	5	310.8	560.65	\$2.00	\$873.45
Mar	9	387.02	620.96	\$2.00	\$1,009.98
Apr	2	345.82	588.36	\$2.00	\$936.18
May	9	399.38	630.74	\$2.00	\$1,032.12
June	4	319.04	567.17	\$2.00	\$888.21
July	4	288.14	542.72	\$2.00	\$832.86
Aug	4	296.38	549.24	\$2.00	\$847.62
Sept	4	304.62	555.76	\$2.00	\$862.38
Oct	23	463.24	681.27	\$2.00	\$1,146.51
Nov	11	387.02	620.96	\$2.00	\$1,009.98
Dec	11	397.32	629.11	\$2.00	\$1,028.43
Total	91	\$4,217.82	\$7,114.11	\$24.00	\$11,355.93

Child Care

Month	Use CCF	Water	Sewer	Storm	Total
Jan	4	43.62	97.46	\$2.00	\$143.08
Feb	5	45.68	99.09	\$2.00	\$146.77
Mar	6	47.74	100.72	\$2.00	\$150.46
Apr	7	49.8	102.35	\$2.00	\$154.15
May	8	51.86	103.98	\$2.00	\$157.84
June	7	49.8	102.35	\$2.00	\$154.15
July	12	60.1	110.5	\$2.00	\$172.60
Aug	15	66.28	115.39	\$2.00	\$183.67
Sept	15	66.28	115.39	\$2.00	\$183.67
Oct	11	64.22	113.76	\$2.00	\$179.98
Nov	9	53.92	105.61	\$2.00	\$161.53
Dec	10	55.98	107.24	\$2.00	\$165.22
Total	109	\$655.28	\$1,273.84	\$24.00	\$1,953.12

ATTACHMENT 4: GENERAL CONDITIONS OF THE CONTRACT

ARTICLE 1 - GENERAL PROVISIONS

1.1 Application and Governing Law

- 1.1.1 The Contract and the rights of the parties thereunder shall be governed by the laws of the State of Ohio. Any action or proceeding concerning the Contract shall be brought in a court of competent jurisdiction in Ohio. The Contractor irrevocably consents to such jurisdiction.
- 1.1.2 The parties to the Contract shall comply with Applicable Law.
- 1.1.3 Other rights and responsibilities of the Contractor and the Owner are set forth throughout the Contract Documents and included under different titles, articles, and paragraphs for convenience.

1.2 Conditions of the Contract

- 1.2.1 These General Conditions govern, take precedence over, and shall not be superseded or amended by Drawings and Specifications.
- 1.2.2 Nondiscrimination: The Contractor shall comply with Applicable Law regarding equal employment opportunity, including all applicable Executive Orders issued by the Governor of the State.
 - .1 In the hiring of employees for the performance of the Work under any Contract or Subcontract, no Contractor or Subcontractor, or any Person acting on the Contractor's or Subcontractor's behalf, shall, by reason of race, creed, sex, disability, military status, or color, discriminate against any citizen of the State in the employment of labor or workers who is qualified and available to perform the work to which the employment relates.
 - .2 No Contractor or Subcontractor, or any Person acting on a Contractor's or Subcontractor's behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of Work under the Contract on account of race, creed, sex, disability, military status, or color.
 - .3 In the event the Contractor fails to comply with these nondiscrimination clauses, the Contract may be terminated or suspended in whole or in part.
- 1.2.3 Hiring Under State Public Improvement Contracts
 - .1 Any provision of a hiring hall contract or agreement which obligates a Contractor to hire, if available, only employees referred to the Contractor by a labor organization shall be void as against public policy and unenforceable with respect to employment under any public improvement Contract unless at the date of execution of the hiring hall contract or agreement, or within 30 days thereafter, the labor organization has procedures in effect for referring qualified employees for hire without regard to race, color, religion, national origin, military status, or ancestry and unless the labor organization includes in its apprentice and journeyperson's membership, or otherwise has available for job referral without discrimination, qualified employees, both whites and non-whites (including African-Americans).
- 1.2.4 Affirmative Action
 - .1 The Contractor shall comply with the State's Equal Employment Opportunity requirements described under Ohio Administrative Code Sections 123:2-3 through 123:2-9 that include, without limitation, the requirements described under this subparagraph 1.2.4.

- .2 The Contractor shall demonstrate its good faith efforts to comply with the utilization goals currently established for minority and women employees and submit documentation to the Ohio Department of Administrative Services, Equal Opportunity Division ("EOD").
- .3 By the tenth day of each month, the Contractor shall submit to the EOD via the internet a completed Ohio Construction Contract Information Report – Input Form 29 (I-29) for the preceding month. The form and instructions for its completion are available at the EOD Web site: <http://www.das.ohio.gov/eod/CCInputForm29.htm>.

1.2.5 Prevailing Wages

- .1 The Contractor shall comply with the prevailing wage requirements described under Ohio Revised Code ("O.R.C.") Chapter 4115 that include, without limitation, the requirements described under this subparagraph 1.2.5.
- .2 The Contractor shall pay to laborers and mechanics performing Work on the Project the prevailing wage rates of the Project locality, as determined by the Ohio Department of Commerce, Wage and Hour Bureau.
- .3 The Contractor shall post in a prominent place readily accessible by all workers on the Site, a legible listing of the current classifications of laborers, workers, and mechanics employed under this Contract. The Contractor shall ensure that the rates posted are current and remain posted in legible condition during the period of the Contract.
- .4 The Contractor shall not be entitled to an increase in the Contract Sum on account of an increase in prevailing wage rates, except as otherwise provided by Applicable Law. The Contractor may access the Ohio Department of Commerce, Wage & Hour Bureau at its Web site, <http://198.234.41.198/w3/webwh.nsf/pages/PrevailingWageBid>, to obtain the current wage rates.

1.2.6 Notice of Commencement

- .1 The Owner shall prepare a Notice of Commencement and make it available as required under O.R.C. Section 1311.252.
- .2 Upon request, the Owner or the Contractor shall furnish the Notice of Commencement to Subcontractors and Material Suppliers, or any other member of the public.

1.3 Written Notice

1.3.1 Notice under the Contract Documents shall be validly given if:

- .1 Delivered personally to a member of the organization for whom the notice is intended;
- .2 Delivered, or sent by registered or certified mail, to the last known business address of the organization; or
- .3 Sent by facsimile, email, or Web-based project management software, provided the original, signed document is delivered within 3 business days after the date of the electronic transmission.

1.4 Contract Documents

1.4.1 Ownership

- .1 The Owner alone owns the Contract Documents and every right, title, and interest therein from the moment of creation.
- .2 The Contractor may retain copies, including reproducible copies, of the Contract Documents for information, reference, and performance of the Work.
- .3 The submission or distribution of the Contract Documents to meet official regulatory requirements or for similar purposes in connection with the Project is not a waiver of the

Owner's reserved rights in the Contract Documents. Any unauthorized use of the Contract Documents shall be at the sole risk of the entity making the unauthorized use.

1.4.2 Intent

- .1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor.
- .2 The Contract Documents are complementary, and what is required by one is binding as if required by all.
- .3 The Contractor shall provide all labor and materials necessary for the entire completion of the Work described in the Contract Documents and reasonably inferable to produce the intended results.
- .4 The Drawings govern dimensions, details, and locations of the Work. The Specifications govern quality of materials and workmanship.
- .5 The organization of the Specifications in divisions, sections, and articles, and the arrangement of Drawings shall not restrict the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- .6 In the event of inconsistency or conflict within the Contract Documents, the Contractor shall provide the better quality or greater quantity of Work, and comply with the stricter requirement.
- .7 Unless otherwise defined in the Contract Documents, words that have well-known technical or construction industry meanings are used in accordance with those recognized meanings.

1.4.3 Copies of Approved and Conformed Documents

- .1 The Contractor shall furnish the Owner, without charge, 3 complete sets of Plan Approval Documents bearing annotations, and the Certificate of Plan Approval, from the Ohio Department of Commerce, Industrial Compliance Division or its authorized representative(s). The Contractor shall keep and protect these documents, neatly consolidated, in a secure environment at the Site, maintain them during the course of the Project, and make them available upon request.
- .2 In the event of any conflict between the Contract Documents modified by Addenda and the Conformed Documents, the Contract Documents take precedence.

1.4.4 As-Built Documents

- .1 The Contractor shall maintain in good order at the Site a complete copy of all Contract Documents; Shop Drawings, Product Data, Samples and similar required submittals; manufacturer operating and maintenance instructions; certificates; Warranties; Requests for Interpretation and responses thereto; and other Project-related documents, all marked currently and accurately to record field changes and selections made during construction and to show actual installation where installation varies from Work as originally shown, including the exact location and depth of underground utility lines.
 - .1 Upon request, the Contractor shall furnish the Owner, without charge, with an electronic copy and 2 complete sets of As-Built Documents.
- .2 Before submitting each Contractor Payment Request, the Contractor shall record all changes on the Contract Documents, neatly in a contrasting color, noting new information not shown on the original Contract Documents. Failure to record all changes may cause payment to be withheld or delayed by the Owner.
- .3 If the Contractor uses Shop Drawings to indicate as-built conditions, the Contractor shall cross-reference the Shop Drawing sheet numbers to the corresponding sheet numbers on the Contract Documents. The Contractor shall note related numbers where applicable.

- .4 The Contractor shall keep a record of changes made to the Specifications, noting particularly any approved variation from manufacturer's installation instructions and recommendations.
- 1.4.5 Access to Documents
 - .1 The Contractor shall maintain, in a secure location at the Site, a set of Drawings and Specifications, approved by the Ohio Department of Commerce, Division of Industrial Compliance, and the records required by subparagraph 4.1.11.
 - .2 The Contractor shall at all times permit access to the documents described in subparagraphs 1.4.4 and 1.4.5.1 to authorized representatives of the State, local authorities having jurisdiction, and the Owner.
- 1.5 Taxes
 - 1.5.1 Only those materials that ultimately become a part of the completed structure or improvement which constitutes the Project shall be exempt from State sales tax and State use tax.
 - 1.5.2 The purchase, lease, or rental of material, equipment, parts, or expendable items as concrete form lumber, tools, oils, greases, and fuels, which are used in connection with the Work, are subject to the application of State sales tax and State use tax.
- 1.6 Royalties and Patents
 - 1.6.1 The Contractor shall pay all royalties, license fees, and assume all costs incident to the use, in the performance of the Work or the incorporation in the Work, of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others.
 - 1.6.2 If a particular invention, design, process, product, or device is specified in the Contract Documents and if, to the knowledge of the Owner, use of the specified item is subject to patent rights or copyrights calling for the payment of a license fee or royalty to others, the Owner shall disclose the existence of the rights in the Contract Documents.
 - .1 If the Contractor has reason to believe that use of the specified item is subject to patent or copyright protection, the Contractor shall immediately notify the Owner.
- 1.7 Assignment of Antitrust Claims
 - 1.7.1 By signing the Performance Contract, the Contractor assigns, conveys and transfers to the Owner any right, title, and interest to any claims or causes of action it may have or acquire under state or federal antitrust laws relating to any goods, products, or services purchased, procured, or rendered to the Owner pursuant to the Contract.
- 1.8 Use of Domestic Steel
 - 1.8.1 The Contractor is required by law to supply domestically produced steel products used for load bearing structural purposes on all projects funded in whole or in part with State funds.
 - 1.8.2 The Contractor, Subcontractors, and Material Suppliers shall comply with the requirements of the Department of Administrative Services' policy regarding the specification and use of domestically produced steel products, including furnishing the required certifications. The policy is available at the Department's web site, <http://das.ohio.gov/asd/Legpage.htm#Directives>, by clicking on the "DAS Directives" link and then clicking on "Required Use of Domestic Steel."
- 1.9 Performance Bond Reduction
 - 1.9.1 Upon notice and consent of the Contractor's Performance Bond Surety, the Owner may reduce the Performance Bond by 25 percent of the total amount of the Performance Bond after at least

50 percent of the Work has been completed, and by 50 percent after at least 75 percent of the Work has been completed, if all of the following conditions are met:

- .1 The Owner determines, in its sole discretion, that the percentage of Work completed at the time of determination has been satisfactorily performed and meets the terms of the Contract Documents, including a provision in regard to the time when the whole, or any specified portion, of the Work shall be completed; and
- .2 The Owner determines, in its sole discretion, that no disputed claim caused by the Contractor exists or remains unresolved.

1.10 Drug Free Workplace Program Participation

- 1.10.1 During the Contract Time, the Contractor shall be enrolled in and remain in good standing in the Ohio Bureau of Workers' Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC that meets the requirements specified in O.R.C. Section 153.03 ("OBWC-approved DFWP").
- 1.10.2 If the Contractor provides Subcontractors that provide labor on the Site, the Subcontractors shall be enrolled in and in good standing in the OBWC DFWP or an OBWC-approved DFWP.
 - .1 Each Subcontractor shall require all lower-tier Subcontractors with whom the Subcontractor is in contract for the Work to be enrolled in and be in good standing in the OBWC DFWP or an OBWC-approved DFWP prior to a lower-tier Subcontractor providing labor at the Site.
 - .2 Failure of the Contractor to require a Subcontractor to be enrolled in and be in good standing in the OBWC DFWP or an OBWC-approved DFWP prior to the time that the Subcontractor provides labor at the Site shall result in the Contractor being found in breach of the Contract and that breach shall be used in the responsibility analysis of that Contractor, or the Subcontractor who was not enrolled in a program, for future contracts with the State for five years after the date of the breach.
 - .3 Failure of a Subcontractor to require a lower-tier Subcontractor to be enrolled in and be in good standing in the OBWC DFWP or an OBWC-approved DFWP prior to the time that the lower-tier Subcontractor provides labor at the Site shall result in the Subcontractor being found in breach of the Contract and that breach shall be used in the responsibility analysis of that Subcontractor, or the lower-tier Subcontractor who was not enrolled in a program, for future contracts with the State for five years after the date of the breach.
 - .4 Prior to authorizing a Subcontractor to commence Work on the Project, the Contractor shall obtain the Owner's approval, and shall also submit written confirmation of the Subcontractor's enrollment on the Declaration of Subcontractors and Material Suppliers form to the Owner.

ARTICLE 2 - THE CONTRACTOR

2.1 Construction Procedures

- 2.1.1 The Contractor is solely responsible for and has control over all construction means, methods, manners, techniques, sequences, and procedures and for coordinating all portions of the Work.
 - .1 If the Contract Documents give instructions that affect construction means, methods, manners, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety of them and, except as stated below, shall be fully and solely responsible for the jobsite safety of the means, methods, manners, techniques, sequences, or procedures.
 - .2 If the Contractor determines that the means, methods, manners, techniques, sequences, or procedures may not be safe, the Contractor shall give timely written notice to the

Owner. The Contractor shall not proceed with that portion of the Work without further written instructions from the Owner. Any modification of the Contract shall be in accordance with Article 7.

- 2.1.2 The Contractor shall lay out and coordinate all lines, levels, elevations, and measurements for all the Work, coordinate and verify existing conditions, and notify the Owner of discrepancies and conflicts before proceeding with installation or excavation.
 - 2.1.3 The Contractor shall perform all cutting, fitting, or patching required for the Work and shall not endanger the Project by cutting, excavating, or otherwise altering the Project, or any part of it.
 - .1 If the Contractor requires sleeves for the Work, the Contractor shall furnish and install the sleeves. The Contractor is responsible for the exact location and size of all holes and openings required to be formed or built for the Work.
 - .2 The Contractor shall coordinate and allow sufficient time for installation of work by others before covering or closing the applicable portion of the Work.
 - .3 The Contractor's patching shall match and blend with the existing or adjacent surface(s).
 - 2.1.4 The Contractor shall comply with O.R.C. Sections 3781.25 through 3781.32. In addition, before starting excavation or trenching, the Contractor shall determine the location of any underground utilities and notify any public authority or utility having jurisdiction over the Project and secure any required approval.
 - .1 The Contractor shall give notice at least 2 business days in advance of excavation to the owners of underground utilities registered with the Ohio Underground Utility Protection Services ("OUPS" at www.oups.org, phone 800-362-2764), and the owners of underground utilities shown on the plans and specifications who are not registered members of OUPS. The owner of an underground utility is required within 48 hours notice to stake, mark, or otherwise designate the location of its utilities in the construction area together with its approximate depth. In the event that any underground utility owner fails to timely perform, the Contractor shall notify the Owner and contact the owner of the underground utility.
 - 2.1.5 The Contractor shall install all Work in accordance with the Contract Documents and any installation recommendations of the manufacturer, including required temperature and humidity limits for installation of the various materials.
 - 2.1.6 The Contractor shall comply with all requirements and conditions of the National Pollutant Discharge Elimination System ("NPDES") general permit, including, but not limited to, implementing and maintaining the control measures specified in the storm water pollution prevention plan which are related to the Work, maintaining records of its construction activities, removing materials no longer required, and taking proper action if there is a reportable quantity spill.
- 2.2 Review of Contract Documents and Field Conditions
- 2.2.1 Before starting each portion of the Work, the Contractor shall carefully study and compare the various Contract Documents relative to that portion of the Work, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the Site affecting it.
 - 2.2.2 If the Contractor finds any perceived ambiguity, conflict, error, omission, or discrepancy on or between any of the Contract Documents, or between any of the Contract Documents and any Applicable Law, the Contractor, before proceeding with the Work, shall promptly submit a Request for Interpretation ("RFI") to the Owner for an interpretation or clarification.
 - .1 Before submitting any RFI to the Owner, the Contractor shall carefully review the Contract Documents to ensure that the Contract Documents do not answer the RFI.
 - .2 The Owner shall respond to an RFI within 3 days of receiving the RFI.

.3 Any interpretation or clarification of the Contract Documents made by any Person other than the Owner, or in any manner other than writing, shall not be binding and the Contractor shall not rely upon it.

2.2.3 If the Contractor believes that it is entitled to an adjustment of the Contract Sum and guaranteed savings, or Contract Time, or both, on account of clarifications or instructions issued by the Owner in response to an RFI, the Contractor may request an adjustment to the Contract by giving written notice under subparagraph 7.2.3 within 7 days of receiving the Owner's RFI response.

2.2.4 If the Contractor does not notify the Owner per subparagraph 2.2.3, the Contractor shall have irrevocably accepted the RFI response without an adjustment to the Contract Sum, guaranteed savings, or Contract Time.

2.3 Construction Supervision

2.3.1 Unless waived by the Owner in writing, the Contractor shall provide continuous supervision at the Site by a competent superintendent when any Work is being performed and the Contractor's superintendent shall not be involved with any work other than the Project.

2.3.2 The Contractor's project manager and superintendent shall each have the responsibility and authority to act on behalf of the Contractor. All communications to the Contractor's project manager or superintendent shall be binding as if given directly to the Contractor.

2.3.3 The Contractor shall submit an outline of the qualifications and experience of the Contractor's proposed project manager and proposed superintendent, including references, to the Owner within 10 days of the Notice to Proceed.

.1 The Owner reserves the right to reject the Contractor's proposed project manager or proposed superintendent. Failure to notify the Contractor of the rejection within 30 days of receiving the required information shall indicate that the Owner has no objection.

.2 If the Owner rejects the Contractor's proposed project manager or proposed superintendent, the Contractor shall replace the project manager or superintendent (as appropriate) with someone acceptable to the Owner at no additional cost.

2.3.4 The Contractor shall not replace its project manager or superintendent without the Owner's prior written approval.

.1 If the Contractor proposes to change its project manager or superintendent, the Contractor shall submit written justification for the change to the Owner, along with the name and qualifications of the Contractor's proposed replacement.

.2 The procedure provided in subparagraph 2.3.3 shall be conducted to evaluate the Contractor's proposed project manager or superintendent.

2.4 Protection of the Project

2.4.1 The Contractor shall protect the Work from weather and maintain the Work and all materials, apparatus, and fixtures free from injury or damage until Final Acceptance, or Partial Occupancy if applicable.

.1 The Contractor shall at all times cover or protect the Work.

.2 The Contractor, at its expense, shall remove, and replace with new, any Work damaged as a result of Contractor's failure to provide coverage or protection.

.3 The Contractor, at its expense, shall repair or replace any adjacent property, including, but not limited to, roads, walks, shrubbery, plants, trees, or turf, damaged during performance of the Work.

- .4 After the date of Final Acceptance, or Partial Occupancy if applicable, the Owner is responsible for protecting and maintaining all materials, apparatus, and fixtures for the occupied portion of the Project free from injury or damage.
 - 2.4.2 The Contractor shall protect the Project and existing or adjacent property from damage at all times and shall erect and maintain necessary barriers, furnish and keep lighted necessary danger signals at night, and take reasonable precautions to prevent injury or damage to individuals or property.
 - 2.4.3 The Contractor shall not load, nor permit any part of the Project to be loaded, in any manner that endangers the Project, or any portion thereof. The Contractor shall not subject any part of the Project or existing or adjacent property to stress or pressure that endangers the Project or property.
 - 2.4.4 The Contractor shall provide all temporary bracing, shoring, and other structural support required for safety of the Project and proper execution of the Work.
- 2.5 Materials and Equipment
- 2.5.1 The Contractor shall provide new materials and equipment of the quality specified in the Contract Documents.
 - 2.5.2 The Contractor shall bring to, or store at, the Site only the materials and equipment required in the Work.
 - .1 The Contractor shall properly store and protect all materials and equipment it provides to the Project.
 - .2 The Contractor shall timely remove from the Site any materials or equipment no longer required for the Work.
 - 2.5.3 The Contractor shall not allow materials or equipment to damage the Project or adjacent property, nor to endanger any individual at, or near, the Site.
 - 2.5.4 If the Contractor provides an Acceptable Component, the Contractor shall be solely responsible for the costs of coordination and modification required.
 - 2.5.5 If the Contractor provides approved Substitutions that require changes to the Contract Documents or affects the work of Separate Contractors, the Contractor shall be solely responsible for the additional costs incurred as a result.
- 2.6 Labor
- 2.6.1 The Contractor shall maintain a sufficient workforce and enforce good discipline and order among its employees and the employees of its Subcontractors and Material Suppliers. The Contractor shall not permit employment of individuals not skilled in tasks assigned to them.
 - 2.6.2 The Contractor shall dismiss from the Project any individual employed by the Contractor, or the Contractor's Subcontractors and Material Suppliers, who the Owner finds, in its sole discretion, to be incompetent, guilty of misconduct, or detrimental to the Project.
 - 2.6.3 The Contractor shall employ all legal efforts to minimize the likelihood or effect of any strike, work stoppage, or other labor disturbance. Informational pickets shall not justify any work stoppage.
- 2.7 Safety Precautions
- 2.7.1 The Contractor shall take reasonable precautions to ensure the safety of individuals on the Project.

- 2.7.2 The Contractor shall pay any fine or cost incurred because of the Contractor's violation, or alleged violation, of Applicable Law.
- 2.7.3 Before starting any Work:
 - .1 The Contractor shall submit to the Owner a copy of the Contractor's site-specific safety plan and safety manuals.
- 2.7.4 The Contractor shall not introduce Hazardous Materials to the Project or burn any fires on the Site.
- 2.7.5 Work Stoppage Due to Hazardous Materials:
 - .1 If the Contractor encounters material the Contractor reasonably believes to be, or contain, a Hazardous Material, which has not been rendered harmless, the Contractor shall immediately stop Work in the affected area and verbally report the condition to the Owner, and within 1 business day deliver written notice of the condition to the Owner. A licensed abatement Contractor shall issue a report of the condition to the Owner in writing and remove the material or render it harmless as directed.
 - .2 The Contractor shall resume Work in the affected area upon written notice from the Owner that (1) the suspect material was evaluated and found not to be or contain a Hazardous Material, or (2) the suspect material has been removed or rendered harmless.
 - .3 If the Contractor knowingly or negligently proceeds with the Work in an area where a Hazardous Material exists and has not been rendered harmless, the Contractor shall be solely responsible for all related claims, damages, losses, and expenses, including, but not limited to, attorneys fees, arising out of or resulting from performing the Work in the affected area.
 - .4 The term "rendered harmless" means that the level of exposure is less than any applicable exposure standards set forth in Applicable Law.
- 2.7.6 Material Safety Data Sheets
 - .1 The Contractor shall identify any material it uses at the Site with a Material Safety Data Sheet ("MSDS").
 - .2 The Contractor shall maintain a notebook containing all of its applicable MSDS. This notebook shall be kept at the Site for the duration of the Project.
- 2.8 Construction Facilities, Utilities, and Equipment
 - 2.8.1 Facilities
 - .1 The Contractor shall provide and maintain in a clean condition suitable temporary facilities, equipment, services, and enclosed storage for its use at the Site.
 - .2 The Contractor shall provide and maintain in a clean condition:
 - .1 Suitable facilities, equipment, and services for the Owner's use;
 - .2 Adequate space, equipment, and furnishings to conduct progress meetings, and store approved documents and permits; and
 - .3 Adequate sanitary facilities for use by all Persons at the Site.
 - 2.8.2 Environmental Controls
 - .1 The Contractor shall protect its Work and materials from weather and damage from heat, cold, and humidity.
 - .2 Until the permanent HVAC systems are complete and available for use:

- .1 The Contractor shall make arrangements and pay for installation and maintenance of temporary heating and ventilating systems; and
- .2 The Contractor shall pay the costs incurred in operating the temporary heating and ventilating systems.
- .3 When the permanent HVAC systems are completed and available for use:
 - .1 The Contractor shall start up and maintain operation of the permanent HVAC system, including filters, and promptly remove temporary and heating and ventilating systems; and
 - .2 If the Project consists entirely of new construction, the Contractor shall pay the costs of operating the permanent HVAC system until Final Acceptance, or Partial Occupancy if applicable.
 - .3 If the Project is a renovation of an existing building or structure, addition(s) to an existing building or structure, or any combination of new construction and renovation work that does not allow separate metering of utilities, the Owner shall pay the costs of operating the permanent HVAC system.
- .4 From the date of Final Acceptance, or Partial Occupancy if applicable, the Owner shall pay the cost of operating the permanent HVAC system for the occupied portion of the Project.
- .5 If the permanent HVAC system is used during construction, the HVAC Contractor shall furnish an extended warranty and service contract in effect until the expiration of the period for correction described in paragraph 2.16.

2.8.3 Water and Drainage

- .1 The Contractor shall provide water necessary for the Work until the permanent plumbing system is available for use.
- .2 The Contractor shall provide temporary drainage and dewatering necessary for the Work and shall employ pumps, trenches, drains, sumps, and other necessary elements required to provide satisfactory working conditions for the protection, execution, and completion of the Project.
- .3 The Contractor shall make arrangements and pay for installation and maintenance of temporary plumbing systems until the permanent plumbing system is available for use.
- .4 When the permanent plumbing system is complete and available for use:
 - .1 The Contractor shall start up and maintain operation of the permanent plumbing systems, and make arrangements and pay for removal of temporary plumbing systems; and
 - .2 If the Project consists entirely of new construction, the Contractor shall pay the costs of water consumed and sewerage charges until Final Acceptance, or Partial Occupancy if applicable.
 - .3 If the Project is a renovation of an existing building or structure, addition(s) to an existing building or structure, or any combination of new construction and renovation work that does not allow separate metering of utilities, the Owner shall pay the costs of water consumed and sewerage charges.
- .5 From the date of Final Acceptance, or Partial Occupancy if applicable, the Owner shall pay the costs of water consumed and sewerage charges for the occupied portion of the Project.

- .6 If the permanent plumbing system is used during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the period for correction described in paragraph 2.16.

2.8.4 Electric Service

- .1 The Contractor shall provide temporary light and power; pay the charges for temporary electric service installation, and removal if required.
 - .1 A Contractor requiring these services shall subcontract with a licensed contractor for the service requirements and shall pay the costs of the services.
- .2 If the Project consists entirely of new construction, the Contractor shall pay the charges for energy consumed until Final Acceptance of the Project, or Partial Occupancy if applicable.
- .3 If the Project is a renovation of an existing building or structure, addition(s) to an existing building or structure, or any combination of new construction and renovation work that does not allow separate metering of utilities, the Owner shall pay the cost of energy consumed.
- .4 From the date of Final Acceptance, or Partial Occupancy if applicable, the Owner shall pay the cost of energy consumed for the occupied portions of the Project.
- .5 If the permanent electrical system is used during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the period for correction described in paragraph 2.16.

2.8.5 Hoisting Facilities

- .1 The Contractor shall erect and maintain any hoisting equipment required for its Work .
- .2 If the electric service requirements of hoisting facilities differ from that available at the Site, the Contractor shall provide and pay for all necessary connections.
- .3 A Contractor requiring use of hoisting facilities, after the Project is enclosed, shall transport Persons and materials required for its Work.
- .4 If a permanent elevator is identified in the Contract Documents to be used for hoisting materials or personnel during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the period for correction described in paragraph 2.16.

2.9 Building and Trade Permits and Licenses

2.9.1 Plan Approval

- .1 The Contractor shall secure the required structural, plumbing, HVAC, and electrical plan approvals from the Ohio Department of Commerce, Division of Industrial Compliance.
 - .1 If the Project is not on State property, the Contractor shall secure the plan approvals from the local certified building department with jurisdiction.
- .2 The Contractor shall schedule and attend all intermediate and final inspections required for any permit applicable to the Work. The Contractor shall schedule the State Fire Marshal or local fire authority for the life safety inspection for occupancy permits. The Contractor shall give the Owner reasonable notice of the dates and times arranged for inspections.

2.9.2 Trade Permits and Licenses

- .1 The Contractor shall obtain, maintain, and pay for any permit or license applicable to the Contractor's particular trade(s).

2.9.3 Local Permits

- .1 The Contractor shall secure and pay the fees for any permits, licenses, capacity charges, or tap fees required by local authorities having jurisdiction over the Project. The Contractor shall give the Owner reasonable notice of the date arranged for inspections.

2.9.4 National Pollutant Discharge Elimination System ("NPDES") Storm Water General Permit

- .1 The Contractor shall secure the NPDES general permit by submitting a Notice of Intent application form to the Ohio Environmental Protection Agency at least 45 days prior to the start of construction.
- .2 The Contractor shall prepare and certify a storm water pollution prevention plan to provide sedimentation and erosion controls at the Project.
- .3 The Contractor shall prepare and process the required Notice of Termination ("NOT") prior to Contract Completion.

2.10 Tests and Inspections

2.10.1 Unless otherwise specified in the Contract Documents, the Contractor shall apply for, secure, and pay for the costs of structural testing and special inspections under Chapter 17 of the Ohio Building Code; testing including geotechnical analysis, environmental testing and analysis, concrete, masonry, structural steel, reinforcing steel, welding, bolts, steel connections, HVAC systems and controls, plumbing and piping, air and water balancing and testing, or other testing; or approval required by Applicable Law.

2.10.2 If the Owner determines that any portion of the Work requires special inspection, testing, or approval not otherwise required under the Contract Documents, the Owner may instruct the Contractor in writing to order such inspection, testing, or approval.

- .1 If the special inspection, testing, or approval reveals Defective Work, the Contractor shall pay all associated costs. Those costs may include, but are not limited to:
 - .1 The cost of the special inspection, testing, or approval;
 - .2 The cost of additional special inspections, testing, or approvals to evaluate remedial Work;
 - .3 The cost of correcting the Defective Work; and
 - .4 All related Owner-incurred fees and charges of engineers, architects, attorneys, and other professionals.
- .2 The Owner may deduct the costs described under subparagraph 2.10.2.1 from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.
- .3 If the special inspection, testing, or approval reveals that the Work complies with the Contract Documents, the Owner shall pay the Contractor for all associated costs by appropriate Contract modification.

2.10.3 If the Contractor is aware of a need for inspection, testing, or approval, or of a need to have any inspection, testing, or approval completed by a particular time to avoid delay, then the Contractor shall timely communicate such information to the Owner.

2.10.4 Except as described under subparagraph 2.10.2, the Owner shall pay for any inspection, testing, or approval that did not become a requirement until after it awarded the Contract.

2.10.5 The Contractor shall coordinate with and give the Owner reasonable notice of the anticipated dates of all inspections, testing, or approvals.

2.10.6 Neither the observations of the Owner in the administration of the Contract, nor any inspection, test, or approval by Persons other than the Contractor shall relieve the Contractor from the Contractor's obligation to perform the Work in conformity with the Contract Documents.

2.11 Progress Cleaning

2.11.1 The Contractor shall remove all waste materials and rubbish attributable to the Work to an appropriate disposal location acceptable to the Owner at, or near, the Site.

2.11.2 The Contractor shall perform daily cleaning in the area of the Work and maintain the Site in a clean condition acceptable to the Owner.

2.11.3 The Contractor shall remove, once each working day or as appropriate for the Project, all waste materials, and rubbish from the disposal location at, or near, the Site.

2.11.4 The Contractor shall remove, as appropriate for the Project or as the Owner directs, any waste materials or rubbish from areas adjacent to the Project.

2.11.5 If the Contractor fails to clean up during the progress of the Work, the Owner may clean up on behalf of the Contractor and at the Contractor's expense. If the Contractor fails to maintain the areas adjacent to the Project clean and free of waste materials and rubbish, the Owner may also direct the local jurisdiction responsible for the area to have the area cleaned to its satisfaction at the Contractor's expense.

- .1 The Owner may deduct the cleaning costs from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

2.12 Substitutions after the RFP Proposal Deadline

2.12.1 The Owner shall consider Requests for Substitutions after the RFP Proposal deadline only when the Contractor can conclusively demonstrate to the Owner the following conditions:

- .1 The specified Standards or Approved Equals, through no fault of the Contractor or the Contractor's Subcontractors and Material Suppliers, are not available; or
- .2 The specified Standards or Approved Equals will not perform as designed or intended.

2.12.2 The Contractor's incorporation of unapproved Substitutions in the Work shall constitute Defective Work.

2.13 Explosives and Blasting

2.13.1 The Contractor shall not conduct blasting on, or bring explosives to, the Site without the prior written approval of the Owner and other authorities with jurisdiction.

2.13.2 The Contractor shall perform all blasting, storing, and handling of explosives as required under Applicable Law.

- .1 The Contractor shall carry appropriate liability insurance coverage, as required by the Contract Documents, for its blasting and explosives storage and handling operations. Immediately upon request, the Contractor shall deliver evidence of that insurance to the Owner.

2.14 Emergency

2.14.1 In the event of an emergency affecting the safety of the Project, other property, or individuals, the Contractor, without special instruction or authorization, shall act to prevent the threatened damage, injury, or loss.

2.14.2 If the Contractor believes that it is entitled to an adjustment of the Contract Sum and guaranteed savings, or Contract Time, or both, on account of its actions in response to an emergency, the Contractor may request an adjustment to the Contract by giving written notice under subparagraph 7.2.3.

2.15 Uncovering the Work

2.15.1 If the Contractor covers Work contrary to the requirements of the Contract Documents or contrary to the written request of the Owner, the Contractor shall, if the Owner requests in writing, uncover that Work for observation, correct it if not in conformity with the Contract Documents, and recover it at the Contractor's expense and without adjustment of the Contract Time.

2.15.2 If the Contractor covers Work in accordance with the Contract Documents and not contrary to a request from the Owner for an opportunity to observe the Work prior to covering, the Contractor shall, if the Owner requests in writing, uncover that Work.

.1 If the uncovered Work is Defective Work, the Contractor shall pay the costs of uncovering, correcting, and recovering the Work and shall not be entitled to an adjustment of the Contract Time.

.2 If the uncovered Work is not Defective Work and the Contractor believes that it is entitled to an adjustment of the Contract Sum and guaranteed savings, or Contract Time, or both, on account of the uncovering and recovering of the Work, the Contractor may request an adjustment to the Contract by giving written notice under subparagraph 7.2.3.

2.16 Correction of the Work

2.16.1 The Contractor shall promptly correct any Work rejected by the Owner or Work that is Defective Work, whether discovered before or after Final Completion and whether or not fabricated, installed, or completed. The Owner shall specify in a written notice to the Contractor the time within which the Contractor shall correct the Work.

2.16.2 After Final Completion

.1 In addition to the Contractor's other obligations under the Contract Documents, if within 1 year after the date of Final Completion of the Work any of the Work is found to be Defective Work, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so, unless the Owner has previously accepted the Defective Work in writing.

.2 If the Contractor fails to correct the Defective Work promptly after receiving the notice to do so, the Owner may correct it without giving further notice to the Contractor.

.3 The 1-year period for correction of Work shall not be extended by corrective Work performed by the Contractor under this subparagraph 2.16.2.

.4 The 1-year period for correction of Work:

.1 Relates only to the Contractor's specific obligation to correct the Work;

.2 Does not establish a period of limitation with respect to any of the Contractor's other obligations under the Contract Documents;

.3 Has no relationship to the time within which the Owner may seek to enforce the Contract; and

.4 Does not establish a period of limitation within respect to the commencement of litigation to establish the Contractor's liability under the Contract or otherwise.

2.16.3 Responsibility for Costs of Correction

- .1 The Contractor shall pay all of the costs and damages associated with the correction of the Work. Those costs and damages may include, but are not limited to, the related fees and charges of engineers, architects, attorneys, and other professionals; the cost of correcting or replacing adjacent work; and any consequential damages. The Owner may deduct the costs and damages it incurs from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

2.17 Interruption of Existing Services

- 2.17.1 Whenever it becomes necessary to interrupt existing services in use by the Owner or its tenants, including, but not limited to, sewer, water, gas, and steam lines, electric, telephone, and cable service, the Contractor shall continue the associated Work on a non-stop 24-hour per day basis until that Work is completed and the service restored, or at an alternate time required by the Owner.
- 2.17.2 Before beginning that Work, the Contractor shall apply in writing to, and receive approval in writing from, the Owner to establish a time when interruption of the service will cause a minimum of interference with the activities of the Owner and its tenants.

2.18 Indemnification for Injury or Damage

- 2.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner and its respective officials, officers, consultants, agents, representatives, and employees, in both individual and official capacities (individually "Indemnified Party"; collectively "Indemnified Parties"), from and against all claims, damages, losses, and expenses (including the fees and charges of engineers, architects, construction managers, attorneys, and other professionals), direct, indirect, or consequential arising out of or in connection with the Project, but only to the extent caused by the negligence of the Contractor, or a person or entity for whom the Contractor may be liable, regardless of whether or not the claim, damage, loss or expense is caused in part by an Indemnified Party.
 - .1 In the event of any injury, death, loss, damage, or related claims, the Contractor shall give prompt written notice to the Owner.
- 2.18.2 The Contractor's obligations under subparagraph 2.18.1 shall not negate, abridge, or reduce other rights or obligations of indemnity, which would otherwise exist as to an Indemnified Party.
- 2.18.3 The Contractor's obligations under subparagraph 2.18.1 shall not be limited by a limitation on the amount or type of damages, compensation, or benefits payable under workers' compensation acts, disability benefit acts or other employee benefit acts, or any insurance policy provided or required in connection with the Project.

2.19 Indemnification for Patent or Copyright Use

- 2.19.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Indemnified Parties from and against all claims, damages, losses, and expenses (including the fees and charges of engineers, architects, construction managers attorneys, and other professionals), direct, indirect, or consequential arising out of the Contractor's infringement of patent rights or copyrights.

2.20 Indemnification for Use of Electronic Files

- 2.20.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Indemnified Parties from and against all claims, damages, losses, and expenses (including, but not limited to, the fees and charges of engineers, architects, attorneys, and other professionals)

arising out of, or related to the Contractor's, or any other Person's use of electronic files, including, but not limited to, Computer-Aided Design ("CAD") or Building Information Modeling ("BIM") files (collectively "Electronic Files").

- .1 These Electronic Files are provided solely for the Contractor's convenience and use related to the Project. Any use of the Electronic Files shall be at the sole risk of the Contractor.
- .2 The Owner alone owns the Electronic Files and every right, title, and interest therein from the moment of creation.
- .3 The Electronic Files are not products.
- .4 The Contractor shall not use the Electronic Files for any purpose other than as a convenience for preparing Shop Drawings, Coordination Drawings, Record Drawings, or fabrication data for components, systems, and assemblies intended solely for use on the Project.
- .5 The Owner makes no warranties, either express or implied, of the merchantability or fitness of the Electronic Files for any particular purpose.
- .6 The Contractor understands and accepts that the Electronic Files may deteriorate or be inadvertently or otherwise modified without the Owner's authorization.
- .7 The Owner makes no representations as to compatibility, usability, or readability of the Electronic Files resulting from the use of software, application packages, operating systems, or computer hardware differing from those used to create the Electronic Files.
- .8 In the event of a conflict between the Contract Documents and the Electronic Files, the Contract Documents shall control, take precedence over, and govern the Electronic Files.
- .9 The Contractor alone is responsible to check, verify, and otherwise confirm the accuracy of data on the Electronic Files.
- .10 The Contractor shall not make any claims and hereby waives, to the fullest extent permitted by law, any claims or causes of action of any nature against the Indemnified Parties, which may arise out of, or in connection with, the use of the Electronic Files.

2.21 Warranty

- 2.21.1 The Contractor warrants to the Owner that all materials and equipment furnished under the Contract shall be new and of good quality unless otherwise required or permitted by the Contract Documents, that the Work shall be free from defects not inherent in the quality required or permitted, and that the Work shall conform to the requirements of the Contract Documents. Work not conforming to those requirements, including Substitutions not properly approved and authorized, may be considered Defective Work. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

ARTICLE 3 - CONTRACT ADMINISTRATION

3.1 Project Oversight

- 3.1.1 The Contractor shall notify, advise, and consult with the Owner and protect the Owner and the State against Defective Work throughout the completion of the Project, which includes a period of 1 year after Final Acceptance.
 - .1 The Contractor shall designate a field representative, subject to the Owner's approval, to attend to the Project to observe and check the progress and quality of the Work, and to take action as necessary or appropriate to achieve conformity with the Contract Documents.

- .2 The Contractor shall have its consultants attend the Project at the intervals required by the Owner.
- 3.1.2 The Owner is not responsible for construction means, methods, manners, techniques, sequences, procedures, safety precautions, and programs in connection with the Work, or for the Contractor's failure to carry out the Work in conformity with the Contract Documents.
- 3.2 The Contractor's Contract Administration Duties
 - 3.2.1 The Contractor shall provide administration of the Contract as provided in the Contract Documents including, but not limited to, the performance of the functions described as follows:
 - .1 The Contractor shall attend and conduct progress meetings. The Contractor shall prepare an agenda and produce a written report of each progress meeting, and distribute the report to the Owner within 3 working days after the meeting. The Contractor shall not delegate the duty to prepare the agenda and written reports of any progress meeting.
 - 3.2.2 The Contractor is the initial interpreter of all requirements of the Contract Documents. All decisions of the Contractor are subject to final determination by the Owner.

ARTICLE 4 - CONSTRUCTION COORDINATION

- 4.1 Responsibility of the Contractor
 - 4.1.1 The Contractor shall complete portions of the Work in the sequence and time in the Construction Progress Schedule.
 - 4.1.2 The Contractor shall supervise the Work.
 - 4.1.3 The Contractor shall cooperate with the Owner so as not to interfere with, disturb, hinder, or delay the Owner's responsibilities.
 - 4.1.4 The Contractor shall consult with the Owner to obtain full knowledge of the Owner's rules, regulations, or requirements affecting the Project. The Contractor shall establish the Project's regular working hours, subject to prior written approval by the Owner.
 - 4.1.5 The Contractor shall coordinate the Work with the activities and responsibilities of the Owner to complete the Project in accordance with the Contract Documents.
 - 4.1.6 The Contractor shall develop and keep current the Construction Progress Schedule in accordance with paragraph 4.2, and prepare and keep current a schedule of submittals that is coordinated with the Construction Progress Schedule, for the Owner's acceptance.
 - 4.1.7 The Construction Progress Schedule shall not exceed the time limits current under the Contract Documents, shall provide for reasonable, efficient, and economical execution of the Project, and shall relate to the entire Project to the extent required by the Contract Documents.
 - 4.1.8 The Contractor shall use the Construction Progress Schedule to plan, organize, and execute the Project, record and report actual performance and progress, and show how it plans to coordinate and complete all remaining work by the Contract Completion date.
 - 4.1.9 The Contractor shall monitor the progress of the Work for conformance with the Construction Progress Schedule and shall initiate revisions as required by subparagraph 4.2.13.
 - 4.1.10 In the event of default of the Contractor, the Contractor shall cooperate with the Owner and the Contractor's Performance Bond Surety to achieve the Contract Completion date.
 - 4.1.11 The Contractor shall keep a daily log containing a record of weather, number of workers on Site for the Contractor, identification of equipment, Work accomplished, problems encountered, and other similar relevant data.

4.2 Construction Progress Schedule

- 4.2.1 The Contractor shall provide a bar chart schedule with a logical sequence of events and sufficient detail to properly anticipate and monitor construction progress.
- 4.2.2 The Contractor shall prepare a Construction Progress Schedule by providing the following:
- .1 A graphic presentation of the sequence of the Work for the Project in the media and format required for the Project;
 - .2 Identification of each phase of the Work and any Milestone dates;
 - .3 Identification of activities and durations for review and approval of Shop Drawings and other action submittals, fabrication and review of mock-up Work, product review and procurement, fabrication, shop inspection, and delivery, including, but not limited to, lead time, coordination drawing delivery, Punch List, Punch List Correction, Project close-out requirements, Contract Completion, and occupancy requirements;
 - .4 Identification of disruptions and shutdowns due to other operations;
 - .5 Identification of the critical path of the Work;
 - .6 Identification of the crew size and total resource hours for each activity in the schedule; and
 - .7 The Contractor's signature and date indicating approval.
- 4.2.3 The Contractor shall develop the Construction Progress Schedule using commercially available, personal computer software that is acceptable to the Owner and shall provide final copies in color, in full size and 11 by 17 inches. The Contractor shall submit all baseline and updated schedules to the Owner in electronic format.
- 4.2.4 The Project participants shall use the Construction Progress Schedule as a tool for scheduling and reporting sequenced progress of the Work. The Contractor shall provide a clear graphics legend and other data including, but not limited to, Milestone dates, constraints, and other items required by the Project and the Owner. Each submission shall show the Owner's Project number and Project name, and provide a signature approval and date line for the Contractor.
- 4.2.5 The Contractor shall provide in each schedule: Activity identification and description for each activity broken down to a maximum duration that is appropriate for the activity, responsibility of the Contractor, Contractor's resources and crew size for each activity, provide early start, early finish, late start, late finish. Each schedule shall show predecessor activities and successor activities for each activity, entry free float, total float, and percentage of completion, and identify the appropriate predecessors and successors for all related activities.
- 4.2.6 The Construction Progress Schedule shall show all submittal dates, coordination drawing preparation, shop drawings submittals, and mock-up review and approval durations.
- 4.2.7 The Contractor shall submit the Construction Progress Schedule in graphic and tabular form. Provide a 2- to 6-week look-ahead schedule, as appropriate for the Project, for each progress meeting and provide, with each monthly schedule update, a list of all changes to the previously approved baseline schedule or monthly updated schedule.
- 4.2.8 The Construction Progress Schedule shall be managed using early start dates and early finish dates. Free float and total float are resources of the Project, and the use of float associated with an activity is not permitted without the Owner's prior written concurrence.
- 4.2.9 Within 30 days of the date of the Notice to Proceed, the Contractor shall submit to the Owner a proposed Construction Progress Schedule approved by the Contractor.
- .1 Upon receipt of the proposed Construction Progress Schedule, the Owner shall review the Construction Progress Schedule and schedule of submittals, and accept it or reject it and return it to the Contractor with recommendations for revisions.

- .2 Failure to timely approve a Construction Progress Schedule may result in a back-charge to the Contractor, in accordance with paragraph 5.2, and may result in suspension or termination of the Contract in accordance with Article 12.
- 4.2.10 On a weekly basis, the Contractor shall prepare and submit to the Owner a written report describing:
- .1 Activities begun or finished during the preceding week;
 - .2 Activities in progress and expected completion;
 - .3 Activities to be started or finished in the upcoming 2 weeks, including but not limited to, the Contractor's workforce size and total resource hours associated with those activities; and
 - .4 Other information requested by the Owner.
- 4.2.11 The Contractor shall attach the above information to the minutes of the weekly progress meetings.
- 4.2.12 The Contractor shall provide monthly progress reports to the Owner, which shall include recommendations for adjusting the Construction Progress Schedule to meet Milestone dates and the Contract Completion date.
- .1 If it is apparent to the Owner that the Contractor may be unable to meet critical path activities, Milestone completion dates, or the Contract Completion date; the Owner shall direct the Contractor to submit within 3 days a recovery plan to avoid or minimize the delay to the Project.
 - .2 A recovery plan shall include, but is not limited to, adjustments to one or more of the following:
 - .1 Workforce
 - .2 Hours per shift
 - .3 Shifts per workday
 - .4 Workdays per week
 - .5 Equipment
 - .6 Activity logic
 - .3 If the Owner approves the recovery plan, the Contractor shall prepare a revised Construction Progress Schedule that shall be signed and approved in accordance with subparagraph 4.2.9. If the Owner fails to approve a time recovery plan, the Contractor shall submit within 3 days an alternate recovery plan to the Owner in writing for review and approval in accordance with subparagraph 4.2.9.
 - .4 Failure to timely approve an updated Construction Progress Schedule may result in a back-charge to the Contractor, in accordance with paragraph 5.2, or in suspension or termination of the Contract in accordance with Article 12.
- 4.2.13 The Contractor shall update the Construction Progress Schedule on a monthly basis, or other interval approved by the Owner, in accordance with subparagraph 4.2.9.
- .1 The updated Construction Progress Schedule signed by the Contractor shall serve as an affirmation and certification that the Contractor can meet the requirements of the updated Construction Progress Schedule.
 - .2 The Contractor shall submit a tabular copy showing all changes to the previously approved schedule including, but not limited to, logic, float, and actual start date of activities. The original or initially approved Construction Progress Schedule and all subsequent Construction Progress Schedules signed by the Contractor, and accepted by

the Owner, shall serve as an affirmation that the Contractor agrees to and can meet the applicable requirements of the updated Construction Progress Schedule.

- .3 Failure to timely approve an updated Construction Progress Schedule may result in a back-charge to the Contractor, in accordance with paragraph 5.2, or in suspension or termination of the Contract in accordance with Article 12.

4.3 Progress Meetings

- 4.3.1 The Contractor shall schedule a weekly progress meeting for the Contractor and the Owner. The purpose of the progress meeting is to review progress on the Project during the previous week, discuss anticipated progress during the following weeks, review critical operations, and discuss critical problems.
- 4.3.2 The Contractor shall be represented at every progress meeting by a Person authorized with signature authority to make decisions regarding possible modification of the Contract Documents or Construction Progress Schedule.
 - .1 The Contractor shall notify the Owner of the time and place of the progress meeting that shall thereafter be the same day and hour of the week for the duration of the Project, unless the Contractor notifies the Owner of a different day and hour at least 2 days in advance.
 - .2 The Contractor shall have any of its Subcontractors and Material Suppliers attend the progress meeting as determined advisable by the Contractor, or as requested by the Owner.
- 4.3.3 The Contractor shall prepare a written report of each progress meeting and distribute the report to the Owner. The Contractor shall not delegate the duty to prepare a written report of any progress meeting.
 - .1 If any Person in attendance objects to anything in a report of a progress meeting, the Person shall notify the Contractor and the Owner in writing explaining the objection within 5 days.
 - .2 The report of each progress meeting shall reflect any objection made to the report of the previous progress meeting and any response.

4.4 Project Coordination Meetings

- 4.4.1 The Contractor shall schedule and conduct a weekly coordination meeting for the Contractor and appropriate Subcontractors and Material Suppliers ("Coordination Participants").
 - .1 The purpose of the coordination meeting is to discuss the sequence of construction and its relationship with the approved Construction Progress Schedule; to establish the intended location of equipment, pipe, duct, conduit, and other components of the Project; and to coordinate the appropriate shared use of available construction space; especially interstitial spaces, chases and mechanical rooms; and construction storage space.
 - .2 Each Coordination Participant shall be knowledgeable about the Project and the scope of its work. One individual from each Coordination Participant shall have authority to make decisions regarding the coordination process and drawings.
 - .3 Each Coordination Participant shall come to the coordination meetings prepared to demonstrate and furnish documentation that it has anticipated the work of other Persons, and planned its installation. Each Coordination Participant shall coordinate its installation with the work of other Persons.
 - .4 Each Coordination Participant shall utilize documentation and information provided by other Coordination Participants to verify that the utility requirements, physical size, and

characteristics of planned equipment are compatible with related or connected equipment, existing or planned building components, and existing or planned utilities.

- .5 The Coordination Participants shall utilize the documentation and information provided by each of them in determining the actual placement and positioning of equipment and devices to avoid interference with the work of other Persons, building finishes, and architectural details.
- .6 The Coordination Participants shall utilize the documentation and information provided by each of them to coordinate space requirements and installation considerations to maximize accessibility to equipment and devices for purposes of maintenance, repairs, and replacement.
- .7 The Contractor shall prepare a written report of each coordination meeting and distribute the report within 3 business days of the meeting to the Owner and Coordination Participants. The Contractor shall not delegate the duty to prepare a written report of any coordination meeting.

4.5 Coordination Drawings

- 4.5.1 The Contractor shall prepare drawings (the "Preliminary Coordination Drawings") after the Coordination Participants (1) determine the sequence of the Project, (2) complete the activities described under subparagraph 4.4.1, (3) identify the areas requiring special attention ("Coordination Areas"), and (4) determine the need for a coordination drawing for any Coordination Area. The Contractor shall prepare the Preliminary Coordination Drawings at one-quarter-inch equals one-foot scale, with CAD or BIM software acceptable to the Owner. The Preliminary Coordination Drawings shall show the sheet metal work with plan and elevation dimensions, which specifically locate all HVAC ductwork, HVAC equipment, and HVAC piping for each Coordination Area based upon the information, discussion, and resulting consensus of the Coordination Participants during the coordination meetings.
 - .1 The Contractor shall provide the Preliminary Coordination Drawings to all Coordination Participants. Each Coordination Participant shall use the Preliminary Coordination Drawings as a baseline to develop drawings of its work within each applicable Coordination Area to specifically locate equipment, devices, piping, conduits, and other work as discussed and agreed at the coordination meetings.
 - .2 Each Coordination Participant with work within a Coordination Area shall return its drawings to the Contractor marked to show the location of the Coordination Participant's equipment, devices, piping, conduits, and other work for the Contractor's preparation of detailed and final coordination drawings ("Coordination Drawings").
 - .3 Any Coordination Participant with no work in any Coordination Area may return the applicable Preliminary Coordination Drawings to the Contractor with a statement on the drawings signed by an authorized representative of the Coordination Participant certifying that it has no work within that Coordination Area.
 - .4 After the Contractor completes the Coordination Drawings, the Contractor shall forward a copy of the Coordination Drawings to the Owner and Coordination Participants with work within the limits of a Coordination Area. The Coordination Participants shall report discrepancies in the drawings, in writing, to the Contractor within 7 days after receiving the drawings.
 - .5 The Contractor shall review the Coordination Drawings to determine whether the Coordination Participants achieved the goals listed in subparagraph 4.4.1. The Contractor shall report any concerns, in writing, to the Coordination Participants within 14 days after receiving the drawings.

ARTICLE 5 - OWNER'S RIGHTS AND RESPONSIBILITIES

5.1 Owner

- 5.1.1 The Owner shall designate a Project Manager for the Project. The Project Manager is authorized to act on the Owner's behalf during the Project.
- 5.1.2 The Owner shall furnish information and services reasonably required of it in a timely manner.
- 5.1.3 The Owner shall have access to the Work at all times, whenever the Project is in preparation or progress.
- 5.1.4 Upon issuance of the Notice to Proceed, the Owner shall provide the Site to the Contractor in a condition to permit the Contractor to perform the Work.
- 5.1.5 The Owner may request a change in the Work.

5.2 Owner's Right to Perform Work and Back-charge Contractor

- 5.2.1 If the Contractor provides Defective Work or fails or neglects to perform the Work in accordance with the Construction Progress Schedule, the Owner may issue a written notice providing 3 days for the Contractor to begin to correct Defective Work or to recover schedule deficiencies as set forth in subparagraph 5.2.2 ("72-Hour Notice") to the Contractor.
 - .1 A copy of the 72-Hour Notice shall be issued to the Contractor's Performance Bond Surety.
- 5.2.2 If the Contractor fails or refuses to commence and continue to correct the Defective Work or recover the schedule deficiencies with diligence and promptness within three days after receiving the 72-Hour Notice, the Owner may, without jeopardizing other remedies, take any action the Owner deems appropriate to correct the Defective Work or to recover the schedule deficiencies, including, but not limited to, exercising its termination rights under paragraph 12.2.
 - .1 If the Owner proceeds as described under subparagraph 5.2.2, the Contractor shall pay all resulting costs and damages. Those costs and damages include, but are not limited to, the reasonable cost of correcting the Defective Work or recovering the schedule deficiencies and the related fees and charges of engineers, architects, attorneys, and other professionals. The Owner shall deduct the costs and damages from payments then or thereafter due the Contractor by Change Order.
 - .2 If the payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.
 - .3 If the Contractor believes that the Owner wrongfully exercised its rights under subparagraph 5.2.2, the Contractor may request an adjustment to the Contract by giving written notice under subparagraph 7.2.3.

5.3 Owner's Right to Partial Occupancy

- 5.3.1 The Owner may occupy or use a portion of the Project prior to Contract Completion if:
 - .1 The building authority with jurisdiction over the Project issues a temporary occupancy permit for the area in question; and
 - .2 The insurers providing property insurance have been provided written notice of the Partial Occupancy.
- 5.3.2 Before the Owner commences Partial Occupancy, the Contractor shall process a Certification of Contract Completion for the designated area listing incomplete or Defective Work under the Contract for the Owner's approval.

- 5.3.3 From the date of execution of the Certification of Contract Completion by the Owner, the Contractor shall be relieved of the obligation to maintain the accepted portion of the Work, but shall remain obligated to complete and correct the Work and to carry the insurance required by the Contract Documents during performance of any such Work.
- 5.3.4 The Owner's Partial Occupancy does not constitute acceptance of any Defective Work, nor does it relieve the Contractor of liability for any express or implied warranties or responsibility for Defective Work.

ARTICLE 6 - TIME

6.1 Computing Time

- 6.1.1 When the Contract Documents refer to a period of time by a number of days, the period shall be computed to exclude the first and include the last day of the period. If the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted from the computation and the period shall end on the next succeeding day that is not a Saturday, Sunday, or legal holiday.
- 6.1.2 Except as excluded under subparagraph 6.1.1, the Contract Time and all other time periods referred to in the Contract Documents includes Saturdays, Sundays, and all days defined as legal holidays by subparagraph 6.1.4.
- 6.1.3 The standard workdays for State Projects are Monday through Friday, excluding legal holidays.
- 6.1.4 Legal holidays are as follows:
 - .1 New Year's Day – First Day in January;
 - .2 Martin Luther King Jr. Day – Third Monday in January;
 - .3 Washington-Lincoln (President's) Day – Third Monday in February;
 - .4 Memorial Day – Last Monday in May;
 - .5 Independence Day – Fourth day of July;
 - .6 Labor Day – First Monday in September;
 - .7 Columbus Day – Second Monday in October;
 - .8 Veteran's Day – Eleventh Day of November;
 - .9 Thanksgiving Day – Fourth Thursday of November; and
 - .10 Christmas Day – Twenty-fifth day of December.
- 6.1.5 If a legal holiday falls on a Saturday, it is observed on the preceding Friday. If a legal holiday falls on a Sunday, it is observed on the following Monday.

6.2 Time of the Essence

- 6.2.1 Time limits stated in the Contract Documents are of the essence of the Contract and all obligations under the Contract. By signing the Performance Contract, the Contractor acknowledges that the Contract Time is reasonable, taking into consideration the usual weather and other conditions prevailing in the locality of the Project. By signing the Construction Progress Schedule, the Contractor acknowledges that the specified Milestone dates are reasonable, taking into consideration the usual weather and other conditions prevailing in the locality of the Project.
 - .1 The Notice to Proceed establishes the date for commencement of the Work.

- .2 The Contractor acknowledges that the Owner has entered into, or may enter into, agreements for use of all or part of the premises where the Work is to be completed based upon the Contractor achieving Contract Completion within the Contract Time.
- .3 The Contractor shall perform the Work in a reasonable, efficient, and economical sequence, and in the order and time as provided in the Construction Progress Schedule.
- .4 The Contractor acknowledges that it may be subject to interference, disruption, hindrance, or delay in the progress of the Work from any cause. The sole remedy for such interference, disruption, hindrance, or delay shall be an extension of the Contract Time under Article 8, unless otherwise required by O.R.C. Section 4113.62.

6.3 Critical Path

- 6.3.1 Time extensions shall depend upon the extent to which the Work on the critical path of the Construction Progress Schedule is affected, if applicable.
- 6.3.2 A Change Order granting a time extension may provide that the Contract Time shall be extended for only those specific elements so interfered with, disrupted, hindered, or delayed and related remobilization and that remaining Milestone dates shall not be altered and may further provide for adjustment of liquidated damages.

ARTICLE 7 - CONTRACT MODIFICATIONS

7.1 General

- 7.1.1 The Owner may order changes in the Work without invalidating the Contract. Subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents, a change in the Work may be accomplished by a Change Order, Field Work Order, or an order for a minor change in the Work.
 - .1 The Contractor shall proportionately increase the amount of the Performance Bond whenever the Contract Sum is increased.
 - .2 The Contractor shall proportionately increase the amount of the Guarantee Bond whenever the guaranteed savings are increased.
 - .3 If notice of any change affecting the Contract is required by the provision of any Bond, the giving of the notice is the Contractor's responsibility, and the amount of each applicable Bond shall be adjusted accordingly.
- 7.1.2 The Contractor shall not proceed with any change in the Work without the Owner's prior written authorization.
 - .1 Except as provided in paragraph 2.14, the Contractor's failure to obtain prior written authorization for a change in the Work constitutes a waiver by the Contractor of an adjustment to the Contract Sum, guaranteed savings, or Contract Time for the related Work.
- 7.1.3 The Contractor shall perform all changes in the Work under the applicable provisions of the Contract Documents, and the Contractor shall proceed promptly with the change unless otherwise provided in the Change Order, Field Work Order, or order for a minor change in the Work
- 7.1.4 Paperwork Consolidation
 - .1 Related Contract modifications, with the same or similar justification (e.g., Owner Request or Field Condition), may be consolidated into the same change-related document.

- .2 Add and deduct Contract modifications, with the same or similar justification, may be included on the same Change Order.

7.1.5 Change Order Numbering

- .1 The Owner shall assign a number to each Contract modification, which shall uniquely identify it.
- .2 The Owner shall not duplicate or reuse any number throughout the Project or reuse assigned numbers for Proposal Requests that are initiated but cancelled in progress.
- .3 The number for each Change Order shall be coordinated with any associated Proposal Request or Field Work Order.

7.1.6 Change Order Log

- .1 The Contractor shall create and maintain a Change Order Log for the Project, which shall contain the following minimum information:
 - .1 Number of the modification;
 - .2 A brief description of the modification;
 - .3 Cost of the modification; and
 - .4 Dates sent to, and received from, the parties.

- 7.1.7 A Contract modification may only adjust the guaranteed savings if such modification also provides for an associated adjustment to the Contract Sum.

7.2 Initiation of Change Orders

7.2.1 Proposal Request

- .1 The Owner shall prepare and issue a Proposal Request to the Contractor to obtain the Contractor's Proposal for the adjustment of the Contract Sum and guaranteed savings, or the Contract Time, or both, associated with a Contract modification.
 - .1 In any Proposal for an adjustment of the Contract Sum and guaranteed savings, the Contractor shall specifically identify the items set forth in paragraph 7.6.
 - .2 In any Proposal for an adjustment of the Contract Time, the Contractor shall specifically identify the items set forth in paragraph 7.6.6.
 - .3 The Contractor's cost of preparing and providing Proposals is included in the Contract Sum.
- .2 The Contractor shall respond with a Proposal to the Owner within 14 days after receiving the Proposal Request. The allowable time for the Contractor's response may be extended by written agreement of the Contractor and the Owner.
- .3 The Contractor shall hold the Proposal valid and open for acceptance for at least 45 days. The acceptance period may be adjusted by mutual consent of the Contractor and the Owner. The time limits described under this subparagraph 7.2.1.3 apply only to Proposals submitted in response to a Proposal Request.
- .4 A Proposal may be accepted by the Owner only through a Change Order. A Proposal Request does not authorize the Contractor to proceed with a change in the Work.
- .5 If the Contractor does not timely submit a Proposal within the time required in subparagraph 7.2.1.3, the Contractor waives its right to an adjustment to the Contract Sum, guaranteed savings, or Contract Time associated with the contemplated change in the Work.

7.2.2 Field Work Order

- .1 A Field Work Order is a written order prepared and signed by the Owner, directing a change in the Work and may, if necessary:
 - .1 State a proposed basis for adjustment, if any, in the Contract Sum and guaranteed savings, or Contract Time, or both; or
 - .2 Limit the scope of the change in the Work by a fixed adjustment of the Contract Sum and guaranteed savings.
- .2 A Field Work Order shall be used to direct a change in the Work in the absence of total agreement on the terms of a Change Order.
- .3 Upon receipt of a Field Work Order, the Contractor shall promptly proceed with the change in the Work involved.
- .4 The Contractor may sign the Field Work Order to accept the proposed basis for adjustment, if any, of the Contract Sum and guaranteed savings, or Contract Time, or both.
- .5 Within 14 days after receiving the Field Work Order, the Contractor shall respond with a Proposal meeting the requirements of subparagraph 7.2.1 to the Owner for adjustment of the Contract Sum and guaranteed savings, or Contract Time, or both, on account of the change, unless the Field Work Order is performed on a time and materials basis under subparagraph 7.2.2.1.2. If the Field Work Order is performed on a time and materials basis, the Contractor shall submit its Proposal within 7 days after completing the Work.
 - .1 The Proposal for the adjustment of the Contract Sum and guaranteed savings, if any, shall include: (1) Written documentation as described under paragraph 7.6; and (2) A written statement from the Contractor that the proposed adjustment is the entire adjustment in the Contract Sum and guaranteed savings associated with the change.
 - .2 The Proposal for the change in the Contract Time, if any, shall include: (1) Written documentation as described under paragraph 7.6.6; and (2) A written statement from the Contractor that the proposed adjustment is the entire adjustment of the Contract Time associated with the change.
- .6 If the Contractor does not respond to a Field Work Order as required under subparagraph 7.2.2.4, the Owner shall determine the adjustments, if any, of the Contract Sum, guaranteed savings, and Contract Time. If the Contractor does not agree with the Owner's determination, the Contractor shall initiate a Claim under Article 8 within 10 days of the date on which the Owner issues its determination, and the Contractor's failure to do so shall constitute an irrevocable waiver of the Claim.
- .7 Pending final determination of the total adjustment of the Contract Time on account of a Field Work Order, the period of time not in dispute for that change in the Work may be included in the Construction Schedule accompanied by a Change Order indicating the parties' agreement with part or all of the time adjustment.
- .8 If the Owner and Contractor agree on the adjustments of the Contract Sum, guaranteed savings, and Contract Time associated with a Field Work Order, the Owner shall prepare an appropriate Change Order within 7 days after receiving the Contractor's Proposal. The Owner and Contractor shall promptly sign the Change Order.
- .9 If the Owner and Contractor do not agree on the adjustments of the Contract Sum, guaranteed savings, and Contract Time associated with a Field Work Order within 60 days after the Field Work Order is issued, the Owner shall determine the adjustments, if any, of the Contract Sum, guaranteed savings, and Contract Time. If the Contractor does not agree with the Owner's determination, the Contractor shall initiate a Claim under Article 8 within 10 days of the date on which the Owner issues its determination, and the Contractor's failure to do so shall constitute an irrevocable waiver of the Claim.

- .10 If a change in the Work must start immediately to avoid an imminent impact to schedule of the Project, the Owner may issue a Field Work Order authorizing the Contractor to proceed.

7.2.3 Request for Change Order

- .1 The Contractor may initiate a change in the Work by submitting written notice to the Owner accompanied by a Proposal meeting the requirements of subparagraph 7.2.1.

7.3 Change Order Procedure

7.3.1 A Change Order is a written instrument prepared by the Owner and signed by the Owner and the Contractor, stating their agreement upon all of the following:

- .1 A change in the Work;
- .2 The amount of the adjustment of the Contract Sum and guaranteed savings, if any; and
- .3 The extent of the adjustment of the Contract Time, if any.

7.3.2 In no event shall the Contractor be entitled to reserve any rights or take other similar action with respect to a Change Order if the effect or intent of the reservation or action would be to accommodate a further adjustment of the Contract Sum, guaranteed savings, or Contract Time after the Contractor signs the Change Order. By signing a Change Order, the Contractor irrevocably certifies that the elements of a Change Order described in subparagraph 7.3.1 are completely satisfied, and waives all rights, if any, to seek further adjustment of the Contract Sum, guaranteed savings, or Contract Time at a later date with respect to the associated change in the Work including without limitation on account of the "cumulative impact" of the associated change in the Work in combination with one or more other changes in the Work.

7.3.3 The Owner shall prepare each Change Order form, attach the supporting documentation, and issue the Change Order to the Contractor for signature.

7.3.4 If the Contractor is in agreement with the Change Order under subparagraph 7.3.1, the Contractor shall sign and return the Change Order to the Owner within 3 days of receiving it.

7.3.5 When the Owner receives the signed Change Order, the Owner shall sign the form accepting the Change Order, attach certification of funding, and transmit a copy of the fully executed Change Order to the Contractor; or, if the Owner does not accept the Change Order, the Owner shall reject it.

7.3.6 When the Change Order is signed by the Contractor and the Owner, the fully executed Change Order modifies the Contract Documents and authorizes and directs the Contractor to proceed, and the Contractor shall promptly proceed with the associated change in the Work.

7.4 Minor Changes in the Work

7.4.1 The Owner may order minor changes in the Work not involving adjustment of the Contract Sum and guaranteed savings or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Those changes shall be effected by written order issued to the Contractor.

7.4.2 The Contractor shall promptly carry out each order for a minor change in the Work if the Contractor agrees that the order does not involve adjustment of the Contract Sum, guaranteed savings, or Contract Time.

7.4.3 If the Contractor reasonably believes that it would be entitled to an adjustment of the Contract Sum, guaranteed savings, or Contract Time on account of an order for a minor change in the Work, the Contractor, within 3 business days after receiving the order, shall give the Owner written notice of the Contractor's position, and not proceed with the subject Work without first receiving a Field Work Order or Change Order related to it.

- 7.4.4 The Contractor waives its right to an adjustment of the Contract Sum, guaranteed savings, or Contract Time on account of an order for a minor change in the Work by:
- .1 Starting the Work which is the subject of the order for a minor change in the Work; or
 - .2 Failing to give the notice described under paragraph 7.4.3 within 3 business days after receiving the order for a minor change in the Work.

7.5 Differing Site Conditions

- 7.5.1 "Differing Site Conditions" are either (1) subsurface or otherwise concealed physical conditions encountered at the Site that differ materially from the conditions indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature encountered at the Site that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents.
- 7.5.2 If the Contractor encounters a Differing Site Condition, the Contractor shall stop Work on that Differing Site Condition and give immediate written notice of the condition to the Owner.
- .1 The Contractor's failure to give notice of the Differing Site Condition as required under this subparagraph 7.5.2 shall constitute an irrevocable waiver of any associated Claim.
- 7.5.3 Promptly after receiving notice from the Contractor under subparagraph 7.5.2, the Owner shall investigate to determine whether the Contractor has encountered a Differing Site Condition. The Owner shall give written notice of its determination to the Contractor within 10 days after completing the investigation.
- .1 If the Owner determines that the Contractor has not encountered a Differing Site Condition and the Contractor does not agree with that determination, the Contractor shall initiate a Claim under Article 8 within 10 days of the date on which the Owner issues its determination.
 - .2 If the Owner determines that the Contractor has encountered a Differing Site Condition, the Owner shall process an appropriate Change Order.

7.6 Change Order Cost or Credit Determination and Associated Adjustment to the Guaranteed Savings

- 7.6.1 The maximum cost or credit resulting from a change in the Work shall be determined as described below.
- .1 Proposals shall include the information required by subparagraph 7.6.4.
 - .2 The percentages allowed for overhead and profit include all Contractor Project costs relating to field or home office operations. Additional costs for overhead or profit shall not be allowed.
 - .3 The maximum cost or credit includes all compensation for impact costs. Additional costs for impacts shall not be allowed.
- 7.6.2 The Contractor shall not assign any portion of the Work to another Person whereby the Contractor would benefit directly or indirectly from the double application of charges for overhead or profit.
- 7.6.3 The Owner may require notarized invoices for material costs and may audit the records of the Contractor and the Contractor's Subcontractors and Material Suppliers.
- 7.6.4 For each change in the Work, the Contractor shall furnish a detailed itemized Proposal. Any Subcontractor or Material Supplier pricing shall also be itemized on the Proposal.
- 7.6.5 The following criteria establish the exclusive and maximum amount that the Owner shall pay for any Change Order, including, but not limited to, all amounts for interference with, delay, hindrance, disruption, or impact of the Work ("Pricing Criteria"). These Pricing Criteria also govern

the value of deduct Change Orders and the Contractor's entitlement to additional compensation or damages through the Claims and dispute resolution processes on account of changes in the Work. In order to expedite the review and approval process, Proposals shall be prepared in the categories and order listed below:

- .1 LABOR - All field labor shall be priced at the current base rate, excluding fringe benefits, not less than the prevailing wage in the Project locality. The Proposal and documentation shall include the number of hours and rate of pay for each classification of worker. If the Contractor performs time and materials or cost-plus basis Work, the Contractor shall submit certified payroll records for all employees performing that Work.
- .2 FRINGES- Fringe benefit credit for labor provided under 7.6.5.1 is only allowable for prevailing wage fringe benefits pursuant to O.R.C. Chapter 4115, including, but not limited to, Health & Welfare, vacation, apprenticeship training, and certain types of pension plans. The parties shall defer to the Ohio Department of Commerce's policy on which benefits are granted fringe benefit credit. Each fringe benefit for which credit is requested shall be calculated on an hourly basis and listed as a separate line item. The Contractor shall submit documentation supporting the calculation of the amounts for each fringe benefit for each worker classification, including labor provided by Subcontractors.
- .3 ALLOWABLE PAYROLL EXPENSES- Allowable payroll expenses including payroll taxes as well as other benefits that are required by federal, state, or local law, such as federal and state Unemployment and Worker's Compensation shall each be a separate line item and shall not be credited for compliance with O.R.C. Chapter 4115.
- .4 EQUIPMENT RENTALS - All charges for certain non-owned heavy or specialized equipment at up to 100 percent of the documented rental cost. No rental charges shall be allowed for hand tools, minor equipment, simple scaffolds, etc. Downtime due to repairs, maintenance and weather delays shall not be allowed. Contractor shall submit copies of actual paid invoices to substantiate rental costs.
- .5 OWNED EQUIPMENT - All charges for certain Contractor-owned heavy or specialized equipment at up to 100 percent of the cost listed by the current edition of the Associated Equipment Dealers *Green Book* rental rates and specifications for construction equipment. No recovery shall be allowed for hand tools, minor equipment, simple scaffolds, etc. The longest period of time that the equipment is to be required for the Work shall be the basis for the pricing. Downtime due to repairs, maintenance, and weather delays shall not be allowed.
- .6 TRUCKING - A reasonable delivery charge or per-mile trucking charge for delivery of required materials or equipment. Charges for use of a pick-up truck shall not be allowed.
- .7 OVERHEAD - Overhead on items in paragraphs 7.6.5.1, 7.6.5.2, 7.6.5.3, 7.6.5.4, 7.6.5.5, and 7.6.5.6: up to 15 percent, which includes costs required to schedule the Work and coordinate with other contractors.
 - .1 Overhead includes, but is not limited to, telephone, telephone charges, facsimile, telegrams, postage, photos, photocopying, hand tools, simple scaffolds (one level high), tool breakage, tool repairs, tool replacement, tool blades, tool bits, home office estimating and expediting, home office clerical and accounting support, home office labor (management, supervision, engineering*), all other home office expense, legal services, travel, and parking expenses.
 - .2 *An exception is allowed for shop or engineering labor on items in paragraph 7.6.5.1.1, which shall not be subject to Prevailing Wage rates for steel fabricators, sheet metal fabricators, and sprinkler system fabricators performing work off-site. Recovery for these matters shall be allowed under items in paragraphs 7.6.5.1, 7.6.5.2, and 7.6.5.3 of these Pricing Criteria.

- .3 The overhead mark-up described under this subparagraph 7.6.5.7 includes the sum of the costs of the Contractor, its Subcontractors, and Sub-subcontractors.
- .4 If the Contract Sum is adjusted on account of an adjustment of Contract Time only (i.e., the adjustment of Contract Sum does not include any of the items described under subparagraphs 7.6.5.1 through 7.6.5.6 or subparagraph 7.6.5.8), the adjustment shall be based upon actual "general conditions" costs incurred or a reasonable estimate of the "general conditions" costs actually avoided. In no event shall the Contract Sum adjustment per day of Contract Time adjustment exceed an amount equal to the sum of the "general conditions" line items in the Contractor's first approved Schedule of Values divided by the total number of days of original Contract Time.
- .8 MATERIALS:
 - .5 All materials purchased by the Contractor and incorporated into the changed Work, showing costs and quantities. Reimbursement of material costs shall only be allowed in the amount of the Contractor's actual cost, including any and all discounts, rebates or related credits.
 - .6 Up to 33 percent of the cost of reusable materials for each use (e.g., concrete form lumber, shoring, or temporary enclosures).
- .9 PROFIT - Profit on items in subparagraphs 7.6.5.1, 7.6.5.2, 7.6.5.3, 7.6.5.4, 7.6.5.5, 7.6.5.6, 7.6.5.7, and 7.6.5.6.3: Up to 10 percent.
- .10 SUBCONTRACTOR - The reasonable cost of labor and materials provided by a Subcontractor whose pricing is included and which complies with these Pricing Criteria.
- .11 CONTRACTOR MARK-UP ON SUBCONTRACTOR - Mark-up on item in subparagraph 7.6.5.10: Up to 5 percent.
- .12 MISCELLANEOUS - The following items are allowable at the cost of the Work, with no overhead or profit.
 - .7 The cost of extending the Performance Bond and the Guarantee Bond, and the cost of extending liability, property damage, or specialty coverage insurance.
 - .2 The premium portion only for approved overtime (labor and fringes). The straight time portion is included in items 7.6.5.1, 7.6.5.2, and 7.6.5.3.
 - .3 Fees for permits, licenses, inspections, tests, etc.
 - .4 When requested by the Contractor and approved in writing by the Owner due to special circumstances, reimbursement shall be paid for overnight lodging, travel, and food in an amount not to exceed the State travel guidelines established by the Office of Budget and Management.
- .13 State sales tax shall be allowed on items as defined by subparagraph 1.4.5.
- 7.6.6 Costs that shall not be reimbursed for Change Order Work include the following:
 - .1 Voluntary employees deductions including, but not limited to, deductions for charitable donations or U.S. savings bonds.
 - .2 Employee profit sharing.
- 7.6.7 If an adjustment to the guaranteed savings is associated with a request for adjustment to the Contract Sum, the Contractor shall substantiate such adjustment of the guaranteed savings with:
 - .1 A detailed written analysis of the affect on the guaranteed savings resulting from the requested adjustment to the Contract Sum.
 - .2 Revised calculations demonstrating the requested adjustment to the guaranteed savings.

7.7 Time Extension

- 7.7.1 Every adjustment of the Contract Time associated with any change in the Work shall be determined as provided in this paragraph 7.6.6, which establishes the Contractor's maximum entitlement for any change in the Work, including without limitation all adjustments for interference, delay, hindrance, or disruption of the Work. This paragraph 7.6.6 also governs time adjustments for deduct Change Orders and the Contractor's entitlement to additional time through the Claims and dispute resolution processes on account of changes in the Work.
- 7.7.2 The Contractor shall substantiate all changes in the Contract Time with:
- .1 A written description of the nature of the interference, disruption, hindrance or delay;
 - .2 Identification of Persons and events responsible for the interference, disruption, hindrance or delay;
 - .3 Date, or anticipated date, of commencement of the interference, disruption, hindrance or delay;
 - .4 Activities on the Construction Progress Schedule which may be affected by the interference, disruption, hindrance or delay, or new activities created by the interference, disruption, hindrance or delay and the relationship with existing activities;
 - .5 Anticipated duration of the interference, disruption, hindrance or delay and of any remobilization period;
 - .6 Specific number of days of extension requested and specific number of days for remobilization requested;
 - .7 Recommended action to avoid or minimize any future interference, disruption, hindrance or delay;
 - .8 A detailed written proposal as described under subparagraph 7.6 for an increase in the Contract Sum which would fully compensate the Contractor for all costs of acceleration of the Work needed to completely overcome the associated delay, if any.
- 7.7.3 A Change Order may authorize extension of the Contract Time for specific elements, while maintaining Milestone dates for unaffected elements. Such a Change Order may also authorize an appropriate adjustment to liquidated damages.

7.8 Examination and Audit of Contractor's Records

- 7.8.1 The Owner may examine all books, records, documents and other data of the Contractor and of the Contractor's Subcontractors and Material Suppliers related to the RFP Proposal, pricing, or performance of the Work for the purpose of evaluating any Proposal or Claim.
- 7.8.2 The above referenced materials shall be made available at the office of the Contractor, Subcontractor, or Material Supplier, as applicable, at all reasonable times for inspection, audit and reproduction until the expiration of 6 years after the date of Final Acceptance of the Project.
- 7.8.3 To the extent that the Contractor, Subcontractor or Material Supplier, as applicable, informs the Owner in writing that any documents provided to the Owner are trade secrets, the Owner shall treat these documents, to the extent permitted by law, as trade secrets of the Contractor, Subcontractor or Material Supplier, as applicable.
- .1 If a dispute arises with any other Person about whether that Person should be given access to the documents, the Contractor, Subcontractor, or Material Supplier as applicable, shall indemnify the Owner against all costs, expenses, and damages, including, but not limited to, attorney fees, incurred or paid by reason of that dispute.
- 7.8.4 The right of inspection, audit and reproduction extends to all documents necessary to permit adequate evaluation of the cost of pricing data submitted along with the computations and projections used therein.

- 7.8.5 If the Contract has been terminated, in whole or in part, the records relating to the Work terminated shall be made available to the Owner for a period of 3 years from the date of any applicable final settlement or payment, as applicable.
- 7.8.6 Records that relate to disputes, litigation, or settlement of claims arising out of the performance of the Work shall be made available until the dispute, litigation or claims have been finally decided or settled.

ARTICLE 8 - DISPUTE RESOLUTION

8.1 Initiation of a Claim

- 8.1.1 Except as provided under paragraph 2.14, the Contractor shall initiate every Claim by giving written notice of the Claim to the Owner within 10 days after occurrence of the event giving rise to the Claim.
 - .1 The 10 day time limit on a Claim arising from a determination of the Owner concerning a Field Work Order begins to run on the date on which the Owner issues its determination under subparagraph 7.2.2.6 or subparagraph 7.2.2.9 (as applicable).
 - .2 The 10 day time limit on a Claim arising from the Owner's response to an RFI begins to run on the date on which the Owner issues the Owner's response to the RFI.
 - .3 The 10 day time limit on a Claim arising from the Owner's determination concerning a Differing Site Condition begins to run on the date on which the Owner issues the Owner's determination under paragraph 7.5.
- 8.1.2 The Contractor's written notice of a Claim shall provide the following information to permit timely and appropriate evaluation of the Claim, determination of responsibility, and opportunity for mitigation:
 - .1 Nature and anticipated amount of the impact, including all costs for any interference, disruption, hindrance, or delay, which shall be calculated in accordance with paragraph 7.6 and be a fair and reasonably accurate assessment of the damages suffered or anticipated by the Contractor.
 - .2 Identification of the circumstances responsible for causing the impact, including, but not limited to, the date or anticipated date, of the commencement of any interference, disruption, hindrance, delay;
 - .3 Identification of activities on the Construction Progress Schedule which will be affected by the impact or new activities which may be created and the relationship with existing activities;
 - .4 Anticipated impacts and anticipated duration of any interference, disruption, hindrance, delay, or impact, and any remobilization period; and
 - .5 Recommended action to avoid or minimize any interference, disruption, hindrance, delay, or impact.
- 8.1.3 The Contractor's failure to initiate a Claim as and when required under this paragraph 8.1 shall constitute the Contractor's irrevocable waiver of the Claim.
- 8.1.4 The Owner shall respond to the written notice of the Claim within a reasonable time of receipt, but not to exceed 10 days.

8.2 Certification of the Claim

- 8.2.1 The Contractor shall certify each Claim within 30 days after initiating the Claim under paragraph 8.1 or before Contract Completion, whichever is earlier, by providing the notarized certification

specified in subparagraph 8.2.1.1, signed and dated by the Contractor's authorized representative:

.1 "The undersigned Contractor certifies that the Claim is made in good faith; that the supporting data is accurate and complete to the best of the Contractor's knowledge and belief; that the amount requested is a fair, reasonable, and necessary adjustment for which the Contractor believes the State is liable; and that the undersigned is duly authorized to certify the Claim on behalf of the Contractor."

8.2.2 The Contractor's failure to comply with the requirements of this paragraph 8.2 shall constitute an irrevocable waiver of any related Claim.

8.3 Substantiation of Claims

8.3.1 Within 30 days after the initiation of a Claim, the Contractor shall submit to the Owner in writing 2 copies of all information and statements required to substantiate a Claim as provided in this Article 8 and all other information which the Contractor believes substantiates the Claim.

8.3.2 The date the Contractor files its substantiated and certified Claim with the Owner shall begin the statutory 120 day period within which the dispute must be resolved.

8.3.3 The Contractor shall substantiate all of its Claims by providing the following minimum information:

- .1 A narrative of the circumstances, which gave rise to the Claim, including, without limitation, the start date of the event or events and the actual, or anticipated, finish date;
- .2 Detailed identification of the Work (e.g., activity codes from the Construction Progress Schedule) affected by the event giving rise to the Claim;
- .3 Copies of the Contractor's daily log (subparagraph 4.1.11) for each day of impact;
- .4 Copies of relevant correspondence and other information regarding or supporting Contractor entitlement;
- .5 Copies of the Contractor's most recent income statement, including segregated general and administrative expenses for the most recent reporting period, and for the period of the Contract, if available, and similar information for any Subcontractor claim included;
- .6 The notarized certification described under subparagraph 8.2.1.1;

8.3.4 The Contractor shall submit a fully executed Contractor Claim Submission Checklist, signifying compliance with all of the requirements listed in subparagraph 8.3.3 with each copy of the Claim.

8.3.5 The Contractor's failure to comply with the requirements of this paragraph 8.3 shall constitute an irrevocable waiver of any related Claim.

8.4 Substantiation of Claims for Increase of the Contract Sum and Associated Adjustment to the Guaranteed Savings

8.4.1 The Contractor shall substantiate each Claim for an increase of the Contract Sum and associated adjustment to the guaranteed savings with:

- .1 Written documentation as described under paragraph 7.6 of the actual additional direct and indirect costs to the Contractor due to the event giving rise to the Claim;
- .2 A written statement from the Contractor that the increase requested is the entire increase in the Contract Sum associated with the Claim;
- .3 A written statement from the Contractor that the requested adjustment to the guaranteed savings is the entire adjustment to the guaranteed savings associated with the Claim; and
- .4 The general substantiation documentation described under paragraph 8.3.

8.4.2 The Contractor's failure to comply with the requirements of this paragraph 8.4 shall constitute an irrevocable waiver of any related Claim.

8.5 Substantiation of Claims for Extension of the Contract Time

8.5.1 The Contractor shall substantiate each Claim for an extension of the Contract Time with:

- .1 Written documentation as described under paragraph 7.6.6 of the actual delay to the critical path of the Construction Schedule due to the event giving rise to the Claim;
- .2 A detailed written Proposal as described under paragraph 7.6 for an increase in the Contract Sum which would fully compensate the Contractor for all costs of acceleration of the Work needed to completely overcome the associated delay together with a statement consistent with subparagraph 8.4.1.2;
- .3 A written statement from the Contractor that the extension requested is the entire extension of the Contract Time associated with the Claim; and
- .4 The general substantiating documentation described under paragraph 8.3.

8.5.2 In addition to the requirements of subparagraph 8.5.1, if adverse weather conditions are the basis for a Claim for additional time, the Contractor shall document the Claim with data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on a critical element of the scheduled construction. The support for and evaluation of all adverse weather Claims shall be based upon average weather conditions during the 10 years immediately preceding the dates at issue in the Claim as those weather conditions were recorded at the government-controlled weather-recording facility nearest to the Site.

8.5.3 The Contractor's failure to comply with the requirements of this paragraph 8.5 shall constitute an irrevocable waiver of any related Claim.

8.6 Delay and Delay Damage Limitations; Derivative Claims

8.6.1 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, adjustment to the guaranteed savings, or an extension of the Contract Time:

- .1 On account of the impact of any normal adverse weather on any of the Work or on account of the impact of any abnormal adverse weather on Work not on the critical path;
- .2 To the extent that a delay occurs concurrently with a delay attributable to the Contractor; or
- .3 On account of the delay of any Work not on the critical path.

8.6.2 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, adjustment to the guaranteed savings, or any type of damages on account of a delay in the commencement or progress of Work on the critical path unless the delay is caused by (1) the Owner or a Person for whom the Owner is legally responsible and (2) the delay was not authorized or permitted under the Contract.

8.6.3 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, adjustment to the guaranteed savings, or any type of damages arising from a delay in the commencement or progress of any of the Work caused by the occurrence or non-occurrence of an event beyond the Owner's control such as acts of Nature or the public enemy, acts of the government, fires, floods, epidemics, labor disputes, unusual delivery delays, weather, or acts or neglects of the Contractor or a Person for whom the Contractor is legally responsible.

- 8.6.4 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor is solely responsible for prosecuting against a Separate Contractor any claim, suit, or appeal necessary to recover from the Separate Contractor damages the Contractor suffers on account of the acts or neglects of the Separate Contractor or a Person for whom the Separate Contractor is legally responsible.
- 8.6.5 If the Contractor makes a Claim seeking other than an extension of the Contract Time from the Owner on account of the acts or neglects of a Separate Contractor or a Person for whom a Separate Contractor is legally responsible, the Owner may pursue the Claim against the Separate Contractor in the joint interest of the Owner and the Contractor. The Owner is not obligated to prosecute any such claim, suit, or appeal.

8.7 Liquidated Damages

- 8.7.1 If the Contractor fails to achieve one or more of the Completion Milestones set forth in the Contract Documents, the Contractor shall pay to or credit the Owner the associated liquidated damages per-diem sum(s) set forth in the Contract Documents for each day that the Contractor fails to achieve one or more of the Completion Milestones.
- 8.7.2 Notwithstanding any other provision of the Contract Documents to the contrary, if a court determines that the liquidated damages per-diem sum(s) or their application are void and unenforceable, the Owner shall be entitled to recover the actual damages that it incurs on account of the Contractor's failure to achieve one or more of the Completion Milestones.
 - .1 If the Contractor fails to achieve two or more Completion Milestones, the Owner shall be entitled to recover the sum of the associated per diem rates.
- 8.7.3 Nothing contained in this paragraph 8.7 shall preclude the Owner's recovery from the Contractor of actual damages.
- 8.7.4 In addition to other rights that the Owner may have relative to the liquidated damages, the Owner may deduct the liquidated damages from the Contract Sum as the damages accrue. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

8.8 Initial Claim Review

- 8.8.1 Promptly after receiving the Contractor's substantiated and certified Claim, the Project Manager shall convene a meeting with the Contractor and the Owner to review and discuss the Claim.
- 8.8.2 The Project Manager shall review the Contractor Claim Submission Check List with all in attendance and discuss any questions regarding the nature or content of the required items.

8.9 Claim Decision

- 8.9.1 The Project Manager shall examine the Contractor's Claim.
- 8.9.2 The Project Manager shall approve or deny all, or any part, of the Contractor's Claim and forward a written decision to the Contractor and the Owner within 45 days after receiving the Contractor's substantiated and certified Claim.
- 8.9.3 The Project Manager may utilize the Contractor's Escrowed RFP Proposal Information in evaluating any Claim of the Contractor for a change in compensation or for mitigation of liquidated damages, or refer evaluation of the Claim to a consultant.
- 8.9.4 If the Contractor and the Owner agree with the Project Manager's decision, the decision shall be incorporated into a Change Order.
- 8.9.5 Any Claim remaining unresolved after completion of the process described under this paragraph 8.9 shall be subject to claim decision review as described under paragraph 8.10.

8.10 Claim Decision Review

- 8.10.1 The Contractor may request review of the Project Manager's decision by written notice delivered to the Owner by certified mail within 14 days of the Project Manager's decision.
- 8.10.2 The Owner shall schedule and conduct a meeting within 30 days after receiving the Contractor's request for review.
- 8.10.3 The Owner may employ independent resources to assist in the meeting and review.
- 8.10.4 The Owner shall determine the final disposition of the Contractor's request for review and provide a written decision to the Contractor within 14 days after the meeting.
- 8.10.5 The decision of the Owner is the final administrative decision as described under O.R.C. Section 153.12(B).
- 8.10.6 If the Contractor agreed with the Owner's decision, the decision shall be incorporated into a Change Order.
- 8.10.7 Any Claim remaining unresolved after completion of the process described under this paragraph 8.10 shall be subject to litigation, which may be preceded by Alternative Dispute Resolution as described under paragraph 8.11.

8.11 Alternative Dispute Resolution

- 8.11.1 The intent of the Alternative Dispute Resolution ("ADR") process is to resolve disputes quickly and equitably in a manner agreed upon by all parties to the dispute.
- 8.11.2 The acceptable ADR methods shall include non-binding negotiation or mediation, but shall not include binding arbitration; alter any of the requirements for Claim initiation, certification, and substantiation; or alter the administrative process described under this Article 8.
- 8.11.3 The following forms of non-binding ADR may be considered:
 - .1 Negotiation: If negotiation is warranted, the parties to the dispute may agree to a progressive level of negotiators, invested with the authority to agree to a determination of an adjustment in the Contract Sum and guaranteed savings, Contract Time, or both.
 - .2 Mediation: If mediation is the accepted ADR procedure, or the process to follow when negotiations are unsuccessful, the parties to the dispute shall accept a neutral third party to mediate the dispute. The costs of mediation shall be shared equally among the Contractor and the Owner.

8.12 Audit of the Claim

- 8.12.1 All Claims shall be subject to audit at any time following the filing of the Claim, whether or not the Claim is part of a lawsuit.
- 8.12.2 The audit may be performed by employees of the Owner or by a consultant engaged by the Owner.
- 8.12.3 The audit may begin upon 10 days notice to the affected Contractor, Subcontractor, or Material Supplier.
- 8.12.4 The Contractor shall cooperate with an audit request.
- 8.12.5 Failure of the Contractor, Subcontractor, or Material Supplier to produce sufficient records to allow the Owner to audit and verify a Claim shall constitute an irrevocable waiver of the Claim or the portion of the Claim that could not be completely audited.
- 8.12.6 The Contractor shall make available to the Owner all Contractor, Subcontractor, and Material Supplier documents related to the Claim including, without limitation, the following documents:
 - .1 Daily time sheets and superintendent's daily reports;

- .2 Union agreements, if any, and employer agreements;
- .3 Insurance, welfare, fringes, and benefits records;
- .4 Payroll register;
- .5 Earnings records;
- .6 Payroll tax returns;
- .7 Material invoices, purchase orders, Subcontractor contracts, and all material and supply acquisition contracts;
- .8 Material cost distribution worksheets;
- .9 Equipment records (list of Contractor equipment, rates, etc.);
- .10 Vendor rental agreements and Subcontractor invoices;
- .11 Subcontractor payment certificates;
- .12 Canceled checks (payroll and vendors);
- .13 Job cost report;
- .14 Job payroll ledger;
- .15 General ledger, general journal, (if used) and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals;
- .16 Cash disbursements journal;
- .17 Financial statements for all years reflecting operations on the Project;
- .18 Income tax returns for all years reflecting operations on the Project;
- .19 Depreciation records on all equipment utilized whether the records are maintained by the Contractor, its accountant, or others;
- .20 If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all other source documents;
- .21 All documents which reflect the Contractor's actual profit and overhead during the years the Project was being performed;
- .22 All documents related to the preparation of the Contractor's RFP Proposal, including the final calculations on which the RFP Proposal was based, unless the documents are placed in escrow under provisions of the RFP;
- .23 All documents which relate to the Claim together with all documents which support the amount of damages as to the Claim;
- .24 Worksheets used to prepare the Claim establishing the cost components for items of the Claim including, but not limited to, labor, fringes, benefits and insurance, materials, equipment, Subcontractors, and all documents which establish the time periods, individuals involved, the hours and rate of pay for the individuals; and
- .25 All other documents required by the Owner to reasonably review the Claim.

8.13 False Certification of the Claim

- 8.13.1 If the Contractor falsely certifies all, or any part, of a Claim, the portion of the Claim falsely certified shall be denied, and may be sufficient cause for the State to debar the Contractor from future State contracting opportunities as permitted by law.

8.14 Performance and Payment

8.14.1 The Contractor shall proceed with the Work during any dispute resolution process, unless otherwise agreed by the Contractor and the Owner in writing.

8.14.2 The Owner shall continue to make payment of any undisputed amounts in accordance with the Contract Documents pending final resolution of a Claim, unless otherwise agreed by the Contractor and the Owner in writing.

ARTICLE 9 - CONTRACTOR PAYMENT

9.1 Schedule of Values

9.1.1 Within 30 days of receipt of the Notice to Proceed, the Contractor shall submit to the Owner a Schedule of Values on a form previously approved by the Owner, with separate amounts shown for labor and materials for each branch of Work, following the numbers and titles of the Construction Specifications Institute's *MasterFormat* for individual work results, or *UniFormat* for assemblies in place.

9.1.2 The grand total shown on the Schedule of Values shall equal the total Contract Sum. The Owner may use the approved Schedule of Values to determine the cost or credit to the Owner resulting from any change in the Work.

- .1 The first items shall be actual costs of Performance Bond, Guarantee Bond, insurance, permits, and tests required for the Project.
- .2 The amounts for labor and materials shall accurately reflect the cost for each item. Separate items shall not be shown for overhead or profit. Overhead and profit shall be included in the totals for labor and materials.
- .3 If the material allocation exceeds 55 percent of the Contract Sum, the Contractor shall provide, upon request, sufficient information to support the higher percentage.
- .4 Subcontract Work shall show amounts for labor and materials. Fringe benefits shall be shown as a part of labor costs.
- .5 When more than one major structure is included in the Work, the Contractor shall subdivide the Schedule of Values accordingly, with cost details for each structure shown separately.
- .6 The line items shall be coordinated with line items in the Project Schedule, which may require division of items of Work by area of the Project by floor, phase, or other appropriate area.
- .7 Mechanical and Electrical contractors shall include separate line items for all major pieces of equipment, and group smaller equipment items by type.
- .8 Line items shall be included for each Allowance, Punch List Work, Project Record Document Submittals, delivery of attic stock, and specified demonstrations and training.

9.1.3 The Owner may return the Schedule of Values to the Contractor for re-submittal if it does not meet the requirements or contains insufficient items or details of the Work.

9.1.4 No payment shall be made without an approved Schedule of Values.

9.2 Contractor Payment Request

9.2.1 The Contractor may submit a Contractor Payment Request for Work performed based upon the Schedule of Values to the Owner each month or upon another interval approved by the Owner. When the rate of Work and amount involved are sufficient that it is considered appropriate by the Owner, the Contractor may submit Contractor Payment Requests twice a month.

- .1 The Contractor shall support each Contractor Payment Request with documentation substantiating the Contractor's right to payment. The Contractor shall supply additional documentation as the Owner may request in connection with each payment to the Contractor.
 - .2 The Owner may require proof of the renewal of required insurance as a condition precedent to payment.
 - .3 The Contractor shall attach certified payroll reports for the relevant period to 1 copy of each Contractor Payment Request, see Attachment 12 – “Wage Rate Requirements”
 - .4 The Contractor may list on the Contractor Payment Request any Change Orders approved and performed prior to submission of the Contractor Payment Request.
 - .5 The Contractor shall submit its application for payment using the Contractor Payment Request form or forms current at the time of each application and as provided by the Owner in the manner prescribed by the Owner.
 - .6 The Contractor shall submit an electronic copy of the Contractor Payment Request to the Owner with its paper copies of the Contractor Payment Request for collection and reporting of information used for contract compliance evaluation and statistical purposes. The Contractor may issue the copy in any electronic media acceptable to the Owner.
- 9.2.2 Payments shall be made to the Contractor only for the authorized actual quantities of Work performed or materials furnished in accordance with the Contract Documents.
- 9.2.3 Subject to paragraph 9.6, the Owner shall pay an approved Contractor Payment Request within 30 days from the date the Owner accepts the Contractor Payment Request.
- .1 Payments due and not paid to the Contractor, through no fault of the Contractor, within the 30 day period shall, from the date payment is due, bear simple interest at the applicable statutory rate.

9.3 Labor Payments

- 9.3.1 Partial payments to the Contractor for labor performed under the Contract with the total Contract Sum less than \$15,000 shall be paid at the rate of 100 percent of the amount invoiced through the Contractor Payment Request.
- 9.3.2 Partial payments to the Contractor for labor performed under the Contract with the total Contract Sum equal to or greater than \$15,000 shall be made at the rate of 92 percent of the amount invoiced through the Contractor Payment Request, which shows the total Contract Completion at 50 percent or greater.
- 9.3.3 After the Contract is 50 percent complete, as evidenced by payments in the amount of at least 50 percent of the Contract Sum to the Contractor, no additional funds shall be retained from payments for labor.

9.4 Material Payments

- 9.4.1 The Owner shall pay the Contractor at the rate of 100 percent of the invoice cost, not to exceed the scheduled value, for materials incorporated into the Project.
 - .1 The Owner shall pay the balance of the scheduled value for materials incorporated into completed line items which are (1) concealed, underground, or otherwise inaccessible and (2) not subject to inclusion on the Owner's Punch List.
 - .2 Once the Contractor completes the Punch List, testing, or start-up demonstration and training related to a line item, the Owner shall pay the balance of the scheduled value for materials which are (1) subject to inclusion on the Owner's Punch List or (2) require testing or start-up demonstration and training.

- 9.4.2 The Owner shall pay the Contractor at the rate of 92 percent of the invoice cost for materials delivered to the Site, or other off-site storage location approved by the Owner, provided the Contractor provides the following information with the Contractor Payment Request:
- .1 A list of the fabricated materials consigned to the Project, giving the place of storage, together with copies of invoices, in order to verify quantity and cost.
 - .2 A certification of materials stored off-site, prepared by the Contractor and signed by the Project Manager to evidence that the materials are in conformity with the Specifications and have been tagged with the Project name and number for delivery to the Project.
 - .3 The Owner shall pay the balance of the invoice cost when the materials are incorporated into and becomes a part of the Project.
- 9.4.3 When payment is allowed for materials delivered to the Site or other approved off-site storage location but not yet incorporated into the Project, the materials are the property of the Owner.
- .1 The Owner may, at its sole discretion, retain any material not ultimately incorporated into the Project or return it to the Contractor for credit of an amount proportionate to the value of the extra materials.

9.5 Retainage

- 9.5.1 All funds retained for the faithful performance of the Work, in accordance with subparagraph 9.3.2, shall be deposited in an escrow account with a bank in the State in accordance with the terms and conditions provided in an escrow agreement executed by the Contractor, the Owner, and the applicable bank.
- 9.5.2 When the major portion of the Work is occupied or in use, and there is no other reason to retain funds, including, but not limited to, compliance with Article 10; upon request of the Contractor, the funds retained in connection with that Work shall be released from escrow and paid to the Contractor, withholding only that amount necessary to assure faithful completion in the Owner's sole discretion.
- .1 Any reduction or release of retained funds, or portion thereof, shall not be a waiver of the Owner's right to retain funds in connection with other payments to the Contractor, or any other right or remedy the Owner has under the Contract Documents at law or in equity.
 - .2 Funds in the escrow account not previously paid shall be authorized for release to the Contractor within 30 days of the Owner's approval of a final Contractor Payment Request and Payment Release Affidavit furnished by the Contractor, and execution of the Certification of Contract Completion by the Owner.
- 9.5.3 Upon consent by the Contractor's Performance Bond Surety, the Owner may reduce the amount of funds retained for the faithful performance of Work by 50 percent of the amount of funds required to be retained, provided the Contractor's Performance Bond Surety remains responsible for all damages that may be caused due to default by the Contractor, including, but not limited to, the following:
- .1 Completion of the Work;
 - .2 All interference, disruption, hindrance and delay claims;
 - .3 All liquidated damages; and
 - .4 All additional expenses incurred by the State.

9.6 Payments Withheld

- 9.6.1 The Owner may decline to approve any Contractor Payment Request or part thereof, or nullify any previous Contractor Payment Request, in whole or in part, to the extent necessary in the Owner's sole opinion to protect the Owner from loss because of:

- .1 Defective Work not remedied;
 - .2 Damage caused by the Contractor;
 - .3 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
 - .4 Reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover damages under the Contract Documents for the anticipated delay;
 - .5 Failure to comply with Applicable Law including, but not limited to, the requirements of O.R.C. Chapter 4115;
 - .6 Failure to carry out the Work in accordance with the Contract Documents; or
 - .7 That which is permitted under other provisions of the Contract Documents.
- 9.6.2 If the Contractor remedies the basis for withholding payment under subparagraph 9.6.1 to the Owner's satisfaction, the Owner shall pay the amounts withheld.

9.7 Final Contractor Payment Request

- 9.7.1 The Contractor, as a condition precedent to execution of the Certification of Contract Completion and to final payment, shall complete all requirements of the Contract Documents.
- .1 The Contractor shall execute a Payment Release Affidavit to certify that the Contractor has complied with all requirements of O.R.C. Chapter 4115, and to certify that all Subcontractors and Material Suppliers have been paid in full for all Work performed or materials furnished for the Project.
- 9.7.2 The Owner shall pay the final Contractor Payment Request within 30 days from the date the Owner accepts the final Contractor Payment Request.
- .1 Payments due and not paid to the Contractor within the 30 day period shall bear interest from the date payment is due under the Contract Documents at the applicable statutory rate.
- 9.7.3 The making of final payment by the Owner constitutes a waiver of all claims by the Owner except those relating to unsettled claims against the Contractor and those arising after Contract Completion including, but not limited to, the following:
- .1 Defective Work;
 - .2 Outstanding Claim Affidavits; or
 - .3 The Contractor's failure to comply with any Warranties or Guarantees required by the Contract Documents.
- 9.7.4 The acceptance of final payment by the Contractor, a Subcontractor, or a Material Supplier constitutes the payee's waiver of all claims against the State except those previously made in writing under Article 8 and identified by that payee as unsettled at the time of the final Contractor Payment Request.

ARTICLE 10 - CONTRACT COMPLETION

10.1 Final Cleaning

- 10.1.1 Before requesting the Owner's Punch List review, the Contractor shall clean the Site, remove waste materials and rubbish attributable to the Project, and restore the property to its original condition so that upon Contract Completion, the premises are ready for occupancy by the Owner.

10.1.2 If the Contractor performs any Work after final cleaning, the Contractor shall clean the affected area as provided above so that upon Contract Completion, the premises are ready for occupancy by the Owner.

10.1.3 Final cleaning shall be done to the Owner's reasonable satisfaction.

10.2 Contractor's Punch List

10.2.1 When the Contractor considers the Work, or a designated portion thereof, nearly complete the Contractor shall inspect the Work and prepare a list of defective, incomplete, or unacceptable Work ("Contractor's Punch List"). The Contractor shall list all items of Work not in compliance with the Contract Documents, including items the Contractor is requesting to be deferred.

- .1 The Contractor shall proceed to correct all items listed on the Contractor's Punch List and certify that the incomplete items listed on the Contractor's Punch List are to its knowledge an accurate and complete list by signing said Punch List.
- .2 The Contractor's failure to include an item on the Contractor's Punch List shall not alter the Contractor's responsibility to complete the Work in accordance with the Contract Documents.
- .3 The Contractor shall submit the signed Contractor's Punch List to the Owner, together with a request for the Owner's Review of the Work.

10.3 Owner's Review of the Work

10.3.1 Within 3 business days of receipt of the request for the Owner's Review of the Work, the Owner shall notify the Contractor of acceptance or rejection of the request, stating reasons for any rejection.

- .1 Within 7 days of its acceptance of the Contractor's request, the Owner shall conduct the Owner's Review to determine whether the Work, or the designated portion, is in conformity with the Contract Documents. The Owner shall notify the Contractor of the scheduled time of the Owner's Review.
- .2 Within 3 business days after the Owner's Review, the Owner shall provide to the Contractor a list of defective, incomplete, or unacceptable Work ("Owner's Punch List").
- .3 The Owner's failure to include an item on the Owner's Punch List shall not alter the Contractor's responsibility to complete the Work in accordance with the Contract Documents.

10.4 Completion of Punch List Items

10.4.1 Within 30 days after receipt of the notice required by subparagraph 10.3.1.2 and before the date of Final Contract Completion, the Contractor shall complete all items on the Owner's Punch List. After completing all items on the Punch List, the Contractor shall provide a written request for Final Inspection of the Work to the Owner.

- .1 If completion of the Work on the Owner's Punch List cannot be timely completed, the Contractor shall justify in writing to the reasonable satisfaction of the Owner the reasons the items cannot be completed, and the Contractor may propose, for the Owner's approval, a time when the Contractor shall complete those items.
- .2 Within 3 business days of receipt of the Contractor's notice that all Punch List items have been completed, the Owner shall complete a Final Inspection of the Work for compliance with the Contract Documents.
- .3 If multiple inspections of items on the Owner's Punch List are required due to the Contractor's failure to properly and timely complete them, the Contractor shall pay any

additional costs incurred by the Owner resulting from any attendant delay. The Owner may deduct those additional costs from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

10.5 Project Record Document Submittals

10.5.1 The Contractor, as a condition precedent to execution of the Certification of Contract Completion, release of retained funds, and or final payment, shall provide all Project Record Documents to the Owner for approval, including, but not limited to:

- .1 Certificate of Occupancy;
- .2 Inspection Certificates for Pressure Piping, Elevator, Boiler, Electrical, Plumbing or Piping Purification, etc.;
- .3 Letter of Approval from the local fire authority or State Fire Marshal for the fire suppression system;
- .4 Operation and Maintenance Manuals, organized into suitable sets of manageable size. Indexed data bound in individual binders, with pocket folders for folded sheet information and appropriate identification marked on the front and the spine of each binder;
- .5 Neatly and accurately marked sets of As-Built Documents, and other Contract Documents reflecting the actual construction of the Project;
- .6 Detailed Drawings reflecting the exact location of any concealed utilities, mechanical or electrical systems, and components;
- .7 Assignment to the Owner of all Warranties and Guarantees, including the most recent address and telephone number of any Subcontractors, Material Suppliers, or manufacturers;
- .8 An affidavit to certify that all Subcontractors and Material Suppliers have been paid in full for all Work performed or materials furnished for the Project;
- .9 Final certified payroll reports; and
- .10 An affidavit to certify that the Contractor has complied with all requirements of O.R.C. Chapter 4115.

10.6 As-Built and Record Documents

10.6.1 Upon Final Completion of the Work, the Contractor shall organize the As-Built Documents into manageable sets, bind the sets with durable paper cover sheets, and deliver the As-Built Documents to the Owner.

- .1 By submitting the As-Built Documents to the Owner, the Contractor certifies that the As-Built Documents are complete, correct, and accurate.

10.6.2 The Contractor shall revise the original Contract Documents and related electronic files with the information contained on the As-Built Documents. The Contractor shall label the revised original Contract Documents and related electronic files as "Record Documents" and reflect the date of the Contractor's incorporation of the As-Built Documents.

10.6.3 The Owner may thereafter use the Record Documents for any purpose relating to the Project including, but not limited to, additions to or completion of the Project.

10.7 Demonstration and Training, Operating Appurtenances

- 10.7.1 The Contractor, as a condition precedent to execution of the Certification of Contract Completion, release of retained funds, and final payment, shall perform demonstration and training of the Owner's maintenance personnel as specified in the Contract Documents.
- 10.7.2 The Contractor, as a condition precedent to execution of the Certification of Contract Completion, release of retained funds, and final payment, shall organize and submit operating appurtenances and loose items related to the operation and maintenance of the completed Project including, but not limited to:
- .1 Keys to door and window hardware, panels, and other devices not directly provided to the Owner from the manufacturer;
 - .2 Operating handles, levers, cranks, specialized wrenches or drivers, remote controls, and similar items; and
 - .3 Extra materials (e.g., attic stock).

10.8 Certification of Contract Completion

10.8.1 Partial Completion

- .1 When items of Work cannot be completed until a subsequent date, the Owner may defer these items and release payment to the Contractor, as determined in the Owner's sole discretion. The Owner shall list deferred items on a Partial Certification of Contract Completion with the dates the items are to be completed.
- .2 The date that the Owner executes the Partial Certification of Contract Completion is the date that the warranty period commences for that portion of the accepted Work, and retained funds may be released for that portion of the Work.

10.8.2 Final Completion

- .1 When all items on the Owner's Punch List have been completed to the Owner's satisfaction, all requirements of the Contract Documents have been completed, and the provisions of paragraphs 10.1 through 10.7 have been fulfilled, the Owner shall prepare and execute a Final Certification of Contract Completion.
- .2 The date that the Owner executes the Final Certification of Contract Completion is the date that the construction of the Work of the Contract is accepted ("Final Acceptance"). If a Partial Certificate of Contract Completion was not executed for the Contract, the date that the Owner executes the Final Contract Completion Certificate is the date that the warranty period commences, and retained funds may be released.

10.9 Contractor Performance Evaluation

- 10.9.1 The Owner shall evaluate the Contractor's performance during the progress of the Work, at completion of a phase of the Project, completion of the Project, or both. The Owner shall retain the evaluation(s).
- .1 The Contractor may request a copy of the completed evaluation(s). If the Contractor wishes to comment or take exception to any rating or remark, the Contractor shall send a response in writing to the Owner within 30 days of receiving the evaluation(s).
 - .2 The Owner may use the evaluation(s) in determining the responsibility of the Contractor for award of future Contracts.

10.10 Reconciliation

10.10.1 The Contractor shall submit an energy savings summary to the Owner on an annual basis, beginning one year from the issuance of the Certification of Contract Completion, and continuing until the end of the Service Agreement.

- .1 The summary shall include load adjustments due to weather, occupancy, or major equipment changes, if applicable.
- .2 The Owner shall operate and maintain the installed equipment according to procedures described in the Contract Documents and according to manufacturer recommendations, through either its own personnel or the Service Agreement.
- .3 The Contractor and the Owner shall follow the reconciliation guidelines in the Service Agreement.

10.10.2 If the actual energy savings in any year of the Contract are less than the guaranteed savings for that year, the Contractor shall pay or credit the Owner the difference, as follows, in the Owner's sole discretion:

- .1 Within 30 days of a written request by the Owner, the Contractor shall submit payment to the Owner for the amount of the difference; or
- .2 The Owner shall carry the negative balance forward to be included in the following year's reconciliation.

10.10.3 If the actual energy savings in any year of the Contract exceed the guaranteed savings for that year, the Owner shall, in its sole discretion:

- .1 Carry the positive balance forward and add it to the savings generated during any future years; or
- .2 If the prior year produced energy savings less than the guaranteed savings for that year and the Contractor submitted payment to the Owner for the amount of the difference, submit payment to the Contractor as recovery of such amount.

10.10.4 Any disputes between the Owner and the Contractor regarding reconciliation and reimbursement for savings shortfalls shall be resolved under Article 8.

10.11 Guarantee Bond

10.11.1 As a condition precedent to contract execution, the Contractor must file a Guarantee Bond payable to the Owner. The Guarantee Bond shall serve as assurance that the energy savings generated as a result of the Work will meet or exceed the energy savings estimate on the RFP Proposal used as the basis of award.

- .1 The Guarantee Bond shall be in the full amount of the guaranteed savings over the term of the Contract and Service Agreement.
- .2 The Guarantee Bond must be signed by an authorized agent, with Power of Attorney, from a Surety authorized by the Department of Insurance to transact business in Ohio.

10.11.2 If the Contractor cannot reimburse the Owner for savings shortfalls, because of bankruptcy or for any other reason, the Owner shall collect on the Contractor's Guarantee Bond.

ARTICLE 11 - INSURANCE

11.1 Contractor's Liability Insurance

11.1.1 The Contractor shall purchase and maintain liability and other insurance as will protect the Contractor from claims set forth below, which may arise out of, or result from, the Contractor's

performance or obligations under the Contract Documents, whether due to action or inaction by the Contractor or any Person for whom the Contractor is responsible.

- .1 Claims under workers' compensation, occupational sickness or disease, disability benefit, and other similar employee benefit acts;
- .2 Claims for damages because of bodily injury, disease, illness, death, or personal injury, and other claims usually covered by bodily injury liability insurance;
- .3 Claims for damages because of injury to, or destruction of, property and other claims usually covered by property damage liability insurance.

11.2 The Contractor shall provide the following minimum insurance requirements during the term of the service agreement and if a claims-made policy is used for any coverage part, coverage will extend for two years after completion of work.

11.2.1 Commercial General Liability

- \$1,000,000 - Products/Completed Operations
- \$2,000,000 - Products Liability Aggregate
- \$ 100,000 - Fire Legal Liability
- \$1,000,000 - Contractors' Protective Liability
- \$2,000,000 - General Aggregate (See Below)
- \$1,000,000 - Per Occurrence Limit (See Below)
- \$ 10,000 - Medical Expense Limit

Contracts exceeding the amount of \$5 million require coverage in an amount to be determined by the Owner and identified in the Supplementary Conditions, but in no case less than \$5 million general aggregate and \$5 million per occurrence.

Policies shall be endorsed to provide that the General Aggregate Limit applies separately to each of the insured Contractor's projects.

Policy will include Broad Form Contractual Liability and no exclusion for Collapse, Underground work or Explosion. Policy must include a Per Project Aggregate endorsement.

11.2.2. Employment Practices Liability including Third Party Coverage - \$1,000,000

11.2.3. Automobile Liability - for owned, hired and non-owned vehicles \$1,000,000 - Combined Single Limit

11.2.4. Umbrella Liability - excess of all primary liability policies \$5,000,000 Limit

11.2.5. Design Professionals Liability - \$2,000,000 Aggregate Limit – for all design or preparing plans and specifications of equipment used in contract.

11.2.6. Workers' Compensation/Employer's Stop Gap - Statutory, \$1,000,000 Employer's Liability Limit - will provide certificate of insurance including all sub-contractors.

11.2.7 Policies of insurance will be primary and non-contributory and will include a waiver of subrogation in favor of Owens Community College.

11.2.8 Certificates of insurance will be submitted 10 days prior to the commencement of work or at signing of contract.

11.2.9 For any demolition, blasting, excavating, tunneling, shoring, or similar operations, the Contractor shall provide and maintain Property Damage Liability insurance with a limit of liability equal to the limit as specified in the applicable sections of subparagraph 11.2.1

11.3 Builder's Risk Insurance

11.3.1 The Contractor shall provide and maintain, during the progress of the Work and until the execution of the final Certification of Contract Completion by the Owner, a Builder's Risk insurance policy to cover all Work in the course of construction including false-work, temporary buildings and structures, and materials used in the construction process, stored on or off-site, or while in transit. This insurance shall be on a special cause of loss form, which provides coverage on an open perils basis insuring against the direct physical loss of, or damage to, covered property including, but not limited to, theft, vandalism, malicious mischief, earthquake, tornado, lightning, explosion, breakage of glass, flood, collapse, water damage, and hot and cold testing. This insurance shall also include debris removal, and/or demolition occasioned by enforcement of Applicable Law.

- .1 The Owner may provide Builder's Risk coverage for multiple projects, or on a project-by-project basis, at the sole discretion of the Owner. The amount of coverage on a project-by-project basis shall be not less than the total completed value of the Project, including the value of permanent fixture and decorations.
- .2 Coverage shall include a provision to pay the reasonable extra costs of expediting temporary and permanent repairs to, or permanent replacement of, damaged property. This shall include overtime wages and the extra cost of "express" or other means for rapidly transporting materials and supplies necessary to the repair or replacement.
- .3 Coverage shall include "soft cost endorsement" including, but not limited to, reasonable Contractor extension or acceleration costs.
- .4 Coverage shall include material in transit or stored off-site and identified for the Project.
- .5 Coverage shall waive all rights between the Owner and the Contractor for damages caused by fire or any other perils to the extent of actual recovery of any insurance proceeds under the policy.
- .6 Coverage shall include appropriate sub-limits for installation coverage.
- .7 Coverage shall include provisions for mechanical or electrical breakdown, or boiler system testing.
- .8 Coverage shall include temporary structures and scaffolding, along with collapse coverage.
- .9 Coverage shall be primary to all other applicable insurance.
- .10 The Builder's Risk policy shall specifically permit and allow for Partial Occupancy by the Owner prior to execution of the final Certification of Contract Completion by the Owner and coverage shall remain in effect until all punch list items are completed.
- .11 The Contractor experiencing any loss claimed under the Builder's Risk policy shall be responsible for that loss up to the amount of the deductible. The Contractor may provide its own coverage for amounts up to the deductible.
- .12 The Contractor's tools and equipment shall not be covered under the Owner's Builder's Risk policy or any other policy. It is the Contractor's sole responsibility to maintain such coverage.

11.3.2 If (1) the Contractor is involved solely in the installation of material and equipment and not in new building construction, and (2) the Owner is an Institution of Higher Education or the legislative body of a political subdivision of the State of Ohio, the Contractor shall purchase and maintain a

Builder's Risk, Builder's Risk-Renovations, or Installation Floater insurance policy. The policy must comply with the provisions of subparagraph 11.3.1.

11.4 Insurance Policy Requirements

- 11.4.1 Each policy of insurance required to be purchased and maintained by the Contractor shall name the Owner as an additional insured or loss payee, as applicable; provided, however, this designation shall not cause any claim between the Contractor and the Owner to be waived, except as set forth in paragraph 11.5. Each policy and respective Certificate of Insurance shall expressly provide that no less than 30 days prior written notice be given to the Owner in the event of cancellation, non-renewal, expiration, or material alteration of the coverage contained in the policy or evidenced by the Certificate of Insurance.
- 11.4.2 The Contractor shall furnish the Owner, when requested, a certified copy of any insurance or additional insured or loss payee endorsement required to be purchased or maintained by the Contract Documents. In no event shall failure of the Owner to demand a certified copy of any required insurance or endorsement be construed as a waiver of the obligation of the Contractor to obtain required insurance.
- 11.4.3 The Contractor shall maintain insurance in the required amounts, without interruption, from the date of execution of the Contract until the date of approval of the Certification of Contract Completion by the Owner. Failure to maintain the required insurance during the time specified shall be cause for termination of the Contract.
- 11.4.4 Insurance policies required to be purchased and maintained by the Contractor may include a reasonable loss deductible, which shall be the responsibility of the Contractor to pay in the event of loss.
- 11.4.5 The prompt repair or reconstruction of the Work resulting from an insured loss or damage is the Contractor's responsibility and shall be accomplished at no additional cost to the Owner.

11.5 Waivers of Subrogation

- 11.5.1 The Owner and the Contractor waive all rights against each other for damages caused by fire or other perils to the extent of actual recovery of any insurance proceeds under any property insurance obtained pursuant to this Article 11 or other insurance applicable to the Work.

ARTICLE 12 - CONTRACT SUSPENSION AND TERMINATION

12.1 Suspension of the Work

- 12.1.1 The Owner, without cause and without prejudice to any other right or remedy it may have, may order the Contractor in writing to suspend, delay, or interrupt the performance of the Work in whole or in part for such period of time as the Owner may determine.
 - .1 If the Owner suspends the Work under this subparagraph 12.1.1 and the Contractor complies with Article 8, the Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by the suspension, delay, or interruption. The adjustment of the Contract Sum, however, shall not include profit.
 - .2 Notwithstanding the foregoing, no adjustment shall be made to the Contract Sum or Contract Time to the extent that:
 - .1 Performance was, or could have been, suspended, delayed, or interrupted by a cause for which the Contractor is responsible; or
 - .2 An equitable adjustment is made or denied under another provision of the Contract.

- .3 If the Contracting Authority suspends the Work under this subparagraph 12.1.1 and the Contractor submits a proper Contractor Payment Request, but subject to all other provisions of the Contract Documents, the Contractor shall be entitled to payment of compensation due under the Contract Documents for Work performed before the suspension based upon the Schedule of Values.
- 12.1.2 The Owner, without prejudice to any other right or remedy it may have, may order the Contractor in writing to suspend, delay, or interrupt the performance of the Work in whole or in part for such period of time as the Owner may determine for any of the following reasons: (1) Defective Work; (2) the Contractor is causing undue risk of damage to any part of the project or adjacent area; (3) the Contractor fails to furnish or perform the Work in such a way that the complete Work will conform to the requirements of the Contract Documents; or (4) any other cause the Owner reasonably believes justifies a suspension.
- .1 The Owner's exercise of its right to suspend the Work under this subparagraph 12.1.2 shall not entitle the Contractor to any adjustment of the Contract Sum, Contract Time, or both.
 - .2 If the Owner is adjudged to have improperly suspended the Work under this subparagraph 12.1.2, the suspension shall be deemed to have been a suspension under subparagraph 12.1.1.
- 12.1.3 Upon receipt of notice of suspension under this paragraph 12.1, the Contractor shall cease Work on the suspended activities and take all necessary or appropriate steps to limit disbursements and minimize respective costs. The Contractor shall furnish a report to the Owner, within 5 days of receiving the notice of suspension, describing the status of the Work, including, but not limited to, results accomplished, resulting conclusions, and other information as the Owner may require.
- 12.1.4 In the event of suspension under this paragraph 12.1, the Contractor may be entitled to payment of compensation due under the Contract Documents, upon submission of a proper invoice, for the Work performed before the suspension, which shall be payable based upon the Schedule of Values.
- 12.1.5 The Owner's right to stop the Work shall not give rise to any duty to exercise the right for the benefit of the Contractor or any other party, and the Owner's exercise or failure to exercise the right shall not prejudice any of the Owner's other rights.
- 12.2 Termination for Cause
- 12.2.1 The Owner may terminate all or a portion of the Contract if the Contractor:
- .1 Fails to prosecute the Work with the necessary force or in a timely manner;
 - .2 Refuses to remedy Defective Work;
 - .3 Fails to supply enough properly skilled workers or proper materials;
 - .4 Fails to properly make payment to Subcontractors or Material Suppliers; or
 - .5 Disregards laws, ordinances, or rules, regulations, or orders of a public authority with jurisdiction over the Project.
- 12.2.2 If the Owner exercises its termination rights under this paragraph 12.2, the Owner shall issue a written notice providing 5 days for the Contractor to begin to correct Defective Work or to recover schedule deficiencies ("5-Day Notice") in accordance with O.R.C. Section 153.17, notifying the Contractor and the Contractor's Surety of the failure or refusal. The Contractor shall begin to cure the failure or refusal within 5 days of receipt of the notice.
- 12.2.3 If the Contractor fails to cure the failure or refusal within 15 days of receipt of the 5-Day Notice, the Owner may declare the Contractor in default, terminate the Contract, and employ upon the

Work the additional force or supply materials or either as appropriate, and remove Defective Work.

- 12.2.4 If the Contract is terminated, the Contractor's Performance Bond Surety may perform the Contract. If the Contractor's Performance Bond Surety does not commence performance of the Contract within 10 days of the date of Contract termination, the Owner may complete the Work by means the Owner determines appropriate. The Owner may take possession of and use all materials, facilities, and equipment at the Site or stored off-site for which the Owner has paid.
- 12.2.5 If the Contract is terminated, the Contractor shall not be entitled to further payment. If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including without limitation the fees and charges of engineers, architects, attorneys, and other professionals and court costs, and other damages incurred by the Owner and not expressly waived, the Contractor or Performance Bond Surety shall immediately pay the amount of the insufficiency to the Owner. This obligation for payment shall survive termination of the Contract.
- 12.2.6 If the Contractor's Performance Bond Surety performs the Work, the provisions of the Contract Documents govern the Performance Bond Surety's performance, with the Performance Bond Surety in place of the Contractor in all provisions including, but not limited to, provisions for payment for the Work, and provisions of the right of the Owner to complete the Work.
- 12.2.7 If the Owner terminates the Work under this paragraph 12.2, the termination shall not affect any rights or remedies of the State against the Contractor then existing or which may thereafter accrue. The Owner's retention or payment of funds due the Contractor shall not release the Contractor or the Contractor's Performance Bond Surety from liability for performance of the Work in accordance with the requirements of the Contract Documents.

12.3 Contractor Insolvency

12.3.1 Bankruptcy of Contractor

- .1 If the Contractor files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it, the Contractor, the Contractor as the debtor-in-possession, or the trustee of the Contractor's bankruptcy estate shall file a motion to assume or reject the Contract under Bankruptcy Code §365, 11 U.S.C. §365, within 20 days after the filing of the voluntary petition or involuntary petition and shall diligently prosecute that motion to conclusion so as to obtain an order granting or denying that motion within 45 days after the filing of the voluntary or involuntary petition. The failure to file and prosecute that motion within the time frames provided by this paragraph 12.4 shall constitute a material breach of the Contract as time is of the essence with respect to Contractor's performance of all terms of this Contract. Contractor agrees to the granting of relief from the automatic stay of the Bankruptcy Code, 11 U.S.C. §362(a), to permit the Owner to terminate the Contract for cause in such instance and issue and serve all notices necessary to terminate the Contract or arising out of the termination of the Contract and to take any and all other action necessary to terminate the Contract.

12.3.2 Receivership or Assignment for the Benefit of Creditors

- .1 If the Contractor makes a general assignment for the benefit of creditors or if a receiver is appointed for all or a substantial part of the Contractor's business or property, the Owner shall serve written notice on the Contractor and the Contractor's Performance Bond Surety stating that any failure of the Contractor to provide adequate assurance of continued performance shall be considered a rejection of the Contract, which shall result in termination of the Contract for cause. Such termination of the Contract need not be evidenced by an order of any court.

ARTICLE 13 - ACTION SUBMITTALS

13.1 Description

13.1.1 Shop Drawings, Product Data, Samples, and other submittals for the Owner's review and action shall be provided by the Contractor for any item required by the Contract Documents but not fully described in the Contract Documents, unless waived by the Owner, and include, but are not limited to:

- .1 Construction of the various parts, method of joinery, type of materials, grade, quality and thickness of materials, alloy of materials, profiles of all sections, reinforcement, method of hanging doors or installing windows, anchorage, and type and grade of finish;
- .2 Capacities, types of materials and performance charts that are pertinent to the materials, and performance charts that are pertinent to the equipment item; and
- .3 Wiring diagrams, control diagrams, schematic diagrams, working and erection dimensions, arrangement and specifications.
- .4 If the Project is designed and constructed under the LEED® ("Leadership in Energy and Environmental Design") Rating System developed by the U.S. Green Building Council or another rigorous rating system used to facilitate achievement of sustainability goals for the Project, the Contractor shall provide submittals certifying achievement of sustainable design rating system criteria for verification by a third party.

13.1.2 Submittals are not Contract Documents. In the event of conflicts between submittals and the Contract Documents, the Contract Documents take precedence and govern the Work.

13.2 Form of Submittals

13.2.1 The Contractor shall provide a transmittal letter, review and stamp its approval, and transmit the submittals to the Owner in accordance with a schedule established by the Owner and the Contractor.

- .1 The Contractor shall submit a minimum of 1 reproducible and 3 copies of Shop Drawings, and a minimum of 4 copies of any other submittal.
- .2 The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to communicate to the Owner the materials and equipment which the Contractor proposes to provide.
- .3 Each Sample shall be identified clearly as to materials, supplier, pertinent data as catalog numbers, the intended use, and other uses as the Owner may require enabling the Owner to review the submittal.

13.3 Variation from Contract Documents

13.3.1 If the submittals show variations from the requirements of the Contract Documents, the Contractor shall specifically and clearly identify the variations in its letter of transmittal.

- .1 Variations which may affect the construction quality, cost or timeline shall be submitted to the Owner for review, and if approved, shall be incorporated into the Work by Change Order.
- .2 The Contractor shall not be relieved of responsibility for deviations from the Contract Documents by the Owner's approval of submittals.

13.4 Contractor's Submittal Review

13.4.1 The Contractor shall review and stamp "approved" all submittals before forwarding them to the Owner. If it is apparent to the Owner that the Contractor has not reviewed the submittals, or has conducted an incomplete review, the Owner may reject the submittals.

- .1 The Contractor shall field verify conditions as necessary and make corrections of dimensions, locations of various items, encroachments of work of other contractors, or variations from the requirements of the Contract Documents.
- .2 If required by the Contract Documents or Applicable Law, the Contractor shall have Shop Drawings or other submittals prepared by Persons possessing expertise and experience in an appropriate trade or profession or by a licensed architect, registered engineer, or other professional.

13.4.2 By approving and submitting submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements, and field construction criteria related to the associated Work, or shall do so, and has checked and coordinated the information contained within the submittals with the requirements of the Work and of the Contract Documents.

13.5 Owner's Submittal Review

13.5.1 The Owner shall review submittals for conformity with design intent within 14 days of receiving them or in accordance with the approved submittal schedule, or other period as mutually agreed by the Owner and the Contractor.

- .1 The Contractor shall make corrections required by the Owner and resubmit the required number of corrected copies of submittals until approved, which re-submission shall be acted upon by the Owner within 14 days of receiving them, or other period as is mutually agreed by the Owner and the Contractor.
- .2 When resubmitting corrected submittals, the Contractor shall direct the Owner's attention to revisions made by noting revisions on the resubmittal.
- .3 The Contractor shall pay all reasonable costs of the Owner for attendant delay, interference, hindrance or disruption of the Project due to excessive resubmittals without fault of the Owner. Resubmittals in excess of 2 without fault of the Owner may be determined excessive by the Owner.
- .4 The Owner may hold Samples and other submittals used to coordinate finishes, colors, patterns, textures, or other characteristics until submittals for adjacent materials are available. The Owner shall issue a written notice to the Contractor stating that the submittal is being held, within 7 days of receiving it.
- .5 If coordinating submittals are not received within the period required for action on previously received submittals that are held in accordance with subparagraph 13.5.1.4, review of the previously received submittals shall be delayed.

13.5.2 The Owner's review of submittals is to determine if the items covered by the submittals will, after installation and incorporation into the Work, conform to the Contract Documents and be compatible with the design concept of the Project as a functioning whole.

- .1 The Owner's review shall not extend to means, methods, manners, techniques, sequences, nor procedures of construction, or to safety precautions or incident programs.
- .2 The review and approval of a separate item shall not indicate approval of the assembly in which the item functions.

13.6 Risk of Nonpayment

13.6.1 The Contractor shall not commence any portion of the Work requiring Shop Drawings, Product Data, Samples, or other submittals until the submittal has been approved by the Owner. If the Contractor starts Work before the Owner's final approval of the submittal, the Contractor does so at its own risk that payment shall not be approved or made by the Owner for the related Work.

13.7 Equipment Statement

13.7.1 Shop Drawings on all equipment shall include the following written statement from the manufacturer of the equipment:

- .1 "This equipment submitted for approval shall perform as specified when installed by the Contractor in the arrangement shown on this drawing and in the Contract Documents and in conjunction with all other accessories as flues, breechings, piping, controls, and equipment not furnished by this manufacturer, but required as an accessory or supplement to this equipment, providing that the accessory or supplementary items perform as specified and are installed as shown in the Contract Documents."

ARTICLE 14 - SUBCONTRACTORS AND MATERIAL SUPPLIERS

14.1 Evaluation and Approval

14.1.1 Within 10 days after the Notice to Proceed, the Contractor shall submit to the Owner, on forms provided by the Owner, 4 copies of the Contractor's list of proposed Subcontractors and Material Suppliers

14.1.2 Within 3 business days after receiving the Subcontractor and Material Supplier Declaration forms, the Owner shall verify that the forms are complete. If the Owner finds the forms are incomplete, the Owner shall return them to the Contractor with no action and identify corrective action the Contractor shall perform prior to resubmitting the forms. If the Owner returns such incomplete forms to the Contractor, the Contractor, within 10 days of receipt thereof, shall resubmit the forms with revisions complying with the corrective action identified by the Owner.

14.1.3 Upon receipt of the forms, the Owner shall perform an initial review of each Subcontractor and Material Supplier listed. Within 10 days after receiving the forms, the Owner shall make an initial determination of the status of each Subcontractor and Material Supplier listed, and provide a written notice to the Contractor. The status of each Subcontractor and Material Supplier shall be one of the following.

- .1 Approved, indicating that the Subcontractor or Material Supplier is approved for use on the Project.
- .2 Extended Review, indicating that the Owner may have an objection or concern regarding a listed Subcontractor or Material Supplier. The Owner shall then undertake an extended review for which an additional 10 days beyond the original deadline shall be automatically provided.
 - .1 Upon completing the extended review, the Owner shall issue a written notice to the Contractor confirming the status of the Subcontractor or Material Supplier as either approved or rejected.
- .3 Rejected, indicating that the Owner does not approve a listed Subcontractor or Material Supplier for use on the Project. Before making a determination to reject any listed Subcontractor or Material Supplier, the Owner shall complete a review similar to the review performed in the RFP evaluation, which includes written documentation as to the reason or reasons that the Subcontractor or Material Supplier was rejected.

14.1.4 If the Owner rejects any Subcontractor or Material Supplier, the Contractor shall replace the Subcontractor or Material Supplier, within 10 days of the receipt of the rejection, at no additional cost to the State.

14.2 Replacement and Corrections

14.2.1 The Contractor shall not replace any Subcontractor or Material Supplier after execution of the Contract without the Owner's prior written approval.

- .1 The Contractor shall submit to the Owner amended Subcontractor and Material Supplier Declaration forms and written justification for additions to or changes in their list of Subcontractors and Material Suppliers.
- .2 The Contractor shall submit amended forms to the Owner whenever any listed information changes for the Contractor's Subcontractors or Material Suppliers.
- .3 Upon submission of such amended forms, the Contractor and the Owner shall follow the procedure outlined in paragraphs 14.1.1, 14.1.3, and 14.1.4.

14.3 Contractor's Responsibility

14.3.1 The Contractor is fully responsible for all acts and omissions of its Subcontractors and Material Suppliers and is responsible for scheduling and coordinating the Work of its Subcontractors and Material Suppliers.

- .1 The Contractor is fully responsible for any delay, interference, disruption, or hindrance attributable to the Contractor's Subcontractors or Material Suppliers.
- .2 The Contractor shall require that each of its Subcontractors have a competent supervisor at the Site whenever the Subcontractor is performing Work.
- .3 The Contractor shall bind its Subcontractors and Material Suppliers to the terms of the Contract Documents, so far as applicable to the Work of the Subcontractor or Material Supplier, and shall not agree to any provision, which seeks to bind the Owner to terms inconsistent with, or at variance from the Contract Documents.

14.4 Warranty and Guarantee

14.4.1 The Contractor shall require each Subcontractor and Material Supplier to fully warrant and guarantee, for the benefit of the Owner, the effectiveness, fitness for the purpose intended, quality, and merchantability of any Work performed or item provided or installed by the Subcontractor or Material Supplier.

14.5 Assignment of Subcontracts

14.5.1 The Contractor hereby assigns its agreement with each Subcontractor and Material Supplier to the Owner provided that the assignment is effective only after termination of the Contract by the Owner for cause and only for those agreements which the Owner accepts by notifying the Contractor and applicable Subcontractor or Material Supplier in writing.

ATTACHMENT 5: ECM AND ENERGY SAVINGS GUARANTEE REQUIREMENTS

5.1 Overview:

It is the Owner's intent to select a Contractor based on the evaluation as described in Part Three of the RFP. Once selected, the Contractor and the Owner will agree to the energy conservation measures (ECMs) to be installed by the Contractor and their associated installation costs and guaranteed energy cost savings.

Based on the final selection of the ECMs, it is further the Owner's intent to enter into two separate agreements with the Contractor. The first agreement is to be a "Performance Contract" for the procurement of the design, materials and installation of the ECMs. The Performance Contract is attached to the RFP as Attachment 14. The ECM descriptions, cost and savings information provided in Attachments 9 and 10 of the RFP Proposal will be utilized as the description of the scope of work and the cost basis for the Performance Contract.

The second agreement will be a Limited Scope Service Agreement (Service Agreement). The Service Agreement will be written for a period of not less than 5 years and not more than the time frame necessary to assure the energy savings projected based on the information in Attachments 9 and 10 of the RFP Proposal. A portion of the Service Agreement will stipulate that the Contractor guarantee the energy and operational savings projected to the Owner for the term of the Service Agreement based on the final ECM selection and will be voided in the event that the Service Agreement is not in place. Another portion of the Service Agreement is to assure that the Contractor has the access to and capability to monitor the systems operations and utilization to assure that the assumptions utilized in the savings projections are being met and that the systems are appropriately maintained to achieve the savings guaranteed. Annual energy consumption analysis and reporting will be included in the Service Agreement. This will include the analysis necessary to demonstrate the energy guarantee performance and the analysis necessary to demonstrate the Owner's energy performance annually against a baseline energy consumption. A copy of the Service Agreement is attached to the RFP as Attachment 15. The annual cost of providing the Service Agreement is to be submitted as Attachment 11 with the RFP Proposal.

The Contractor will be required to initiate services associated with the Service Agreement on the date the Owner executes the Final Certification of Contract Completion with the guarantee and term to commence at the conclusion of the installation period as defined in the Contract Documents.

5.2 Energy Conservation Measure and Projected Energy Cost Savings Development:

Each ECM that the Offeror proposes to be incorporated in the Project is to be summarized individually on an Attachment 9 form. For each ECM, the Offeror shall provide the following information for review:

- a. ECM Name
- b. ECM Description
- c. Brief scope of work anticipated
- d. Energy savings calculations, with assumptions and methodology
- e. Base year energy cost savings for electrical demand, electrical consumption, natural gas, water, sewer, and total
- f. Projected operations and maintenance (non energy) savings, if any
- g. If for the purposes of the guarantee, the annual savings are to be variable adjusted, provide the variable and baseline assumption. (For example, boiler efficiency improvement is to be adjusted annually based on heating degree days with the baseline equal to the NOAA average for Toledo Express Airport, Toledo, Ohio)
- h. Interaction effects with other ECMs proposed

- i. Installation cost
- j. Simple payback period, based on energy cost savings only (do not include operations and maintenance savings)

Attachment 10, the Cost and Savings Summary and Certification, is to be completed for all of the ECMs proposed, as a group, to summarize the overall financial performance of the Project. The Cost and Savings Summary and Certification represents the totals of the Attachment 9 information for all ECMs proposed, including interactions, and the Project Cash Flow Projection included on the form is a summary based on certain financial assumptions, provided below, over a 10 year period of projected financing. Do not include the cost of the Service Agreement in the projections.

5.3 Energy Conservation Measure Associated Operations and Maintenance Savings:

During the initial evaluation of the Offeror's RFP Proposal, the projected value, if any, of annual impact of the ECMs on operation and maintenance costs will not be included in the financial performance of the Project. The Owner would like to review any projected operations and maintenance savings associated with an ECM, and may request, during the evaluation period that the operations and maintenance savings be included in the Project performance summary.

5.4 Projected Energy Cost Inflation:

For the purposes of Attachment 10, the annual energy cost inflation rate to be used for the cash flow summary is 5% per year for the Project term. This inflation factor is to be utilized for demand and consumption factors equally.

For the base line savings calculations the current rates provided from the utility information in Part One Executive Summary Section 1.6 are to be utilized.

5.5 Financing Rate

For the purposes of the Attachment 10 Project Cash Flow Projection, assume that the Owner will procure 10 year project financing at 4.25% for the installation cost of the Project.

5.6 Energy Guarantee

The annual energy cost savings is to be calculated in the following manner for the purposes of the energy savings guarantee and the presentation of actual energy cost savings. The intent of this calculation method is to make the guarantee inflation risk neutral to the Contractor and to guarantee the Owner energy consumption reduction.

The preparation of the annual energy utilization audits will be a requirement of the selected Contractor and will be included in the scope of work for the Service Agreement.

Step 1.

Accumulate the last year's utility bills from all meters affected by the ECMs installed and evaluate the invoices to provide actual units of demand and consumption.

Step 2.

Make variable adjustments to the units as per the variable adjustment in Attachment 5 - 5.2.g and Attachment 9 for the affected ECMs.

Make adjustments to the units for verifiable changes in operation or use of the facility or for expansion or reduction of the campus area on existing utility meters, if any.

Step 3.

Multiply the adjusted units from Step 2 by the Base Year utility rates to determine the utility cost in base year dollars. Subtract this amount from the Base Year utility cost, prior to the ECM implementation. *This is to be greater or equal to the Guaranteed Savings for the Energy Guarantee.*

Step 4.

Multiply the adjusted units from Step 2 by the most recent years utility rates to determine the total current utility cost after adjustment.

Step 5.

Multiply the Base Year units of consumption, prior to ECM implementation, by the most recent years utility rates and subtract the total from Step 4 to find the most recent years savings attributable to the ECM implementation, at the current utility rates.

**ATTACHMENT 6:
OFFEROR PROFILE AND INFORMATION FORM**

Offeror's Legal Name: _____

Offeror's Address: _____

Offeror's City/State/Zip: _____

Offeror's Phone: _____ **Offeror's Fax:** _____

Date Established: _____

Federal Tax Identification: _____

Principal Place of Business: _____

Contact Person Name: _____

Contact Person Title: _____

Contact Person Address: _____

Contact Person City/State/Zip: _____

Contact Person Phone: _____ **Contact Person Fax:** _____

Contact Person E-Mail Address: _____

If Different from Above:

Local Office Name from which Project will be managed: _____

Local Office Address: _____

Local Office City/State/Zip _____

Local Office Phone: _____ **Local Office Fax:** _____

Form of Corporation: _____

Key Corporate Management Personnel:

Name: _____ Title: _____ Yrs w/Co. _____

Name: _____ Title: _____ Yrs w/Co. _____

Name: _____ Title: _____ Yrs w/Co. _____

Name: _____ Title: _____ Yrs w/Co. _____

Number of Employees:

Engineers: _____

Project Management: _____

Project Supervision: _____

Service Management: _____

Total: _____ (not necessarily the sum of the above)

List valid contractor license, Certificate by Ohio Construction Industry Examining Board and any Registration of Certification by an OBBC municipality or county for preceding five (5) years.

List of proposed Subcontractors, if any, to be used on the Project:

A. Name: _____

Address: _____

Role in Project: _____

B. Name: _____

Address: _____

Role in Project: _____

C. Name: _____

Address: _____

Role in Project: _____

(A.) Each Offeror shall supply and certify to the accuracy of the following information relative to projects engaged in by the Offeror within the last five years. If none, so state.

- (1) Indicate Offerors overall experience performing the trades proposed, including the years in business performing the trade under present and former business names.

- (2) The Offeror shall submit, the financial information requested in Attachment 1 in the RFP.

This information is not a public record under O.R.C. Section 149.43; and shall remain confidential, except under proper order of a court.

- (3) A description of its experience with projects of comparable size, complexity, and cost demonstrating the Offeror's ability and capacity to perform a substantial portion of the Project with their own forces. Include Scope of Work, Contract value and Project name/ contact Person/phone number for each owner and Associate for each project. A maximum of 3 projects are to be provided.

The provision of Attachment 7, as requested in Attachment 1, will satisfy this requirement.

- (4) Identification and description of any projects where the Offeror was determined by a public entity not to be a responsible bidder although it was the apparent lowest bidder, the reasons given by the public entity and an explanation thereof;

- (5) Disclosure of any OSHA violation resulting in fines;

- (6) Disclosure of any violations pertaining to unlawful intimidation or discrimination against any employee by reason of race, creed, color, disability, sex, religion, national origin or employees civil rights or equal employment opportunities;

- (7) Disclosure of any adverse judgments in an action involving a claim for personal injury or wrongful death arising from the performance of work related to any project in which it has been engaged;

- (8) Disclosure of any adverse judgments for nonpayment or nonperformance;

- (9) Disclosure of violations of the prevailing wage law or any other state or federal labor laws;
- (10) Disclosure of violations of any Workers' Compensation laws;
- (11) Disclosure of any felony convictions involving the contractor, its officers, directors or owners;
- (12) Disclosure of any violations of environmental and/or health laws, codes, rules and/or regulations;
- (13) Disclosure of any occurrences of contract abandonment, contract termination, as either a prime- or sub-contractor, or surety takeover;
- (14) Disclosure of any occurrences of debarment by state, federal or local jurisdictions; and
- (15) Disclosure of any liquidated damages and/or Statutory Delay Forfeiture assessed.
- (16) Disclosure and confirmation that all apprentices used by the Offeror on the Project are trained in a program approved by the United States Department of Labor or the Ohio Apprenticeship Council.
- (17) Identification of Work to be subcontracted and the value of such Work, the names of all the proposed major subcontractors, and confirmation by the Offeror that it has or will

advise said subcontractors that they are obligated to the same levels of responsibility as the Offeror.

The provision of the Subcontractor Profile, as requested in Attachment 1, will satisfy this requirement

- (B) The Owner reserves the right to further inquire of the Offeror to determine whether the offer contains mathematical errors, omissions and/or erroneous assumptions and whether the Offeror has the capability to perform and complete the Contract for the proposed amount.

- (C) The Owner retains the right to waive non-compliance with the selection criteria when it is determined that non-compliance does not affect the competitive nature of the selection process.

- (D) All invitations, specifications, and similar requests for works of improvement shall advise all applicable prospective Offerors of this policy.

Management: Identify individuals assigned to this Project.

Principal _____ Years with firm _____ Total Exp. _____

Project Manager _____ Years with firm _____ Total Exp. _____

Field Superintendent _____ Years with firm _____ Total Exp. _____

Certification: I hereby certify that the information above is factual and complete.

Company Name _____

Authorized Official (please print or type) _____

Signature of Authorized Official _____ Date _____

ATTACHMENT 7 OFFEROR REFERENCE FORM
--

Company 1:		Contact:	
Address:		Title:	
City/St/Zip:		Phone:	
Program Name:			
Dates of Service:			
Description of Related Service Provided:			
Company 2:		Contact:	
Address:		Title:	
City/St/Zip:		Phone:	
Program Name:			
Dates of Service:			
Description of Related Service Provided:			
Company 3:		Contact:	
Address:		Title:	
City/St/Zip:		Phone:	
Program Name:			
Dates of Service:			
Description of Related Service Provided:			

<p>ATTACHMENT 8 PERSONNEL PROFILE SUMMARY</p>

Name:		Title:	
Role in Project:			
Education and Training:			
Degree/Major:		Where Obtained:	
Degree/Major:		Where Obtained:	
Other Training:			
Company 1:		Contact:	
Address:		Title:	
City/St/Zip:		Phone:	
Program Name:			
Dates of Service:			
Description of Related Service Provided:			
Company 2:		Contact:	
Address:		Title:	
City/St/Zip:		Phone:	
Program Name:			
Dates of Service:			
Description of Related Service Provided:			
Company 3:		Contact:	
Address:		Title:	
City/St/Zip:		Phone:	
Program Name:			
Dates of Service:			
Description of Related Service Provided:			

Notes:

1. *Attach resume for the above person to this Attachment.*
2. *Provide for key project personnel only. For Example – project manager, lead energy engineer, service manager, project superintendent*

ATTACHMENT 9 ENERGY CONSERVATION MEASURE (ECM) FORM
--

ECM Number: _____
 ECM Name: _____

Brief Description of ECM and Associated Scope of Work:

Equipment to be Installed:

Estimated Useful Life: _____
 Warranty Period: Parts and Labor: _____ Parts Only: _____

Key Assumptions:

Energy Cost Savings (attach calculations to this form)

Electrical Demand	_____ kwd @ \$ _____/kwd/mo	Annual Savings \$ _____
Electrical Consumption	_____ kwh @ \$ _____/kwh	Annual Savings \$ _____
Natural Gas Consumption	_____ mcf @ \$ _____/mcf	Annual Savings \$ _____
Water Consumption	_____ gal @ \$ _____/gal	Annual Savings \$ _____
Sewer Reduction	_____ gal @ \$ _____/gal	Annual Savings \$ _____
Total:		Annual Savings \$ _____

Installation Cost: \$ _____

Simple Payback Period: _____ years

Describe anticipated impact, if any, on annual Operations and Maintenance cost:

Describe interactions, if any, with other ECMs proposed:

Have interactions been accounted for in the Energy Cost Savings calculations: Y N

For purposes of the Energy Guarantee, is this ECM to be variable adjusted: Y N

If Yes – provide the variable, the baseline value and source and describe the adjustment methodology:

Is there any anticipated hazardous material expected to need abated as part of implementing this ECM- Y N

If yes, describe:

Provide an Attachment 9 for each Energy Conservation Measure proposed

**ATTACHMENT 10:
COST AND SAVINGS SUMMARY AND CERTIFICATION FORM**

Offeror Name	
Project Number	
Project Name	
Project Location	
Address	
City/State/Zip	

Having read and examined the Contract Documents, including but not limited to the Request for Proposal and Related Attachments, for the above-referenced Project, and the following Addenda:

Addendum Number		Date	
Addendum Number		Date	
Addendum Number		Date	

The RFP Proposal consists of the design, procurement and installation of the following Energy Conservation Measures, as defined in Attachments 9:

ECM #	ECM Description	Installation Cost (\$)	Annual Energy Cost Savings (\$)	Simple Payback (yrs)
Total	-----	-----	-----	-----

Project Cash Flow Projection:

Year	Installation Costs (a)	Energy Cost Savings (b)	Cash Flow for year	Cash Flow cumulative
Base				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				(c)

Cash Flow Projection Notes:

- (a) Refer to Attachment 5, paragraph 5.5 for financing rate to utilize in this projection.
- (b) Refer to Attachment 5, Paragraph 5.4 for utility inflation rate to utilize for this projection
- (c) Project must achieve positive cumulative cash flow in or prior to year 10. If co-generation is included as an ECM, positive cumulative cash flow must occur in year 5 or earlier.

The undersigned proposes to perform all Work under its RFP Proposal, in accordance with the Contract Documents, for the following sums:

BASE PROPOSAL	
ITEM 1: Guaranteed Minimum Annual Energy Cost Savings	\$ _____
ITEM 1: Number in Words	_____
ITEM 2: Fixed Total Installation Cost of Energy Conservation Measures	\$ _____
ITEM 2: Number in Words	_____
ITEM 3: Project Time, in number of consecutive days	_____
ITEM 3: Number in words	_____

Add Alternate:

1. _____ -
 If not included as an ECM in the Base Proposal, the additional fixed total installation cost to provide and install _____ is:
 Fixed Total Installation Cost: \$ _____
 Number in Words: _____
 Project Time Extension, in days: _____

Upon failure to have all construction of the Work completed within the Contract Time, the Owner shall be entitled to retain or recover from the Contractor, as liquidated damages, and not as a penalty, the amounts set forth in the following table for each and every calendar day thereafter until Contract Completion. The Owner's right to recover liquidated damages shall not substitute for any right of recovery for additional costs incurred should the Contractor fail to complete the Contract according to the Contract Documents.

LIQUIDATED DAMAGES

Contract Amount	Dollars per Day
\$ 1.00 to \$ 50,000.00	\$ 150.00
\$50,000.01 to \$150,000.00	\$250.00
\$150,000.01 to \$500,000.00	\$500.00
\$500,000.01 to \$2,000,000.00	\$1,000.00
\$2,000,000.01 to \$5,000,000.00	\$2,000.00
\$5,000,000.01 to \$10,000,000.00	\$2,500.00
\$10,000,000.01 or more	\$3,000.00

CONTRACTOR'S CERTIFICATION

The Contractor hereby acknowledges that the following representations in this RFP Proposal are material and not mere recitals:

1. Contractor has read and understands the Contract Documents and agrees to comply with all requirements of the Contract Documents, regardless of whether the Contractor has actual knowledge of the requirements and regardless of any statement or omission made by the Contractor which might indicate a contrary intention.
2. The Contractor represents that the RFP Proposal is based upon the Standards specified by the Contract Documents.
3. The Contractor has visited the Site, has become familiar with local conditions, and has correlated personal observations about the requirements of the Contract Documents. The Contractor has no outstanding questions regarding the interpretation of the Contract Documents.
4. The Contractor understands that the Contract is subject to all the provisions, duties, obligations, remedies and penalties of O.R.C. Chapter 4115, "Wages and Hours on Public Works," and that the Contractor shall pay any wage increase in the Project locality during the term of the Contract.
5. The Contractor agrees to comply with the Drug Free Workplace Act and the State's Drug Free Workplace Policy. The Contractor shall make a good faith effort to ensure that all the Contractor employees, while working on State property, shall not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.
6. The Contractor agrees to furnish any information requested by the Owner to evaluate the Contractor's responsibility.

7. The Contractor and each individual signing on the Contractor's behalf certifies, and in the case of a joint RFP Proposal, each party thereto certifies as to such party's organization, under penalty of perjury, that to the best of the undersigned's knowledge and belief:
 - 7.1 The RFP Proposal has been prepared independently without collusion, consultation, communication or agreement, for the purpose of restricting competition as to any matter relating to such RFP Proposal.
 - 7.2 Unless otherwise required by law, the costs which have been quoted in the RFP Proposal have not been knowingly disclosed by the Contractor and will not knowingly be disclosed by the Contractor prior to the RFP Proposal deadline, directly or indirectly, to any other Contractor that would have any interest in the RFP Proposal costs.
 - 7.3 No attempt has been made or will be made by the Contractor to induce any other individual, partnership or corporation to submit or not to submit an RFP Proposal for the purpose of restricting competition.

8. The Contractor understands and agrees that it may negotiate only the specific aspects of the RFP that the Owner, in its sole discretion, selects for negotiation. The Contractor certifies that it shall not attempt to negotiate the General Conditions of the Contract, Performance Contract, or Service Agreement, except as to those permitted modifications that may be proposed for the Service Scope of Work (Exhibit 1 of the Service Agreement).

	Contractor	Signature for Joint Venture
Authorized Signature		
Printed Name		
Title		
Company Name		
Mailing Address		
City/State/Zip Code		
Where Incorporated		
Federal Tax ID		
Contact person		
Telephone Number		
Fax Number		

**ATTACHMENT 11:
SERVICE AGREEMENT COST SUMMARY FORM**

FROM: Name: _____
Address: _____
City/State: _____
Phone: _____ Fax: _____

FOR:

RFP PROPOSAL SCHEDULE

The Undersigned Contractor, having visited the Site and familiarized itself with local conditions affecting the cost of the Work and with all requirements of the Contract Documents, including the Request for Proposal and the Limited Scope Service Agreement (Attachment 15, and associated Exhibits), regardless of whether the Contractor has actual knowledge of such requirements and regardless of any statement or omission made by the Contractor which might indicate a contrary intention, hereby agrees to comply with all requirements of the Contract Documents and proposes to furnish the Work required by said Limited Scope Service Agreement for the following amounts:

See Attachment 15, Limited Scope Service Agreement,

The Limited Scope Service Agreement incorporates the guaranteed operational and energy savings as defined in Attachments 5 and 10, as long as the Limited Scope Service Agreement remains in effect. The Contractor is to provide monitoring and verification of the ECMs that have been installed pursuant to the Performance Contract, an annual audit of the energy savings, and an annual submission of an energy savings report to the Owner.

5 year period commencing with the issuance of
Final Certification of Contract Completion

Year 1	\$ _____
Year 2	\$ _____
Year 3	\$ _____
Year 4	\$ _____
Year 5	\$ _____

UNIT PRICES

C LABOR

For additional work requested by the Owner which is not part of the Limited Scope Service Agreement, the Contractor and the Owner shall estimate and come to agreement on the time required of each tradesman to complete the task. The Contractor will then be paid based upon the agreed to hours. Payment will be at the prevailing wage rate as established by the State, then in effect, plus a percentage for overhead and profit (combined) as quoted hereafter.

_____ %

D MATERIALS

For any materials provided for additional work, the reimbursement to the Contractor shall be a rate of materials cost (less any rebates or volume discounts) plus 10% for overhead and profit. Any expedited shipment or special handling shall be at cost. No other mark-ups will be allowed.

SERVICE AGREEMENT EXTENSION:

The Owner may, in its sole discretion, extend the Limited Scope Service Agreement beyond the 5-year term on a year by year basis for the duration of the period for the guaranteed operational and energy savings. This guarantee period could potentially run through *[MM, DD, YYYY]*, depending on the chosen Energy Conservation Measures and schedule for the Performance Contract.

In the event the Owner extends the Limited Scope Service Agreement, the labor and material cost components associated with the 5 Year Base Proposal will be adjusted in accordance with the local CPI adjustment factors for labor and material based on the then current year factors as compared to year end 2009.

	Contractor	Signature for Joint Venture
Authorized Signature		
Printed Name		
Title		
Company Name		
Mailing Address		
City/State/Zip Code		
Where Incorporated		
Federal Tax ID		
Contact person		
Telephone Number		
Fax Number		

ATTACHMENT 12: WAGE RATE REQUIREMENTS

1.1 Payment of Prevailing Wage Rates

- 1.1.1 The Contractor shall pay the prevailing wage rates of the Project locality, as issued by the Ohio Department of Commerce, Wage and Hour Bureau to laborers and mechanics performing Work on the Project.
- 1.1.2 The Contractor shall comply with the provisions, duties, obligations, and is subject to the remedies and penalties of Ohio Revised Code ("O.R.C.") Chapter 4115.
- 1.1.3 The Contractor shall submit all payroll reports in compliance with the requirements of paragraph 1.4 for all of the employees of the Contractor and of the Contractor's Subcontractors.
- 1.1.4 By executing a Contract, the Contractor certifies that it based its RFP Proposal upon the prevailing rates of wages as ascertained by the Ohio Department of Commerce, Wage and Hour Bureau for the Project as provided in O.R.C. Sections 4115.03 through 4115.14, which are inserted at the end of this Attachment 12.

1.2 Prevailing Wage Rate Revisions

- 1.2.1 The Owner shall, within 7 business days after receipt of a notice of a change in the prevailing wage rates, notify the Contractor of the change. The prevailing wage rates are available at the Ohio Department of Commerce's web site: <http://www.com.state.oh.us>.
- 1.2.2 The Contractor shall pay any revised wage rates issued during the term of the Contract.

1.3 Payroll Schedule

- 1.3.1 Within 10 days of the date of the Notice to Proceed, the Contractor shall provide the Owner with a schedule of dates during the term of the Contract on which wages shall be paid to employees for the Project.

1.4 Payroll Reports

- 1.4.1 The Contractor shall submit payroll reports with each Contractor Payment Request, which reports shall be certified by the Contractor that the payroll is correct and complete and the wage rates shown are not less than those required by the Contract. The Contractor is responsible for submitting all payroll reports of its Subcontractors.
 - .1 Each payroll report shall indicate the period covered and include a list containing the name, address and social security number of each employee of the Contractor and its Subcontractors paid for the Work.
 - .2 Each payroll report shall list the number of hours each employee worked each day on the Project during the reporting period, the total hours each week on the Project, the employee's hourly rate of pay, job classification, fringe benefits, and all deductions from wages and net pay.
 - .3 Each payroll report shall list each fringe benefit and state if it is paid as cash to the employee or to a named plan.
 - .4 For each employee, each payroll report shall list the employee's gender and ethnicity, classified as Black, Hispanic, Asian Pacific Islanders, American Indians/Alaskan Native or non-minority.

- .5 The Contractor and its Subcontractors shall submit apprenticeship agreements for all apprentices utilized on the Project.

1.5 Violation

- 1.5.1 Pursuant to O.R.C. Section 4115.10, whoever violates the prevailing wage law codified in Ohio Revised Code Chapter 4115 is liable for the underpayment of prevailing wages, an equal amount as a statutory penalty, and attorney's fees if litigation is required.
- 1.5.2 Pursuant to O.R.C. Section 4115.133, whoever is found to have committed an intentional violation of the prevailing wage law under O.R.C. Section 4115.13 shall be placed on a list of contractors who are debarred from performing any work on public improvements for a period of one year.

WOOD COUNTY

PREVAILING WAGE RATES

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Millwright & Piledriver Local 1393 NW Zone 1

Change # : CN01-2008LocNWmil1393

Craft : Carpenter Effective Date : 12/05/2008 Last Posted : 12/05/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification:											
Carpenter-Millwright & Piledriver		\$27.30	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$43.40	\$57.05	
Apprentice	Percent										
1st 6 months	55.00	\$15.02	\$6.00	\$0.00	\$0.33	\$0.00	\$0.00	\$0.00	\$21.34	\$28.85	
2nd 6 months	60.00	\$16.38	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$32.48	\$40.67	
3rd 6 months	70.00	\$19.11	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$35.21	\$44.77	
4th 6 months	75.00	\$20.48	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$36.58	\$46.81	
5th 6 months	80.00	\$21.84	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$37.94	\$48.86	
6th 6 months	85.02	\$23.21	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$39.31	\$50.92	
7th 6 months	90.00	\$24.57	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$40.67	\$52.96	
8th 6 months	95.02	\$25.94	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$42.04	\$55.01	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
CRAWFORD, DEFIANCE, FULTON, HANCOCK, HENRY,
LUCAS, OTTAWA, PAULDING, SANDUSKY, SENECA,
WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter NW District Floorlayer
Local 248

Change # : CN01-2008NWflor248

Craft : Carpenter Effective Date : 12/05/2008 Last Posted : 12/05/2008

Fringe Benefit Payments											
	BHR	H&W	Pension		App Tr.	Vac.	Annuity		Other	Total PWR	Overtime Rate
Classification:											
Carpenter-Floorlayer	\$26.35	\$6.00	\$4.75		\$0.35	\$0.00	\$3.75		\$0.00	\$41.20	\$54.38
Apprentice	Percent										
1st 3 months	45.00	\$11.86	\$5.85	\$0.00	\$0.35	\$0.00	\$0.00	\$0.00	\$18.06	\$23.99	
Next 9 months	55.00	\$14.49	\$5.85	\$2.61	\$0.35	\$0.00	\$2.06	\$0.00	\$25.36	\$32.61	
Next 6 months	65.00	\$17.13	\$5.85	\$3.09	\$0.35	\$0.00	\$2.44	\$0.00	\$28.86	\$37.42	
Next 6 months	75.00	\$19.76	\$5.85	\$3.56	\$0.35	\$0.00	\$2.81	\$0.00	\$32.33	\$42.21	
Next 6 months	80.00	\$21.08	\$5.85	\$3.80	\$0.35	\$0.00	\$3.00	\$0.00	\$34.08	\$44.62	
Next 6 months	85.00	\$22.40	\$5.85	\$4.04	\$0.35	\$0.00	\$3.19	\$0.00	\$35.83	\$47.03	
Next 6 months	90.00	\$23.72	\$5.85	\$4.28	\$0.35	\$0.00	\$3.38	\$0.00	\$37.58	\$49.43	
Next 6 months	95.00	\$25.03	\$5.85	\$4.51	\$0.35	\$0.00	\$3.56	\$0.00	\$39.30	\$51.82	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
PAULDING, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheetmetal Local 33 (Toledo)

Change # : CN01-2009Toledo33

Craft : Sheetmetal Worker Effective Date : 02/27/2009 Last Posted : 02/27/2009

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Sheetmetal Worker	\$30.22	\$5.05	\$9.45	\$1.42	\$0.00	\$1.00	\$0.40	\$47.54	\$62.65	
Apprentice	Percent									
First year	45.00	\$13.60	\$5.05	\$0.00	\$1.42	\$0.00	\$0.40	\$20.47	\$27.27	
3rd 6 months	50.00	\$15.11	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$31.93	\$39.49	
4th 6 months	55.00	\$16.62	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$33.44	\$41.75	
5th 6 months	60.00	\$18.13	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$34.95	\$44.02	
6th 6 months	65.00	\$19.64	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$36.46	\$46.28	
7th 6 months	70.00	\$21.15	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$37.97	\$48.55	
8th 6 months	75.00	\$22.66	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$39.49	\$50.82	
9th 6 months	80.00	\$24.18	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$41.00	\$53.08	
10th 6 months	85.00	\$25.69	\$5.05	\$9.45	\$1.42	\$0.00	\$0.50	\$42.51	\$55.35	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Journeyman to 1 Apprentice
 - 2 Journeymen to 1 Apprentice
 - 3 Journeymen to 1 Apprentice
 - 4 Journeymen to 2 Apprentices
 - 5 Journeymen to 2 Apprentices
 - 6 Journeymen to 2 Apprentices
 - 7 Journeymen to 3 Apprentices
 - 8 Journeymen to 3 Apprentices
 - 9 Journeymen to 3 Apprentices
 - 10 Journeymen to 4 Apprentices
 - 11 Journeymen to 4 Apprentices
 - 12 Journeymen to 4 Apprentices
 - 13 Journeymen to 5 Apprentices
 - 14 Journeymen to 5 Apprentices
 - 15 Journeymen to 5 Apprentices
- Maintaining a 3 Journeymen to 1 Apprentice Ratio

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
OTTAWA, PAULDING, PUTNAM, SENECA, WILLIAMS,
WOOD

Special Jurisdictional Note :

Details :

Other = Supplemental unemployment benefits.

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - HevHwy II

Change # : CN01-2009Loc18hevhwyl

Craft : Operating Engineer Effective Date : 05/01/2009 Last Posted : 05/01/2009

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Operator-Class 1	\$29.49	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.69	\$55.43	
Class 2	\$29.37	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.57	\$55.26	
Class 3	\$28.33	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$39.53	\$53.70	
Class 4	\$27.15	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$38.35	\$51.92	
Class 5	\$21.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$32.89	\$43.74	
Class 6	\$29.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.94	\$55.81	
Class 7	\$29.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.94	\$55.81	
Class 8	\$29.99	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.19	\$56.18	
Great Lakes Floating Agreement										
Class 1	\$35.41	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$46.61	\$64.31	
Class 2	\$33.91	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$45.11	\$62.06	
Class 3	\$30.18	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.38	\$56.47	
Class 4	\$25.09	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$36.29	\$48.84	
Apprentice	Percent									
1st Year	50.00	\$14.75	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$25.94	\$33.32	
2nd Year	60.00	\$17.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$28.89	\$37.74	
3rd Year	70.00	\$20.64	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$31.84	\$42.16	
4th Year	80.00	\$23.59	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$34.79	\$46.59	
Field Mech Trainee										
1st year	49.80	\$14.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$25.89	\$33.23	
2nd year	59.74	\$17.62	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$28.82	\$37.63	
3rd year	69.71	\$20.56	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$31.76	\$42.04	
4th year	79.68	\$23.50	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$34.70	\$46.45	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

For every (5) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice. On jobs where maintenance engineers are to be employed, for every (2) Class 2 Mechanics there may be (1) Mechanic Trainee & so fourth. Mechanic Trainee rate is a percentage of Class 2 rate.

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT,

VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS,
WOOD, WYANDOT

Special Jurisdictional Note :

Details :

****Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL**

Class 1 - Air Compressors on Steel Erection; Barrier Moving Machine; Boiler Operators, on Compressors or Generators, when mounted on a rig; Cableways; Combination Concrete mixers & Towers; Concrete Pumps; Concrete Plants (over 4 yd capacity); Cranes (all types, including Boom Trucks, Cherry Pickers); Derricks; Draglines; Dredgers (dipper, clam or suction); Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls; Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial - Type Tractors; Jet Engine Dryers (D8 or D9), Diesel Tractors; Locomotives (standard gage); Maintenance Operators (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Side Booms; Slip Form Pavers; Tower Dericks; Tree Shredders; Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators. Horizontal Directional Drill (Over 500,000 ft.lbs.thrust) and Rough Terrain Forklift with Winch/Hoist; Compact Cranes, track rubber over 4,000 pound capacity, self-erecting cranes; stationary, track or truck (all configurations) Bucket trench machines (over 24 inches wide).

Class 2 - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or skid steer loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Endloaders; Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Maintenance Operators, Class B (Portage and Summit Counties only); Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Trench Machines (24inch wide and under); Vermeer Type Concrete saw. Material Transfer Equipment (Shuttle buggy) Asphalt; All rotomills,grinders and planers of all types.

Class 3 - A-Frames; Air Compressors, on tunnel work (low Pressure); Asphalt Plant Engineers; Bobcat-type and/or skid steer loader with or without attachments; Power Boilers (15 lbs pressure and over); Highway Drills (all types); Rollers, asphalt; Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rotovator (lime-soil Stabilizer); Switch & Tie Tampers (without lifting and aligning device); Locomotives (narrow gage); Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Utilities Operators, (small equipment); Welding Machines; Material hoist/elevators.

Class 4 -Ballast Re-loacator; Backfillers; Batch Plants; Bar and Joint Installing Machines; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yd and under); Conveyors (highway); Concrete Saws (multiple); Crushers; Deckhands; Farm type tractors, with attachments (highway), except masonry; Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway); Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers; Plant Mixers; Post Drivers; Post Hole Diggers (power auger); Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Tractors, pulling sheepsfoot rollers or graders; Steam Firemen; Vibratory Compactors, with integral power.

Class 5 - Compressors (portable, Sewer, Heavy and Highway); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters; Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen; Drum Fireman (in Asphalt Plant); Oil Heaters (Asphalt Plant); Tire Repairmen; VAC/ALLS; Fueling and greasing (plus \$3.00), compact cranes: track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

Class 7 - Crane Boom 150 ft - 180 ft

Class 8 - Crane Boom over 180 ft .

GREAT LAKES FLOATING AGREEMENT

Class 1 -Diver,Wet Tender,Engineer,(Hyd.Dredge)

Class 2-Crane Backhoe Operator,Mechanic/Welder,Assistant Engineer (Hyd. Dredge), Leverman(Hyd Dredge) Diver Tender.

Class 3-Deck Equipment Operator, (Machineryman), Maint. of Crane, Tug/Launch Operator, Loader/Dozer on Barge, Deck Machinery.

Class4-Deck Equipment Operator, (Machineryman/Fireman)(4 equipment Units or more), Deck Hand, Deck Engineer, Crane Maintenance, 50T and under/Backhoe 115,000lbs or less, Tug Operator.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 8 Inside

Change # : CN01-2009Loc8in

Craft : Electrician Effective Date : 06/04/2009 Last Posted : 06/04/2009

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Electrician Class A (less than 2 yrs)	\$34.00	\$9.99	\$6.02	\$0.51	\$0.00	\$0.00	\$0.46	\$50.98	\$67.98	
Electrician Class B (2 thru 4 yrs)	\$32.50	\$9.99	\$7.48	\$0.49	\$0.00	\$0.00	\$0.46	\$50.92	\$67.17	
Class C (5 or more yrs)	\$31.00	\$9.99	\$8.93	\$0.45	\$0.00	\$0.00	\$0.46	\$50.83	\$66.33	
Apprentice	Percent									
1st 0-900 hrs	30.00	\$10.20	\$8.59	\$0.46	\$0.15	\$0.00	\$0.46	\$19.86	\$24.96	
2nd 901-1800 hrs	40.00	\$13.60	\$8.79	\$0.61	\$0.20	\$0.00	\$0.46	\$23.66	\$30.46	
3rd 1801-3300 hrs	50.00	\$17.00	\$8.99	\$3.01	\$0.26	\$0.00	\$0.46	\$29.72	\$38.22	
4th 3301-4800 hrs	60.00	\$20.40	\$9.19	\$3.61	\$0.31	\$0.00	\$0.46	\$33.97	\$44.17	
5th 4801-6300 hrs	70.00	\$23.80	\$9.39	\$4.21	\$0.36	\$0.00	\$0.46	\$38.22	\$50.12	
6th 6300-8000 hrs	80.00	\$27.20	\$9.59	\$4.82	\$0.41	\$0.00	\$0.46	\$42.48	\$56.08	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

Journeymen ----- Max. Apprentices
 from 1 to 3 2
 from 4 to 6 4
 from 7 to 9 6
 etc

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
 OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA,
 WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

OTHER: IS SAFETY TRAINING

Respiratory Conditions:

Where this condition is found to exist, the employer will furnish adequate protective equipment and a premium of five percent (5%) above the employee's regular rate of pay.

Cable Splicing:

When a workman is required to make up cables, pot heads, or splices, on lead cable only, a five percent (5%) per hour premium shall be added to the employee's regular rate of pay.

Note:

A premium of 5% above the employee's regular rate shall be paid to workmen performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75 feet above the ground, also similar structures 30 feet above the roofs of buildings on which the work is being performed. This premium will also apply where workmen are called upon to perform work in caissons and tunnels more than 30 feet deep and in tunnels under air pressure. All work performed 40 feet above any floor or pit floor (excepting work performed in a "Bucket Truck" or from a property erected State-approved scaffold) or any height above any hazardous location, such as acid pits, machinery, etc., a premium of 5% above the employee's regular rate of pay shall be paid.

A premium of 5 % above the employee's regular rate of pay shall be paid if a welding certification is necessary.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheetmetal Local 33 (Toledo) Decking

Change # : CN01-2008Loc33(Tol)Deck

Craft : Sheetmetal Worker Effective Date : 10/16/2008 Last Posted : 10/16/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Sheetmetal Worker Decking & Siding		\$20.83	\$4.80	\$5.76	\$0.38	\$0.00	\$0.00	\$0.30	\$32.07	\$42.48	
Decking & Siding Specialty Trainees		Percent									
1st 30 days		63.45	\$13.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.22	\$19.82	
2nd thru 6th months		63.45	\$13.22	\$4.80	\$5.76	\$0.00	\$0.00	\$0.00	\$23.78	\$30.38	
7th thru 12th months		63.45	\$13.22	\$4.80	\$5.76	\$0.38	\$0.00	\$0.30	\$24.46	\$31.06	
2nd year		77.50	\$16.14	\$4.80	\$5.76	\$0.38	\$0.00	\$0.30	\$27.38	\$35.45	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Journeymen To 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
OTTAWA, PAULDING, PUTNAM, SENECA, WILLIAMS,
WOOD

Special Jurisdictional Note :

Details :

Work but not limited to: Exterior application of manufactured and/or job site fabricated metal decking, siding and exterior appurtenances thereto. The erection of pre-engineered metal buildings, pre-manufactured gas stations and appurtenances thereto. The installation of metal roofs and appurtenances. The erection and/or job site fabrication of draft or fire curtains and appurtenances thereto.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 7 Commercial

Change # : CN01-2009Loc7

Craft : Painter Effective Date : 02/27/2009 Last Posted : 02/27/2009

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Painter-Brush-Paperhanger-Drywall Taper-Finisher	\$24.76	\$5.05	\$5.56	\$0.38	\$0.00	\$0.00	\$0.20	\$35.95	\$48.33	
Refiners and Refinery Tanks	\$25.01	\$5.05	\$5.56	\$0.38	\$0.00	\$0.00	\$0.20	\$36.20	\$48.71	
Spray (All Types) paint or material applied with pressure devise, foam waterproofing, fireproofing	\$25.46	\$5.05	\$5.56	\$0.38	\$0.00	\$0.00	\$0.20	\$36.65	\$49.38	
Television & Radio Towers Bridges Horizontal Cable & Tanks/Stacks /Water Tanks over 30Ft	\$26.06	\$5.05	\$5.56	\$0.38	\$0.00	\$0.00	\$0.20	\$37.25	\$50.28	
Solvent Based Material or Sand and Abrasive Blasting	\$25.76	\$5.05	\$5.56	\$0.38	\$0.00	\$0.00	\$0.20	\$36.95	\$49.83	
Lead Paint Abatement	\$25.51	\$5.05	\$5.56	\$0.38	\$0.00	\$0.00	\$0.20	\$36.70	\$49.46	
Apprentice	Percent									
1st 6 months	40.00	\$9.90	\$5.05	\$5.56	\$0.38	\$0.00	\$0.20	\$21.09	\$26.05	
2nd 6 months	45.00	\$11.14	\$5.05	\$5.56	\$0.38	\$0.00	\$0.20	\$22.33	\$27.90	
3rd 6 months	55.00	\$13.62	\$5.05	\$5.56	\$0.38	\$0.00	\$0.20	\$24.81	\$31.62	
4th 6 months	60.00	\$14.86	\$5.05	\$5.56	\$0.38	\$0.00	\$0.20	\$26.05	\$33.47	
5th 6 months	70.00	\$17.33	\$5.05	\$5.56	\$0.38	\$0.00	\$0.20	\$28.52	\$37.19	
6th 6 months	80.00	\$19.81	\$5.05	\$5.56	\$0.38	\$0.00	\$0.20	\$31.00	\$40.90	

Special Calculation Note : The above is also the Industrial rate for each classification.

Ratio :
4 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
FULTON, HENRY, LUCAS, OTTAWA, WOOD

Special Jurisdictional Note :

Details :

A premium of \$0.75 per hour shall be paid for the application for solvent-based catalized materials of two or more component materials regardless of the method of application. Swing stage and chair rates \$0.50. The premium shall be in addition to the

classification involved. Journeymen in charge of two thru five workers receives \$1.00 premium, journeymen in charge of six or more shall receive \$1.50 premium.



Prevailing Wage Rate Skilled Crafts

Name of Union: Roofer Local 134

Change # : CN01-2008Loc134

Craft : Roofer Effective Date : 08/12/2008 Last Posted : 08/12/2008

		Fringe Benefit Payments								
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Roofer	\$24.35	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$0.00	\$39.80	\$51.98	
Yardman	\$14.29	\$4.95	\$1.45	\$0.00	\$0.00	\$0.00	\$0.00	\$20.69	\$27.83	
Helper (1st 1000 hours)	\$10.86	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10.86	\$16.29	
Helper (under 3 years)	\$10.86	\$4.95	\$0.45	\$0.21	\$0.00	\$0.00	\$0.00	\$16.47	\$21.90	
Helper (over 3 years)	\$10.86	\$4.95	\$1.45	\$0.21	\$0.00	\$0.00	\$0.00	\$17.47	\$22.90	
Apprentice	Percent									
1st 6 months	50.00	\$12.18	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$27.62	\$33.71	
2nd 6 months	55.00	\$13.39	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$28.84	\$35.54	
3rd 6 months	60.00	\$14.61	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$30.06	\$37.36	
4th 6 months	65.00	\$15.83	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$31.28	\$39.19	
5th 6 months	70.00	\$17.04	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$32.50	\$41.02	
6th 6 months	75.00	\$18.26	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$33.71	\$42.84	
7th 6 months	80.00	\$19.48	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$34.93	\$44.67	
8th 6 months	85.00	\$20.70	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$36.15	\$46.50	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
 Roofer Helper Ratio 1 Helper for every 3 Journeymen on the job in counties Lucas, Wood and Monroe. 1 Helper for every 1 Journeymen in the remaining counties.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, PAULDING, PUTNAM, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 3 Tile Mechanics & Finishers

Change # : CN01-2008Loc3

Craft : Bricklayer Effective Date : 10/16/2008 Last Posted : 10/16/2008

	BHR	H&W	Fringe Benefit Payments					Total PWR	Overtime Rate
			Pension	App Tr.	Vac.	Annuity	Other		
Classification									
Bricklayer-Mosaic-Terrazzo-Tile Mechanics	\$29.23	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$0.00	\$37.91	\$52.53
Tile Assistant/ Finisher 1st year 50%	\$14.61	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$0.00	\$23.29	\$30.59
Tile Assistant/ Finisher 2nd year 65%	\$19.00	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$0.00	\$27.68	\$37.18
Tile Assistant/ Finisher 3rd year 80%	\$23.38	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$0.00	\$32.06	\$43.75
Apprentice	Percent								
1st 6 months	49.99	\$14.61	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$23.29	\$30.60
2nd 6 months	54.99	\$16.07	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$24.75	\$32.79
3rd 6 months	59.98	\$17.53	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$26.21	\$34.98
4th 6 months	70.00	\$20.46	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$29.14	\$39.37
5th 6 months	75.00	\$21.92	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$30.60	\$41.56
6th 6 months	80.00	\$23.38	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$32.06	\$43.76
7th 6 months	89.99	\$26.30	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$34.98	\$48.14
8th 6 months	94.98	\$27.76	\$4.80	\$3.50	\$0.38	\$0.00	\$0.00	\$36.44	\$50.32

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
4 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
DEFIANCE, FULTON, HENRY, LUCAS, PAULDING,
PUTNAM, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Boatswain Chair and Swing Stage shall be one dollar (\$1.00) above base rate. Radial Smoke Stacks shall be fifty cents (\$.50) above base rate.

Improver work force cannot exceed 20% on any one job.

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos Local 207 Michigan District

Change # : CN01-2006Loc207A

Craft : Asbestos Worker Effective Date : 08/01/2007 Last Posted : 02/10/2006

	BHR	H&W	Fringe Benefit Payments					Total PWR	Overtime Rate
			Pension	App Tr.	Vac.	Annuity	Other		
Classification									
Asbestos Abatement Journeyman	\$25.75	\$4.75	\$1.60	\$0.50	\$0.00	\$0.00	\$0.00	\$32.60	\$45.48
600 hrs & 1 year is a 1st year Trainee	\$16.80	\$4.75	\$1.00	\$0.50	\$0.00	\$0.00	\$0.00	\$23.05	\$31.45
1200 hrs & 2 years is a 2nd year Trainee	\$18.80	\$4.75	\$1.00	\$0.50	\$0.00	\$0.00	\$0.00	\$25.05	\$34.45

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Abatement Journeymen to 1 Trainee
on a shop-wide basis.

Jurisdiction (* denotes special jurisdictional note) :
ERIE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA,
PUTNAM, SANDUSKY, SENECA, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Asbestos abatement and removal, insulation removal, leadabatement and removal or hazardous materials abatement and removal. Lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason & Plasterer/ BAC Local 46

Change # : CN01-2008Loc46

Craft : Bricklayer Effective Date : 07/10/2008 Last Posted : 07/10/2008

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Cement Mason	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99	
Plasterer	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99	
Apprentice	Percent									
1st year	55.00	\$14.37	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$28.16	\$35.35	
2nd year	65.00	\$16.98	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$30.77	\$39.27	
3rd year	80.00	\$20.90	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$34.69	\$45.15	
4th year	92.00	\$24.04	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$37.83	\$49.85	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice per job

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, ERIE, FULTON, HANCOCK, HENRY, HURON,
LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY,
SENECA, WILLIAMS, WOOD

Special Jurisdictional Note : This jurisdiction also covers the Islands of Lake Erie North of Sandusky.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 8 Voice Data Video

Change # : CN01-2006Loc8VDV

Craft : Voice Data Video Effective Date : 12/29/2006 Last Posted : 12/29/2006

	BHR	H&W	Fringe Benefit Payments					Total PWR	Overtime Rate	
			Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Electrical-Installer Technician Less than 2 years Class 4JA	\$24.29	\$7.24	\$1.63	\$0.36	\$0.00	\$0.00	\$0.16	\$33.68	\$45.83	
Installer Technician At least 2 years Class 4JB	\$23.29	\$7.24	\$2.60	\$0.35	\$0.00	\$0.00	\$0.16	\$33.64	\$45.29	
Installer Technician At least 3 years Class 4JC	\$22.29	\$7.24	\$3.57	\$0.33	\$0.00	\$0.00	\$0.16	\$33.59	\$44.74	
BICSI Certified Less than 2 years Class 4JA	\$25.29	\$7.24	\$1.66	\$0.38	\$0.00	\$0.00	\$0.16	\$34.73	\$47.38	
BICSI Certified At Least 2 years Class 4JB	\$24.29	\$7.24	\$2.63	\$0.36	\$0.00	\$0.00	\$0.16	\$34.68	\$46.83	
BICSI Certified At least 3 years Class 4JC	\$23.29	\$7.24	\$3.60	\$0.35	\$0.00	\$0.00	\$0.16	\$34.64	\$46.29	
Cable Puller	\$7.88	\$2.50	\$0.24	\$0.12	\$0.00	\$0.00	\$0.16	\$10.90	\$14.84	
Apprentice	Percent									
1st 750 hrs	55.00	\$13.36	\$2.50	\$0.90	\$0.20	\$0.00	\$0.00	\$0.16	\$17.12	\$23.80
2nd 750 hrs	65.00	\$15.79	\$2.50	\$1.06	\$0.24	\$0.00	\$0.00	\$0.16	\$19.75	\$27.64
3rd 750 hrs	75.00	\$18.22	\$7.24	\$1.45	\$0.27	\$0.00	\$0.00	\$0.16	\$27.34	\$36.45
4th 750 hrs	80.00	\$19.43	\$7.24	\$1.48	\$0.29	\$0.00	\$0.00	\$0.16	\$28.60	\$38.32
5th 750 hrs	85.00	\$20.65	\$7.24	\$1.52	\$0.31	\$0.00	\$0.00	\$0.16	\$29.88	\$40.20
6th 750 hrs	90.00	\$21.86	\$7.24	\$1.63	\$0.33	\$0.00	\$0.00	\$0.16	\$31.22	\$42.15

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice
per project
5 Installer Techs to 1 Cable Puller

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA,
WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Work covered but not limited to: installation, testing, service, and maintenance of all VDV systems which utilize the transmission and/or transference of voice, sound, vision, or digital for commercial, educational, security, and entertainment purposes. TV monitoring and surveillance, background/foreground music, intercom and telephone, interconnection, inventory control systems, microwave transmission, multimedia, multiplex, nurse call systems, radio page, school intercom and sound, burglar alarm, and low-voltage master clock systems.

The following work is EXCLUDED from the Voice Data Video Technician work scope:

The installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.

The installation of conduit and/or raceways shall be installed by Inside Wireman. On sites where there is no Inside Wireman employed, The Voice Data Technician may install raceway, or conduit not greater than 10 feet.

Fire Alarm Work is EXCLUDED on all new construction sites or wherever the fire alarm system is installed in conduit.

ALL HVAC control work.

OTHER IS: Safety Training & Substance Abuse.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter - NW District - Overhead Door

Change # : CN02-2007LocNW248

Craft : Carpenter Effective Date : 09/06/2007 Last Posted : 09/06/2007

	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Classification									
Carpenter - Journeyman Mechanic	\$20.00	\$0.00	\$1.00	\$0.20	\$0.00	\$0.00	\$0.00	\$21.20	\$31.20
Intermediate Mechanic Level 2	\$15.85	\$0.00	\$0.00	\$0.20	\$0.00	\$0.00	\$0.00	\$16.05	\$23.97
Mechanic Level 1	\$12.00	\$0.00	\$0.00	\$0.20	\$0.00	\$0.00	\$0.00	\$12.20	\$18.20

Special Calculation Note : Fully paid reasonable & customary comprehensive medical/surgical insurance shall be provided for employee, spouse and dependent children by employer.

Ratio :

1 Journeyman Mechanic to 1 Mechanic Level 1
or Intermediate Mechanic Level 2

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

All work related to the repair, transportation, installation and servicing of doors and gates of any type: and repair, transportation and servicing of any and all items related to doors and gates: and the preparation of any openings, passageways and/or access where a door and/or gate will be installed.

Including but not limited to: Upward acting doors, horizontally sliding doors, rapid roll fabric doors, overhead chain gates, sliding grills, air doors, fire doors and any other doors/or gates which are used to gain access to or prevent access to any area, enclosed or otherwise and Dock Levers. Also any devices and/or items used to operate, open or close doors.

Journeyman Mechanic - an individual that has adequately demonstrated his knowledge and proficiency at all parts of the trade, who has 3 years documented experience at that trade, or who has been certified by a bonafide apprenticeship program, registered with the US Dept of Labor/Bureau of Apprenticeship.

Intermediate Mechanic Level 2- an employee who has performed work as a junior mechanic at least 3 years.

Mechanic Level 1- the employer may hire persons who are not journeypersons. These employees will start at 60% of the journeypersons wage rate and the employer is not required to pay fringe benefits, until the Mechanic becomes a Journeyman Mechanic.

Prevailing Wage Rate Skilled Crafts

Name of Union: Glazier Local 948

Change # : CN01-2006Loc948

Craft : Glazier Effective Date : 07/01/2008 Last Posted : 03/09/2006

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Glazier	\$28.03	\$4.45	\$3.65	\$0.22	\$0.00	\$0.00	\$0.00	\$36.35	\$50.37	
Helper	\$12.15	\$4.45	\$3.65	\$0.22	\$0.00	\$0.00	\$0.00	\$20.47	\$26.54	
Apprentice	Percent									
1st year	50.00	\$14.02	\$4.45	\$3.65	\$0.22	\$0.00	\$0.00	\$22.33	\$29.34	
2nd year	60.00	\$16.82	\$4.45	\$3.65	\$0.22	\$0.00	\$0.00	\$25.14	\$33.55	
3rd year	75.00	\$21.02	\$4.45	\$3.65	\$0.22	\$0.00	\$0.00	\$29.34	\$39.85	
4th year	85.00	\$23.83	\$4.45	\$3.65	\$0.22	\$0.00	\$0.00	\$32.15	\$44.06	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

2 Journeymen to 1 Apprentice

3 Journeymen to 1 Helper

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, ERIE*, FULTON, HENRY, LUCAS, OTTAWA, SANDUSKY, SENECA, SHELBY*, WILLIAMS, WOOD

Special Jurisdictional Note : In Erie County the Northwestern tip, Shelby Cnty:the Local 923 has jurisdiction of the projects built on the property which borders on Routes #27 & #29.

Details :

Helpers are employees hired to assist journeymen in any task requiring minimal skills, which is not hazardous to the persons involved. Helpers are not intended to take the place of an apprentice.

Prevailing Wage Rate Skilled Crafts

Name of Union: Boilermaker Local 85

Change # : CN01-2002Loc85

Craft : Boilermaker Effective Date : 07/15/2006 Last Posted : 01/09/2003

Fringe Benefit Payments											
	BHR	H&W	Pension		App Tr.	Vac.	Annuity		Other	Total PWR	Overtime Rate
Classification											
Boilermaker	\$32.70	\$4.55	\$5.15		\$0.15	\$0.00	\$2.45		\$0.30	\$45.30	\$61.65
Apprentice	Percent										
1st 6 months	70.00	\$22.89	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$35.49	\$46.93	
2nd 6 months	72.50	\$23.71	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$36.31	\$48.16	
3rd 6 months	75.00	\$24.53	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$37.13	\$49.39	
4th 6 months	77.50	\$25.34	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$37.94	\$50.61	
5th 6 months	80.00	\$26.16	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$38.76	\$51.84	
6th 6 months	85.00	\$27.80	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$40.39	\$54.29	
7th 6 months	90.00	\$29.43	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$42.03	\$56.75	
8th 6 months	95.00	\$31.07	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$43.67	\$59.20	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, ASHLAND, AUGLAIZE, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FULTON, HANCOCK, HARDIN, HENRY, HURON, KNOX, LOGAN, LUCAS, MARION, MERCER, MORROW, OTTAWA, PAULDING, PUTNAM, RICHLAND, SANDUSKY, SENECA, SHELBY, UNION, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Statewide Office Systems

Change # : CN01-2007JurSTWIDEOfficeSystems

Craft : Carpenter Effective Date : 09/13/2007 Last Posted : 09/13/2007

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Carpenter-Installers		\$16.00	\$4.92	\$0.79	\$0.08	\$0.00	\$0.00	\$0.00	\$21.79	\$29.79
Helper		\$9.50	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$14.50	\$19.25
Installer Trainee	Percent									
1st 6 months	58.05	\$9.29	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$14.29	\$18.93
2nd 6 months	61.00	\$9.76	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$14.76	\$19.64
3rd 6 months	64.00	\$10.24	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$15.24	\$20.36
4th 6 months	66.95	\$10.71	\$4.92	\$0.58	\$0.08	\$0.00	\$0.00	\$0.00	\$16.29	\$21.65
5th 6 months	69.95	\$11.19	\$4.92	\$0.62	\$0.08	\$0.00	\$0.00	\$0.00	\$16.81	\$22.41
6th 6 months	72.90	\$11.66	\$4.92	\$0.65	\$0.08	\$0.00	\$0.00	\$0.00	\$17.31	\$23.15
7th 6 months	75.90	\$12.14	\$4.92	\$0.69	\$0.08	\$0.00	\$0.00	\$0.00	\$17.83	\$23.91
8th 6 months	78.85	\$12.62	\$4.92	\$0.72	\$0.08	\$0.00	\$0.00	\$0.00	\$18.34	\$24.64
9th 6 months	81.80	\$13.09	\$4.92	\$0.79	\$0.08	\$0.00	\$0.00	\$0.00	\$18.88	\$25.42

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

(1) Installer to (1) Trainee or (1) Helper

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Office systems is defined as modular systems with demountable units such as desks, partitions and shelving.
 INSTALLER: is defined as a qualified office systems mechanic capable of laying out, estimating and installing various office system manufactured products.
 INSTALL TRAINEE: is defined as a person training in the estimating, layout and installation in all facets of the office systems industry. An installer trainee will work to assist an installer or lead installer in all installations. He is NOT permitted to work without the assistance of lead installer

INSTALL HELPER: is defined as a person who assists in the delivery, staging and clean up of related office system work. He is NOT to be involved with the installation or layout of work related to office systems. Receiving, unloading, unpacking, & removal of rubbish shall be done by install helpers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN01-2007Loc44

Craft : Elevator Effective Date : 01/01/2012 Last Posted : 11/20/2007

	Fringe Benefit Payments							Total PWR	Overtime Rate	
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification:										
Elevator Mechanic	\$50.43	\$11.03	\$6.96	\$0.55	\$2.95	\$3.85	\$4.52	\$80.29	\$105.50	
Helper	\$38.90	\$11.03	\$6.96	\$0.55	\$1.77	\$3.85	\$2.62	\$65.68	\$85.13	
0-6 months Probation	50.00	\$25.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$25.57	\$38.18	
1st year	54.98	\$27.73	\$11.03	\$6.96	\$0.55	\$1.22	\$3.85	\$2.07	\$53.41	\$67.27
2nd year	65.00	\$32.78	\$11.03	\$6.96	\$0.55	\$1.44	\$3.85	\$2.44	\$59.05	\$75.44
3rd year	70.00	\$35.30	\$11.03	\$6.96	\$0.55	\$1.55	\$3.85	\$2.62	\$61.86	\$79.51
4th year	80.00	\$40.34	\$11.03	\$6.96	\$0.55	\$1.77	\$3.85	\$3.00	\$67.50	\$87.68

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos & Heat & Frost Insulators Local 45

Change # : CN01-2008Loc45

Craft : Asbestos Worker Effective Date : 07/25/2008 Last Posted : 07/25/2008

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Asbestos Insulation Worker		\$29.37	\$7.75	\$6.25	\$0.68	\$0.00	\$4.00	\$0.00	\$48.05	\$62.74
Apprentices Before July 1st 2005										
1st period 1st yr	\$16.41	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$31.09	\$39.30
2nd period 1st yr	\$18.01	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$32.69	\$41.70
3rd period 2nd yr	\$19.11	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$33.79	\$43.35
4th period 2nd yr	\$20.71	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$35.39	\$45.75
5th period 3rd yr	\$21.81	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$36.49	\$47.39
6th period 3rd yr	\$23.41	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$38.09	\$49.80
7th period 4th yr	\$24.52	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$39.20	\$51.46
8th period 4th yr	\$26.12	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$0.00	\$40.80	\$53.86
9th period 5th yr	\$24.96	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$4.00	\$0.00	\$43.64	\$56.12
10th period 5th yr	\$26.43	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$4.00	\$0.00	\$45.11	\$58.32
Apprentice	Percent									
1st period 1st yr	50.00	\$14.69	\$5.25	\$2.00	\$0.68	\$0.00	\$0.00	\$0.00	\$22.62	\$29.96
2nd period 1st yr	55.00	\$16.15	\$1.25	\$3.13	\$0.68	\$0.00	\$0.00	\$0.00	\$21.21	\$29.29
3rd period 2nd yr	60.00	\$17.62	\$1.25	\$3.13	\$0.68	\$0.00	\$0.00	\$0.00	\$22.68	\$31.49
4th period 2nd yr	65.00	\$19.09	\$1.88	\$4.69	\$0.68	\$0.00	\$0.00	\$0.00	\$26.34	\$35.89
5th period 3rd yr	70.00	\$20.56	\$1.88	\$4.69	\$0.68	\$0.00	\$0.00	\$0.00	\$27.81	\$38.09
6th period 3rd yr	75.00	\$22.03	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$34.21	\$45.22
7th period 4th yr	80.00	\$23.50	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$35.68	\$47.42
8th period 4th yr	85.00	\$24.96	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$37.14	\$49.63
9th period 5th yr	90.00	\$26.43	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$38.61	\$51.83
10th period 5th yr	95.00	\$27.90	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$40.08	\$54.03

Special Calculation Note :

Ratio :
4 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE*, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA,
PUTNAM, SANDUSKY, SENECA, WOOD, WYANDOT

Special Jurisdictional Note : In Erie County (covered by the city limits of Sandusky, Ohio) the following townships are included: (Groton, Margaretta, Oxford and Perkins)

Details :

The removal of all insulation materials whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breechings etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electric Locals 71 & 245
Outside Utility Power PENDING

Change # : CN01-2007Locs71&245

Craft : Lineman Effective Date : 01/01/2008 Last Posted : 09/24/2007

Classification	BHR	Fringe Benefit Payments						Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electric-Lineman	\$30.23	\$4.75	\$0.84	\$0.21	\$0.00	\$4.32	\$0.00	\$40.35	\$55.47	
Cable Splicer	\$31.65	\$4.75	\$0.88	\$0.22	\$0.00	\$4.52	\$0.00	\$42.02	\$57.85	
Equipment Mechanic "C"	\$19.54	\$4.75	\$0.54	\$0.14	\$0.00	\$2.79	\$0.00	\$27.76	\$37.53	
Equipment Mechanic "B"	\$21.84	\$4.75	\$0.60	\$0.15	\$0.00	\$3.12	\$0.00	\$30.46	\$41.38	
Equipment Mechanic "A"	\$24.12	\$4.75	\$0.67	\$0.17	\$0.00	\$3.45	\$0.00	\$33.16	\$45.22	
Operator "C"	\$19.54	\$4.75	\$0.54	\$0.14	\$0.00	\$2.79	\$0.00	\$27.76	\$37.53	
Operator "B"	\$24.12	\$4.75	\$0.67	\$0.17	\$0.00	\$3.45	\$0.00	\$33.16	\$45.22	
Operator "A"	\$27.18	\$4.75	\$0.75	\$0.19	\$0.00	\$3.89	\$0.00	\$36.76	\$50.35	
Operator w/current employer 1yr or more prior to 9/2/02	\$26.38	\$4.75	\$0.73	\$0.18	\$0.00	\$3.77	\$0.00	\$35.81	\$49.00	
Line Truck w/Auger	\$21.52	\$4.75	\$0.60	\$0.15	\$0.00	\$3.08	\$0.00	\$30.10	\$40.86	
Groundman /Truck Dr. 0-12 months	\$15.12	\$4.75	\$0.42	\$0.10	\$0.00	\$2.16	\$0.00	\$22.55	\$30.11	
Groundman /Truck Dr. 0-12 months w/CDL	\$16.63	\$4.75	\$0.46	\$0.11	\$0.00	\$2.38	\$0.00	\$24.33	\$32.65	
Groundman /Truck Dr. 1 year or more	\$16.63	\$4.75	\$0.46	\$0.11	\$0.00	\$2.38	\$0.00	\$24.33	\$32.65	
Groundman/ Truck Dr. 1 year or more w/CDL	\$19.65	\$4.75	\$0.54	\$0.14	\$0.00	\$2.81	\$0.00	\$27.89	\$37.71	
Apprentice Lineman & Substation	Percent									
1st 6 Mo	60.00	\$18.14	\$4.75	\$0.50	\$0.13	\$0.00	\$2.59	\$0.00	\$26.11	\$35.18
2nd 6 Mo	65.00	\$19.65	\$4.75	\$0.54	\$0.14	\$0.00	\$2.81	\$0.00	\$27.89	\$37.71
3rd 6 Mo	70.00	\$21.16	\$4.75	\$0.59	\$0.15	\$0.00	\$3.03	\$0.00	\$29.68	\$40.26
4th 6 Mo	75.00	\$22.67	\$4.75	\$0.63	\$0.16	\$0.00	\$3.24	\$0.00	\$31.45	\$42.79
5th 6 Mo	80.00	\$24.18	\$4.75	\$0.67	\$0.17	\$0.00	\$3.46	\$0.00	\$33.23	\$45.33
6th 6 Mo	85.00	\$25.70	\$4.75	\$0.71	\$0.18	\$0.00	\$3.67	\$0.00	\$35.01	\$47.85
7th 6 Mo	90.00	\$27.21	\$4.75	\$0.75	\$0.19	\$0.00	\$3.89	\$0.00	\$36.79	\$50.39

Special Calculation Note : Substation Technician Journeyman \$30.23 plus (\$4.75 Health&Welfare)+ (\$0.84 Pension)+ (\$4.32 Annuity)+ (.21 App. Training)

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,
 AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL,
 CHAMPAIGN, CLARK, CLERMONT, CLINTON,
 COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA,
 DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD,
 FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga,
 GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN,
 HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES,
 HURON, JACKSON, JEFFERSON, KNOX, LAKE,
 LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS,
 MAHONING, MARION, MEDINA, MEIGS, MEIGS*,
 MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN,
 MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING,
 PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM,
 RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA,
 SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS,
 UNION, VAN WERT, VINTON, WARREN, WASHINGTON,
 WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :**Details :**

Operator "A" John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater than 25 tons and less than 45 tons).

Operator "B" Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C" Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Ironworker Local 55

Change # : CN03-2007Loc55

Craft : Ironworker Effective Date : 10/08/2008 Last Posted : 10/08/2008

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Ironworker	\$28.45	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$44.78	\$59.00	
Pre-Engineered Metal Bldg, Siding & Decking	\$23.73	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$40.06	\$51.92	
Metal Fence & Guardrail Work	\$20.85	\$5.22	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$35.54	\$45.97	
Apprentice	Percent									
Probation 90 days	50.00	\$14.23	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$30.56	\$37.67	
1st year	55.00	\$15.65	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$31.98	\$39.80	
2nd year	70.00	\$19.91	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$36.25	\$46.20	
3rd year	80.00	\$22.76	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$39.09	\$50.47	
4th year	90.00	\$25.60	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$41.94	\$54.74	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

4 Journeyman to 1 Apprentice
 Ornamental Work: 2 Journeymen to 1 Apprentice
 Spinning Cables on Suspension Bridges:
 1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CRAWFORD*, DEFIANCE*, ERIE*, FULTON, HANCOCK, HENRY, HURON*, LUCAS, OTTAWA, PUTNAM*, SANDUSKY, SENECA, WILLIAMS*, WOOD, WYANDOT*

Special Jurisdictional Note :

Crawford-From where Hwy #598 & #30 meet through W.Liberty to the Northern Border & from said Hwy junction point due west to the border.
 Defiance-South from where Route #66 meets the Northern Border to the Eastern County Border.
 Erie-West of Columbus Ave North to Sandusky Bay, West of Columbus Ave to Route 4 to Route 99 -all areas West of said Routes.
 Huron-West from the Northern Border through Monroeville and Willard territory West of Route #99.
 Putnam-East from the Northern Border through Miller City to where #696 meets the Southern Border.
 Williams- East from Pioneer through Stryker to Southern Border.
 Wyandot-North of Route #30.

Details :

Every employer having one or more projects is required to employ apprentices in accordance to the above Ratio Schedules.

Prevailing Wage Rate Laborers

Name of Union: Labor HevHwy 2

Change # : CN01-2008HevHwy2

Classification : Laborer Effective Date : 05/01/2008 Last Posted : 04/30/2008

	BHR	H&W	Pension	App Tr.	Total PWR	Overtime Rate
Classification						
Group 1	\$25.45	\$4.40	\$2.20	\$0.25	\$32.30	\$45.03
Group 2	\$25.62	\$4.40	\$2.20	\$0.25	\$32.47	\$45.28
Group 3	\$25.95	\$4.40	\$2.20	\$0.25	\$32.80	\$45.78
Group 4	\$26.40	\$4.40	\$2.20	\$0.25	\$33.25	\$46.45
Watch Person	\$17.75	\$4.40	\$2.20	\$0.25	\$24.60	\$33.48
APPRENTICES						
0-1000 hrs	\$15.27	\$4.40	\$2.20	\$0.25	\$22.12	\$29.75
1001-2000 hrs	\$17.82	\$4.40	\$2.20	\$0.25	\$24.67	\$33.58
2001-3000 hrs	\$20.36	\$4.40	\$2.20	\$0.25	\$27.21	\$37.39
3001-4000 hrs	\$22.91	\$4.40	\$2.20	\$0.25	\$29.76	\$41.22
More than 4000 hrs	\$25.45	\$4.40	\$2.20	\$0.25	\$32.30	\$45.03

Special Calculation Note : Watchman has no Apprentices

Classification Description :

Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Ratio: 1 Journeymen to 1 Apprentice

4 Journeymen to 1 Apprentice thereafter

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), Lead Abatement, Hazardous Waste (level C)

Group 3

Blast and Powder Person, Muckers (with miners), Wrencher (mechanical joints & utility pipeline), Yarner, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person, Grade Checker

Group 4

Miner, Welder, Guniting Nozzle Person

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK,
SUMMIT, TRUMBULL, WOOD

Special Jurisdictional Note :

Prevailing Wage Rate Skilled Crafts

Name of Union: Truck Driver Bldg & HevHwy Class 1
Locals 20,40,92,92b,100,175,284,438,377,505,637,908,957

Change # : CN1-2009BldgHevHwy

Craft : Truck Driver Effective Date : 05/01/2009 Last Posted : 07/10/2007

	Fringe Benefit Payments									Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other				
Classification											
Truck Driver CLASS 1 4 wheel service trucks- 4 wheel dump trucks - Batch trucks - Oil Distributor - Asphalt Distributor- Tandems	\$22.08	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.59	\$44.63
Apprentice	Percent										
First 6 months	63.95	\$14.12	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$25.63	\$32.69
7-12 months	67.95	\$15.00	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$26.51	\$34.02
13-18 months	71.95	\$15.89	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$27.40	\$35.34
19-24 months	75.95	\$16.77	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$28.28	\$36.66
25-30 months	79.99	\$17.66	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$29.17	\$38.00
31-36 months	84.95	\$18.76	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$30.27	\$39.65
37-42 months	90.00	\$19.87	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$31.38	\$41.32
43-48 months	94.99	\$20.97	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$0.00	\$32.48	\$42.97

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spraybar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 04/01/2008 Last Posted : 08/16/2007

		Fringe Benefit Payments										
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate		
Classification												
Sprinkler Fitter	\$31.85	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$46.65	\$62.58			
Apprentice	Percent											
GRADE1-CLASS1- 1st 6mo	50.00	\$15.93	\$6.51	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$22.99	\$30.95		
CLASS 2- 2nd 6mo	50.00	\$15.93	\$6.51	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$22.99	\$30.95		
CLASS3- 1st 6mo	55.00	\$17.52	\$7.55	\$3.20	\$0.30	\$0.00	\$0.25	\$0.00	\$28.82	\$37.58		
CLASS 4- 2nd 6mo	60.00	\$19.11	\$7.55	\$3.20	\$0.30	\$0.00	\$0.25	\$0.00	\$30.41	\$39.96		
CLASS 5 GRADE2- 1st 6mo	65.00	\$20.70	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$35.50	\$45.85		
CLASS6- 2nd 6mo	70.01	\$22.30	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$37.10	\$48.25		
CLASS7- 1st 6mo	75.00	\$23.89	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$38.69	\$50.63		
CLASS 8- 2nd 6mo	80.00	\$25.48	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$40.28	\$53.02		
CLASS 9- 1st 6mo	85.00	\$27.07	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$41.87	\$55.41		
CLASS 10- 2nd 6mo	90.01	\$28.67	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$43.47	\$57.80		

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

'Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason (OCA) Heavy Highway District 1 A & B

Change # : CN01-2009HvyHwy

Craft : Cement Mason Effective Date : 05/22/2009 Last Posted : 05/22/2009

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Cement Mason District 1-A		\$26.85	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$37.49	\$50.92
District 1-B		\$28.32	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$38.96	\$53.12
Apprentice		Percent								
1st Year		60.00	\$16.11	\$5.09	\$3.00	\$0.40	\$2.15	\$0.00	\$26.75	\$34.80
2nd Year		75.00	\$20.14	\$5.09	\$3.00	\$0.40	\$2.15	\$0.00	\$30.78	\$40.85
3rd Year		90.00	\$24.17	\$5.09	\$3.00	\$0.40	\$2.15	\$0.00	\$34.81	\$46.89

Special Calculation Note :

Ratio :

2 Journeymen to 1 Apprentice
Company Wide

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, FULTON, GEAUGA,
HANCOCK, HENRY, LAKE, LUCAS, PUTNAM, WOOD

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site, Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Plasterer & Drywall Local 886

Change # : CN02-2008Loc886

Craft : Cement Effective Date : 11/17/2008 Last Posted : 11/17/2008

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Plasterer		\$28.07	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$40.02	\$54.06
Drywall		\$26.31	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$38.26	\$51.42
Drywall Apprentice & Improver										
Improver		\$13.16	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$25.11	\$31.69
1st 6 months		\$14.47	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$26.42	\$33.66
2nd 6 months		\$15.79	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$27.74	\$35.64
3rd 6 months		\$18.42	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$30.37	\$39.58
4th 6 months		\$19.73	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$31.68	\$41.55
5th 6 months		\$21.05	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$33.00	\$43.53
6th 6 months		\$23.68	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$35.63	\$47.47
7th 6 months		\$24.99	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$36.94	\$49.44
Plasterer Apprentice										
	Percent									
1st 6 mo	50.00	\$14.04	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$25.98	\$33.00
2nd 6 mo	55.00	\$15.44	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$27.39	\$35.11
3rd 6 mo	60.00	\$16.84	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$28.79	\$37.21
4th 6 mo	70.00	\$19.65	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$31.60	\$41.42
5th 6 mo	75.00	\$21.05	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$33.00	\$43.53
6th 6 mo	80.00	\$22.46	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$34.41	\$45.63
7th 6 mo	90.00	\$25.26	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$37.21	\$49.84
8th 6 mo	95.00	\$26.67	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$38.62	\$51.95

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, DEFIANCE, ERIE, FULTON,
HANCOCK, HARDIN, HENRY, HURON, LOGAN, LUCAS,
MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY,
SENECA, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

***Improvers receive no fringe benefits for the first 90 days. Then \$3.75 Health & Welfare

Workers on Swing Stage will be paid (\$.25) per hour above journeyman rate.

Nozzelmen or Operators of the Plastering Browning Gun shall receive (\$.75) per hour above journeyman rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Local 886 (Toledo)

Change # : CN02-2008Loc886

Craft : Cement Effective Date : 11/13/2008 Last Posted : 11/13/2008

Fringe Benefit Payments											
	BHR	H&W	Pension		App Tr.	Vac.	Annuity		Other	Total PWR	Overtime Rate
Classification											
Cement Mason	\$27.89	\$4.90	\$5.50		\$0.25	\$0.00	\$3.50		\$0.00	\$42.04	\$55.99
Apprentice	Percent										
1st 6 months	55.00	\$15.34	\$4.90	\$5.50	\$0.25	\$0.00	\$3.50	\$0.00	\$29.49	\$37.16	
2nd 6 months	65.00	\$18.13	\$4.90	\$5.50	\$0.25	\$0.00	\$3.50	\$0.00	\$32.28	\$41.34	
3rd 6 months	75.00	\$20.92	\$4.90	\$5.50	\$0.25	\$0.00	\$3.50	\$0.00	\$35.07	\$45.53	
4th 6 months	80.00	\$22.31	\$4.90	\$5.50	\$0.25	\$0.00	\$3.50	\$0.00	\$36.46	\$47.62	
5th 6 months	85.00	\$23.71	\$4.90	\$5.50	\$0.25	\$0.00	\$3.50	\$0.00	\$37.86	\$49.71	
6th 6 months	90.00	\$25.10	\$4.90	\$5.50	\$0.25	\$0.00	\$3.50	\$0.00	\$39.25	\$51.80	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE, FULTON, HURON, LUCAS, OTTAWA, SANDUSKY,
SENECA, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electric Locals 71 & 245
High Tension Pipe Cable PENDING

Change # : CN01-2007Locs71&245

Craft : Lineman Effective Date : 01/01/2008 Last Posted : 09/24/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electric-Lineman	\$31.88	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$40.53	\$56.47	
Welder- Cable Splicer-X-ray Tech	\$31.88	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$40.53	\$56.47	
Equipment Mechanic "C"	\$20.62	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$27.55	\$37.86	
Equipment Mechanic "B"	\$23.03	\$3.75	\$0.58	\$0.06	\$0.00	\$2.91	\$0.00	\$30.33	\$41.85	
Equipment Mechanic "A"	\$25.44	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$33.10	\$45.82	
New Hires AFTER 9/1/02 Operator "C"	\$20.62	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$27.55	\$37.86	
Operator "B"	\$25.44	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$33.10	\$45.82	
Operator "A"	\$28.66	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$36.81	\$51.14	
Operator PRIOR to 9/1/02 1 yr or more	\$27.32	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$35.47	\$49.13	
Groundman /Truck Dr. 0-12 months	\$15.94	\$3.75	\$0.39	\$0.04	\$0.00	\$1.93	\$0.00	\$22.05	\$30.02	
Groundman/Truck Dr. 0 months to 12 mos w/CDL year	\$17.53	\$3.75	\$0.40	\$0.04	\$0.00	\$2.01	\$0.00	\$23.73	\$32.50	
Groundman /Truck Dr. 1 year or over	\$17.53	\$3.75	\$0.45	\$0.04	\$0.00	\$2.25	\$0.00	\$24.02	\$32.78	
Groundman/ Truck Dr. 1 year or over w/CDL	\$20.72	\$3.75	\$0.47	\$0.05	\$0.00	\$2.33	\$0.00	\$27.32	\$37.68	
Apprentice	Percent									
1st 6 Mo	60.00	\$19.13	\$3.75	\$0.48	\$0.05	\$0.00	\$2.41	\$0.00	\$25.82	\$35.38
2nd 6 Mo	65.00	\$20.72	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$27.65	\$38.01
3rd 6 Mo	70.00	\$22.32	\$3.75	\$0.56	\$0.06	\$0.00	\$2.81	\$0.00	\$29.50	\$40.65
4th 6 Mo	75.00	\$23.91	\$3.75	\$0.60	\$0.06	\$0.00	\$3.01	\$0.00	\$31.33	\$43.29
5th 6 Mo	80.00	\$25.50	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$33.16	\$45.92
6th 6 Mo	85.00	\$27.10	\$3.75	\$0.68	\$0.07	\$0.00	\$3.41	\$0.00	\$35.01	\$48.56
7th 6 Mo	90.00	\$28.69	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$36.84	\$51.19

Special Calculation Note : Operator "A" John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).
 Operator "B" Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.
 Operator "C" Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :**Details :**

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos & Heat & Frost Insulators Local 45

Change # : CN01-2005Loc45

Craft : Asbestos Worker Effective Date : 07/01/2009 Last Posted : 11/28/2005

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Asbestos Insulation Worker		\$33.77	\$6.75	\$8.75	\$0.38	\$0.00	\$0.00	\$0.00	\$49.65	\$66.53
Apprentices Before July 1st 2005										
1st period 1st yr	\$17.20	\$6.75	\$6.75	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$31.08	\$39.68
2nd period 1st yr	\$18.89	\$6.75	\$6.75	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$32.77	\$42.22
3rd period 2nd yr	\$20.07	\$6.75	\$7.25	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$34.45	\$44.49
4th period 2nd yr	\$21.76	\$6.75	\$7.25	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$36.14	\$47.02
5th period 3rd yr	\$22.95	\$6.75	\$7.75	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$37.83	\$49.31
6th period 3rd yr	\$24.64	\$6.75	\$7.75	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$39.52	\$51.84
7th period 4th yr	\$25.83	\$6.75	\$8.25	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$41.21	\$54.13
8th period 4th yr	\$27.52	\$6.75	\$8.25	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$42.90	\$56.66
9th period 5th yr	\$28.71	\$6.75	\$8.75	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$44.59	\$58.95
10th period 5th yr	\$30.39	\$6.75	\$8.75	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$46.27	\$61.47
Apprentice	Percent									
1st period 1st yr	50.00	\$16.89	\$6.75	\$1.63	\$0.38	\$0.00	\$0.00	\$0.00	\$25.64	\$34.09
2nd period 1st yr	55.00	\$18.57	\$6.75	\$1.63	\$0.38	\$0.00	\$0.00	\$0.00	\$27.33	\$36.62
3rd period 2nd yr	60.00	\$20.26	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$0.00	\$31.77	\$41.90
4th period 2nd yr	65.00	\$21.95	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$0.00	\$33.46	\$44.44
5th period 3rd yr	70.00	\$23.64	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$0.00	\$35.15	\$46.97
6th period 3rd yr	75.00	\$25.33	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$0.00	\$36.84	\$49.50
7th period 4th yr	80.00	\$27.02	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$0.00	\$40.72	\$54.22
8th period 4th yr	85.00	\$28.70	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$0.00	\$42.40	\$56.76
9th period 5th yr	90.00	\$30.39	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$0.00	\$44.09	\$59.29
10th period 5th yr	95.00	\$32.08	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$0.00	\$45.78	\$61.82

Special Calculation Note :

Ratio :
4 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE*, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA,
PUTNAM, SANDUSKY, SENECA, WOOD, WYANDOT

Special Jurisdictional Note : In Erie County (covered by the city limits of Sandusky, Ohio) the following townships are included: (Groton, Margaretta, Oxford and Perkins)

Details :

The removal of all insulation materials whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breechings etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter/Sign Local 639 (Cleveland Area)

Change # : CN01-2006Loc639Cleve

Craft : Painter Effective Date : 01/03/2006 Last Posted : 01/03/2006

		Fringe Benefit Payments								
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification:										
Painter-Sign Painter	\$20.20	\$3.13	\$3.25	\$0.20	\$1.96	\$0.00	\$0.00	\$28.74	\$38.84	
Apprentice	Percent									
1000 hrs	40.00	\$8.08	\$3.13	\$3.25	\$0.20	\$1.07	\$0.00	\$15.73	\$19.77	
2000 hrs	50.00	\$10.10	\$3.13	\$3.25	\$0.20	\$1.22	\$0.00	\$17.90	\$22.95	
3000 hrs	60.00	\$12.12	\$3.13	\$3.25	\$0.20	\$1.37	\$0.00	\$20.07	\$26.13	
4000 hrs	70.00	\$14.14	\$3.13	\$3.25	\$0.20	\$1.51	\$0.00	\$22.23	\$29.30	
5000 hrs	75.00	\$15.15	\$3.13	\$3.25	\$0.20	\$1.59	\$0.00	\$23.32	\$30.89	
6000 hrs	80.00	\$16.16	\$3.13	\$3.25	\$0.20	\$1.66	\$0.00	\$24.40	\$32.48	
7000 hrs	85.00	\$17.17	\$3.13	\$3.25	\$0.20	\$1.74	\$0.00	\$25.49	\$34.07	
8000 hrs	90.00	\$18.18	\$3.13	\$3.25	\$0.20	\$1.81	\$0.00	\$26.57	\$35.66	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :
 ALLEN, ASHLAND, ASHTABULA, AUGLAIZE, BELMONT, CARROLL, CHAMPAIGN, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DEFIANCE, ERIE, FULTON, GEAUGA, GUERNSEY, HANCOCK, HARDIN, HARRISON, HENRY, HOLMES, HURON, JEFFERSON, KNOX, LAKE, LOGAN, LORAIN, LUCAS, MAHONING, MARION, MEDINA, MERCER, MONROE, MORROW, NOBLE, OTTAWA, PAULDING, PIKE, PORTAGE, PUTNAM, RICHLAND, SANDUSKY, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, VAN WERT, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Plasterer

Change # : CN01-2008Loc886

Craft : Cement Effective Date : 11/17/2008 Last Posted : 11/17/2008

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Plasterer	\$28.07	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$40.02	\$54.06	
Apprentice	Percent									
1st 6 months	50.00	\$14.04	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$26.36	\$33.38
2nd 6 months	55.00	\$15.44	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$27.77	\$35.49
3rd 6 months	60.00	\$16.84	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$29.17	\$37.59
4th 6 months	70.00	\$19.65	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$31.98	\$41.80
5th 6 months	75.00	\$21.05	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$33.38	\$43.91
6th 6 months	80.00	\$22.46	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$34.79	\$46.01
7th 6 months	90.00	\$25.26	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$37.59	\$50.22
8th 6 months	95.00	\$26.67	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$39.00	\$52.33

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ALLEN, AUGLAIZE, DEFIANCE, ERIE, FULTON,
HANCOCK, HARDIN, HENRY, HURON, LOGAN, LUCAS,
MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY,
SENECA, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - Building Local 18 - Zone 2

Change # : CN01-2009Loc18

Craft : Operating Engineer Effective Date : 05/01/2009 Last Posted : 05/01/2009

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Operator-Class 1	\$30.24	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.44	\$56.56	
Class 2	\$30.12	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.32	\$56.38	
Class 3	\$29.08	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.28	\$54.82	
Class 4	\$27.90	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$39.10	\$53.05	
Class 5	\$22.44	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$33.64	\$44.86	
Class 6	\$30.49	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.69	\$56.93	
Class 7	\$30.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.94	\$57.31	
Class 8	\$31.24	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$42.44	\$58.06	
Class 9	\$31.49	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$42.69	\$58.43	
Apprentice	Percent									
1st Year	50.00	\$15.12	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$26.32	\$33.88	
2nd Year	60.00	\$18.14	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$29.34	\$38.42	
3rd Year	70.00	\$21.17	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$32.37	\$42.95	
4th Year	80.00	\$24.19	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$35.39	\$47.49	
Field Mechanic Trainee										
1st Year	50.00	\$15.12	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$26.32	\$33.88	
2nd Year	60.00	\$18.14	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$29.34	\$38.42	
3rd Year	70.00	\$21.17	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$32.37	\$42.95	
4th Year	80.00	\$24.19	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$35.39	\$47.49	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

For every (5) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice. On jobs where maintenance engineers are to be employed, for every (1) Class 1 Mechanics there may be (1) Mechanic Trainee & so fourth. Mechanic Trainee rate is a percentage of Class 1 rate.

Jurisdiction (* denotes special jurisdictional note) :

LUCAS, WOOD

Special Jurisdictional Note :

Details :

** Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL.

Class 1 - Barrier Moving Machine; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types) Derricks (all types); Draglines Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Gradalls; Helicopter Operators; hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Hydraulic Gantry (lift system); Laser Finishing Machines; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Engineers (Mechanic and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms, Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Concrete Pumps, with booms; Rail Tamper (with automatic lifting and aligning device);

Rotary Drills (all) used on caissons for foundations and sub-structure work; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Tug Boats. Horizontal Directional Drill, Rough Terrain Forklift with Winch/Hoist, Laser Screed and Like equipment; Compact Cranes, track or rubber over 4,000 pound capacity, self-erecting cranes: stationary, track or truck (all configurations) bucket trench machines (over 24 " wide).

Class 2 - Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs. Bulldozers; CMI type Equipment; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats; Vermeer Type Concrete Saw; All rotomills, grinders & planers of all types, Articulating/end dumps (minus (\$4.00 hour from Class B)

Class 3 - A Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or skid steer loader with or without attachments; Boilers (15 lbs pressure and over); All concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drillers - all types (with integral power); Hoists (with one drum); House Elevators or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie Inserter/Remover; Rotovator (Lime-Soil Stabilizer); Submersible Pumps (4 inches and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24 inches and under); Utility Operators; Material hoist/elevators.

Class 4 - Ballast Re-locator; Backfillers and Tampers; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Spreader; Conveyors, used for handling building materials; Concrete Mixers, one bag capacity (side loader); Concrete Mixers, capacity more than one bag; Crushers; Deck Hands; Drum Fireman (in Asphalt Plant); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Gunite Machines; Hydro-Seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2 inch discharge); Road Widening Trenchers; Rollers (except asphalt); All Concrete pumps (without Boom with 4 inch or smaller systems); Self-Propelled Power Spreaders; Concrete Spreaders; Self-Propelled Sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepfoot rollers or graders; VAC/ALLS; Vibratory Compactors, with integral power; Welder Operators.

Class 5 - Boilers (less than 15 lbs. pressure); Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen, Submersible Pumps (under 4 inch discharge). Directional Drill Locator and Allen Screed Concrete Paver; Fueling and greasing (plus \$3.00), compact cranes; track or rubber under 4,000 pounds.

Class 6 - Master Mechanics

Class 7 - Boom & Jib 150 - 180 feet

Class 8 - Boom & Jib 180 - 249 feet

Class 9 - Boom & Jib 250 - or over

Prevailing Wage Rate Skilled Crafts

Name of Union: Plumber Pipefitter Local 50

Change # : CN01-2009Loc50

Craft : Plumber/Pipefitter Effective Date : 03/09/2009 Last Posted : 03/09/2009

Classification	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Plumber-Pipefitter	\$33.45	\$7.94	\$4.60	\$0.80	\$0.00	\$4.30	\$0.00	\$51.09	\$67.81
Metal Trades Helper 4th year	\$14.38	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$0.00	\$27.72	\$34.91
Metal Trades Helper 3rd year	\$13.88	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$0.00	\$27.22	\$34.16
Metal Trades Helper 2nd year	\$13.38	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$0.00	\$26.72	\$33.41
Metal Trades Helper 1st year	\$12.88	\$7.94	\$0.00	\$0.80	\$0.00	\$0.00	\$0.00	\$21.62	\$28.06
Apprentice	Percent								
1st Period	45.00	\$15.05	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$28.39	\$35.92
2nd Period	50.00	\$16.73	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$30.07	\$38.43
3rd Period	55.00	\$18.40	\$7.94	\$4.60	\$0.80	\$0.00	\$2.15	\$33.89	\$43.09
4th Period	60.00	\$20.07	\$7.94	\$4.60	\$0.80	\$0.00	\$2.15	\$35.56	\$45.60
5th Period	65.00	\$21.74	\$7.94	\$4.60	\$0.80	\$0.00	\$2.58	\$37.66	\$48.53
6th Period	70.00	\$23.41	\$7.94	\$4.60	\$0.80	\$0.00	\$2.58	\$39.33	\$51.04
7th Period	75.00	\$25.09	\$7.94	\$4.60	\$0.80	\$0.00	\$3.01	\$41.44	\$53.98
8th Period	80.00	\$26.76	\$7.94	\$4.60	\$0.80	\$0.00	\$3.01	\$43.11	\$56.49
9th Period	85.00	\$28.43	\$7.94	\$4.60	\$0.80	\$0.00	\$3.44	\$45.21	\$59.43
10th Period	90.00	\$30.11	\$7.94	\$4.60	\$0.80	\$0.00	\$3.44	\$46.89	\$61.94

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Apprentice to 1 Journeymen
 - 2 Apprentices to 2 Journeymen
 - 2 Apprentices to 2 - 3 Journeymen
 - 3 Apprentices to 4 - 5 Journeymen
 - 4 Apprentices to 6 - 8 Journeymen
 - 5 Apprentices to 9 - 10 Journeymen
 - 6 Apprentices to 11 - 13 Journeymen
 - 7 Apprentices to 14 - 15 Journeymen
 - 8 Apprentices to 16 - 18 Journeymen
 - 9 Apprentices to 19 - 20 Journeymen
 - 10 Apprentices to 21 - 25 Journeymen
 - 11 Apprentices to 26 - 30 Journeymen
 - 12 Apprentices to 31 - 35 Journeymen
 - 13 Apprentices to 36 - 40 Journeymen
- Each shop will be entitled to one (1) apprentice for every five (5) journeymen thereafter, in continuation of the above chart. One (1) journeymen must be employed to train and supervise the first

Jurisdiction (* denotes special jurisdictional note) :

- DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
- OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA,
- WILLIAMS, WOOD

apprentice in any shop except a Master Plumber or Master Steamfitter working with the tools of the trade shall be entitled to one (1) apprentice.

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 245 Outside
Toledo Chapter

Change # : CN01-2007Loc245out

Craft : Lineman Effective Date : 09/01/2008 Last Posted : 05/02/2007

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Electric-Lineman	\$33.15	\$4.75	\$0.99	\$0.30	\$0.00	\$5.80	\$0.00	\$44.99	\$61.56	
Traffic Signal & Lighting Journeyman	\$29.84	\$4.75	\$0.89	\$0.28	\$0.00	\$5.22	\$0.00	\$40.98	\$55.90	
Operator I	\$26.52	\$4.75	\$0.79	\$0.25	\$0.00	\$4.64	\$0.00	\$36.95	\$50.21	
Operator II	\$23.21	\$4.75	\$0.69	\$0.23	\$0.00	\$4.06	\$0.00	\$32.94	\$44.54	
Groundman / Truck Driver 12 Months & Over	\$19.82	\$4.75	\$0.59	\$0.20	\$0.00	\$3.46	\$0.00	\$28.82	\$38.73	
Groundman / Truck Driver 2nd 6 Months	\$16.66	\$4.75	\$0.49	\$0.18	\$0.00	\$2.91	\$0.00	\$24.99	\$33.32	
Groundman / Truck Driver 1st 6 Months	\$14.50	\$4.75	\$0.43	\$0.16	\$0.00	\$2.53	\$0.00	\$22.37	\$29.62	
TRAFFIC SIGNAL LIGHTING APPRENTICES										
1st 6 months	\$17.90	\$4.75	\$0.53	\$0.19	\$0.00	\$3.13	\$0.00	\$26.50	\$35.45	
2nd 6 months	\$19.40	\$4.75	\$0.58	\$0.20	\$0.00	\$3.39	\$0.00	\$28.32	\$38.02	
3rd 6 months	\$20.89	\$4.75	\$0.62	\$0.21	\$0.00	\$3.65	\$0.00	\$30.12	\$40.57	
4th 6 months	\$22.38	\$4.75	\$0.67	\$0.22	\$0.00	\$3.91	\$0.00	\$31.93	\$43.12	
5th 6 months	\$23.87	\$4.75	\$0.71	\$0.23	\$0.00	\$4.17	\$0.00	\$33.73	\$45.67	
6th 6 months	\$26.86	\$4.75	\$0.80	\$0.26	\$0.00	\$4.70	\$0.00	\$37.37	\$50.80	
Lineman Apprentice	Percent									
1st 6 Mo	60.00	\$19.89	\$4.75	\$0.59	\$0.20	\$0.00	\$3.48	\$0.00	\$28.91	\$38.85
2nd 6 Mo	65.00	\$21.55	\$4.75	\$0.64	\$0.22	\$0.00	\$3.77	\$0.00	\$30.93	\$41.70
3rd 6 Mo	60.00	\$19.89	\$4.75	\$0.69	\$0.23	\$0.00	\$4.06	\$0.00	\$29.62	\$39.56
4th 6 Mo	75.00	\$24.86	\$4.75	\$0.74	\$0.24	\$0.00	\$4.35	\$0.00	\$34.94	\$47.37
5th 6 Mo	80.00	\$26.52	\$4.75	\$0.79	\$0.25	\$0.00	\$4.64	\$0.00	\$36.95	\$50.21
6th 6 Mo	85.00	\$28.18	\$4.75	\$0.84	\$0.27	\$0.00	\$4.93	\$0.00	\$38.97	\$53.06
7th 6 Mo	90.00	\$29.83	\$4.75	\$0.89	\$0.28	\$0.00	\$5.22	\$0.00	\$40.98	\$55.89

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

(1) Journeyman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, DEFIANCE, ERIE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeymen in the performance of his/her work on the ground, including the use of hand tools. A Groundmen, Under no circumstances , shall this classification climb poles, towers, ladders, or work from an elevated platform or bucket truck. Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Truck Driver Bldg & HevHwy Class 2
Locals 20,40,92,92b,100,175,284,438,377,505,637,908,957

Change # : CN1-2009BldgHevHwy

Craft : Truck Driver Effective Date : 06/04/2009 Last Posted : 06/04/2009

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Truck Driver CLASS 2 Tractor Trailer-Semi Tractor Trucks-Pole Trailers-Ready Mix Trucks-Fuel Trucks- Asphalt-Oil Spraybar men- 5 Axel & Over -Belly Dumps-End Dumps-Articulated Dump Trucks- Low boys-Heavy duty Equipment(irrespective of load carried) when used exclusively for transportation-Truck Mechanics (when needed)	\$22.50	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$34.01	\$45.26	
Apprentice	Percent									
First 6 months	64.00	\$14.40	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$25.91	\$33.11	
7-12 months	67.95	\$15.29	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$26.80	\$34.44	
13-18 months	71.99	\$16.20	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$27.71	\$35.81	
19-24 months	75.95	\$17.09	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$28.60	\$37.14	
25-30 months	80.00	\$18.00	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$29.51	\$38.51	
31-36 months	85.00	\$19.12	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$30.63	\$40.20	
37-42 months	90.00	\$20.25	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$31.76	\$41.89	
43-48 months	95.00	\$21.37	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$32.89	\$43.57	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,
AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL,
CHAMPAIGN, CLARK, CLERMONT, CLINTON,
COLUMBIANA, COSHOCTON, CRAWFORD, DARKE,
DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE,
FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY,
HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY,
HIGHLAND, HOCKING, HOLMES, HURON, JACKSON,
JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN,
LORAIN, LUCAS, MADISON, MAHONING, MARION,
MEDINA, MEIGS, MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW, MUSKINGUM,
NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS,
SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON,
WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD,

WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spraybar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN02-2007Loc669

Craft : Sprinkler Fitter Effective Date : 08/10/2007 Last Posted : 08/10/2007

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification:											
Sprinkler Fitter		\$31.00	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$44.90	\$60.40	
Apprentice	Percent										
GRADE1- CLASS1- 1st 6mo	50.00	\$15.50	\$5.96	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$22.01	\$29.76	
CLASS 2- 2nd 6mo	50.00	\$15.50	\$5.96	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$22.01	\$29.76	
CLASS3- 1st 6mo	55.00	\$17.05	\$7.00	\$3.10	\$0.30	\$0.00	\$0.25	\$0.00	\$27.70	\$36.23	
CLASS 4- 2nd 6mo	60.00	\$18.60	\$7.00	\$3.10	\$0.30	\$0.00	\$0.25	\$0.00	\$29.25	\$38.55	
CLASS 5 GRADE2- 1st 6mo	65.00	\$20.15	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$34.05	\$44.13	
CLASS6- 2nd 6mo	70.01	\$21.70	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$35.60	\$46.45	
CLASS7- 1st 6mo	75.00	\$23.25	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$37.15	\$48.78	
CLASS 8- 2nd 6mo	80.00	\$24.80	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$38.70	\$51.10	
CLASS 9- 1st 6mo	85.00	\$26.35	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$40.25	\$53.42	
CLASS 10- 2nd 6mo	90.01	\$27.90	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$41.80	\$55.75	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 01/01/2009 Last Posted : 08/23/2007

		Fringe Benefit Payments									
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate		
Classification:											
Sprinkler Fitter	\$31.85	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$47.65	\$63.58		
Apprentice	Percent										
GRADE1-CLASS1- 1st 6mo	50.00	\$15.93	\$7.16	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$23.64	\$31.60	
CLASS 2- 2nd 6mo	50.00	\$15.93	\$7.16	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$23.64	\$31.60	
CLASS3- 1st 6mo	55.00	\$17.52	\$8.20	\$3.20	\$0.30	\$0.00	\$0.25	\$0.00	\$29.47	\$38.23	
CLASS 4- 2nd 6mo	60.00	\$19.11	\$8.20	\$3.20	\$0.30	\$0.00	\$0.25	\$0.00	\$31.06	\$40.61	
CLASS 5 GRADE2- 1st 6mo	65.00	\$20.70	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$36.40	\$46.75	
CLASS6- 2nd 6mo	70.01	\$22.30	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$38.00	\$49.15	
CLASS7- 1st 6mo	75.00	\$23.89	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$39.59	\$51.53	
CLASS 8- 2nd 6mo	80.00	\$25.48	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$41.18	\$53.92	
CLASS 9- 1st 6mo	85.00	\$27.07	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$42.77	\$56.31	
CLASS 10- 2nd 6mo	90.01	\$28.67	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$44.37	\$58.70	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

'Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 04/01/2009 Last Posted : 08/23/2007

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Sprinkler Fitter		\$32.70	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$48.50	\$64.85	
Apprentice	Percent										
GRADE1-CLASS1- 1st 6mo	50.00	\$16.35	\$7.16	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$27.36	\$35.53	
CLASS 2- 2nd 6mo	50.00	\$16.35	\$7.16	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$27.36	\$35.53	
CLASS3- 1st 6mo	55.00	\$17.99	\$8.20	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$30.04	\$39.03	
CLASS 4- 2nd 6mo	60.00	\$19.62	\$8.20	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$31.67	\$41.48	
CLASS 5 GRADE2- 1st 6mo	65.00	\$21.26	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$37.06	\$47.68	
CLASS6- 2nd 6mo	70.01	\$22.89	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$38.69	\$50.14	
CLASS7- 1st 6mo	75.00	\$24.53	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$40.32	\$52.59	
CLASS 8- 2nd 6mo	80.00	\$26.16	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$41.96	\$55.04	
CLASS 9- 1st 6mo	85.00	\$27.80	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$43.60	\$57.49	
CLASS 10- 2nd 6mo	90.01	\$29.43	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$45.23	\$59.95	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 01/01/2010 Last Posted : 08/23/2007

		Fringe Benefit Payments								
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification:										
Sprinkler Fitter	\$32.70	\$8.90	\$3.40	\$0.30	\$0.00	\$4.25	\$0.00	\$49.55	\$65.90	
Apprentice	Percent									
GRADE1-CLASS1- 1st 6mo	50.00	\$16.35	\$7.86	\$0.00	\$0.30	\$0.00	\$0.25	\$24.76	\$32.94	
CLASS 2- 2nd 6mo	50.00	\$16.35	\$7.86	\$0.00	\$0.30	\$0.00	\$0.25	\$24.76	\$32.94	
CLASS3- 1st 6mo	55.00	\$17.99	\$8.90	\$3.20	\$0.30	\$0.00	\$0.25	\$30.64	\$39.63	
CLASS 4- 2nd 6mo	60.00	\$19.62	\$8.90	\$3.20	\$0.30	\$0.00	\$0.25	\$32.27	\$42.08	
CLASS 5 GRADE2- 1st 6mo	65.00	\$21.26	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$37.91	\$48.53	
CLASS6- 2nd 6mo	70.01	\$22.89	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$39.54	\$50.99	
CLASS7- 1st 6mo	75.00	\$24.53	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$41.18	\$53.44	
CLASS 8- 2nd 6mo	80.00	\$26.16	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$42.81	\$55.89	
CLASS 9- 1st 6mo	85.00	\$27.80	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$44.45	\$58.34	
CLASS 10- 2nd 6mo	90.01	\$29.43	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$46.08	\$60.80	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

'Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor Local 500 Building

Change # : CN01-2008L500

Craft : Laborer Effective Date : 07/01/2008 Last Posted : 06/05/2008

	BHR	Fringe Benefit Payments						Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other		
Classification:									
Laborer	\$22.57	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$32.16	\$43.45
Group 2	\$22.77	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$32.36	\$43.75
Group 3	\$22.97	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$32.56	\$44.05
Group 4	\$23.07	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$32.66	\$44.20
Group 5	\$13.05	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$22.64	\$29.16
Group 6	\$16.07	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$25.66	\$33.70
Group 7A	\$20.37	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$29.96	\$40.15
Group 8B	\$17.79	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$27.38	\$36.28
Group 9C	\$15.79	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$25.38	\$33.28
Group 10D	\$12.79	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$0.00	\$22.38	\$28.77
Apprentice	Percent								
1st 1000 hrs	60.00	\$13.54	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$23.13	\$29.90
2nd 1000 hrs	70.00	\$15.80	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$25.39	\$33.29
3rd 1000 hrs	80.00	\$18.06	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$27.65	\$36.67
4th 1000 hrs	90.00	\$20.31	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$29.90	\$40.06
More than 4000 hrs	100.00	\$22.57	\$4.40	\$2.20	\$0.49	\$0.00	\$2.50	\$32.16	\$43.45

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 2 Journeymen to 1 Apprentice
- 7 Journeymen to 2 Apprentices
- 9 Journeymen to 3 Apprentices
- 4 Journeymen to 1 Apprentice there after

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HENRY, LUCAS, WILLIAMS, WOOD

Special Jurisdictional Note : GROUPS 7 THROUGH 10 ARE NOT SUBJECT TO THE APPRENTICE STANDARDS

Details :

Group 1

Building and construction Laborer, Signalman, Flagman, Tool Cribman, Carpenter Tender, Utility Construction Laborer, Guardrail Erector, and Hazardous Waste (Level A)

Group 2

Finisher Tender, Concrete Handler, Bottom Men, Scaffold Builders, Tunnel Laborer, Pipe Layer, Air and Power Driven Tools, Burner on Demolition work, Swinging Scaffold, Mucker, Caisson Worker, Cofferdam Worker, Powder Man and Dynamite Blaster, Creosote Worker, Mortar Mixer, Form Setter, Mason Tender, Plaster Tender, Hod Carrier, Laser Beam Set-up Man, Stone Mason Tender and Hazardous Waste (Level B)

Group 3

Gunite Operator and Hazardous Waste (Level C)

Group 4

Hazardous Waste (Level D)

Group 5

Watchman, Parking, Landscaping

Group 6

Installation of Fencing

On Firebrick work, laborers working over 50 feet, expeditors, hot pay, bottom man and top man shall be paid \$0.75 per hour over base rate of Group 1

Hazardous Waste Removal and Lead Abatement

For laborers working in an exclusive or "hot" area with toxic or hazardous materials, one of the following personal protective equipment ensembles will be required for necessary protection against toxic contaminants.

Level A

Normal work clothes to normal skin protection such as gloves, face shields, goggles, coveralls and occasionally respiratory protection.

Level B

Protective equipment includes a protective suit and an Air Purifying Respirator (APR) with the appropriate filter canisters. The ensemble is used when the contaminants are reliably known not to be hazardous to the skin and not IDLH (immediately Dangerous to Life or Health) and correct filter protection is available. This ensemble offers adequate protection for many jobs

Level C

Protective equipment includes a chemically resistant splash suit and SCBA or airline Respirator. This ensemble is required when the situation is very hazardous, such as oxygen deficient atmospheres, IDLH atmospheres, or confined space entries, but the risk of skin exposure is not as great as in Level D situations

Level D

Protective equipment is required when the area has been determined to contain extremely toxic contaminants or contaminants unknown but may be expected to be extremely toxic and/or immediately Dangerous to life and health (IDLH). This ensemble includes a full encapsulated chemical suit (moon suit), Self-Contained Breathing Apparatus (SUBA), or Airline Fed Respirator, and various types and numbers of boots and gloves; cool vests and voice-activated radios are optional equipment sometimes worn. This level places the greatest physical and mental stress on the worker

Groups 7-10 is all work related to the repair, transportation, installation and servicing of doors and gates of any type, and all items related to doors and gates and preparation of any openings, passageways and/or access areas where a door and/or gate will be installed, upward acting doors, horizontally sliding doors, rapid roll fabric doors, overhead chain gates, sliding grills, air doors, fire doors, sliding doors and any other doors and/or gates which are used to gain access to or prevent access to any area, enclosed or otherwise. Any and all devices and/or items used to operate or close doors.

Group 7A Mechanic-Employees who have worked for the employer more than 6,000 hrs.

Group 8B Assistant Mechanic-1 Employees who have worked for the employer between 4,001 and 6,000 hrs

Group 9C Assistant Mechanic-2 Employees who have worked for the employer between 2,001 and 4,000 hrs

Group 10D Assistant Mechanic-3 Employees who have worked for the employer between 0,000 and 2,000 hrs

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter - NW District 248,1138,1581

Change # : CN01-2008LocNW248

Craft : Carpenter Effective Date : 12/05/2008 Last Posted : 12/05/2008

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Carpenter	\$27.27	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$0.00	\$41.90	\$55.53	
Apprentice	Percent									
1st 6months	45.00	\$12.27	\$6.00	\$0.00	\$0.33	\$0.00	\$0.00	\$18.60	\$24.74	
2nd 6months	55.00	\$15.00	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$29.63	\$37.13	
3rd 6months	65.00	\$17.73	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$32.36	\$41.22	
4th 6months	75.00	\$20.45	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$35.08	\$45.31	
5th 6months	80.00	\$21.82	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$36.45	\$47.35	
6th 6months	85.00	\$23.18	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$37.81	\$49.40	
7th 6months	90.00	\$24.54	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$39.17	\$51.44	
8th 6months	95.00	\$25.91	\$6.00	\$4.15	\$0.33	\$0.00	\$4.15	\$40.54	\$53.49	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
LUCAS, WOOD

Special Jurisdictional Note :

Details :
Special Work Rates:
40-100 foot free fall - \$.50 per hour above scale
Over 100 foot free fall - \$1.00 per hour above scale

Prevailing Wage Rate Skilled Crafts

Name of Union: Electric Locals 71 & 245
Under Ground Utilities (URD) PENDING

Change # : CN01-2007Locs71&245

Craft : Lineman Effective Date : 09/24/2007 Last Posted : 09/24/2007

	BHR	H&W	Fringe Benefit Payments						Total PWR	Overtime Rate
			Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Electric-Lineman	\$30.58	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$39.23	\$54.52	
Welder- Cable Splicer-X-ray Tech	\$30.58	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$39.23	\$54.52	
Equipment Mechanic "C"	\$19.78	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$26.71	\$36.60	
Equipment Mechanic "B"	\$22.09	\$3.75	\$0.58	\$0.06	\$0.00	\$2.91	\$0.00	\$29.39	\$40.44	
Equipment Mechanic "A"	\$24.40	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$32.06	\$44.26	
New Hires AFTER 9/1/02 Operator "C"	\$19.78	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$26.71	\$36.60	
Operator "B"	\$24.40	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$32.06	\$44.26	
Operator "A"	\$27.49	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$35.64	\$49.39	
Operator PRIOR to 9/1/02 1 yr or more	\$26.21	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$34.36	\$47.46	
Groundman /Truck Dr. 0-12 months	\$15.29	\$3.75	\$0.39	\$0.04	\$0.00	\$1.93	\$0.00	\$21.40	\$29.04	
Groundman/Truck Dr. 0 months to 12 mos w/CDL year	\$16.82	\$3.75	\$0.40	\$0.04	\$0.00	\$2.01	\$0.00	\$23.02	\$31.43	
Groundman /Truck Dr. 1 year or over	\$16.82	\$3.75	\$0.45	\$0.04	\$0.00	\$2.25	\$0.00	\$23.31	\$31.72	
Groundman/ Truck Dr. 1 year or over w/CDL	\$19.88	\$3.75	\$0.47	\$0.05	\$0.00	\$2.33	\$0.00	\$26.48	\$36.42	
Apprentice	Percent									
1st 6 Mo	60.00	\$18.35	\$3.75	\$0.48	\$0.05	\$0.00	\$2.41	\$0.00	\$25.04	\$34.21
2nd 6 Mo	65.00	\$19.88	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$26.81	\$36.75
3rd 6 Mo	70.00	\$21.41	\$3.75	\$0.56	\$0.06	\$0.00	\$2.81	\$0.00	\$28.59	\$39.29
4th 6 Mo	75.00	\$22.93	\$3.75	\$0.60	\$0.06	\$0.00	\$3.01	\$0.00	\$30.35	\$41.82
5th 6 Mo	80.00	\$24.46	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$32.12	\$44.36
6th 6 Mo	85.00	\$25.99	\$3.75	\$0.68	\$0.07	\$0.00	\$3.41	\$0.00	\$33.90	\$46.90
7th 6 Mo	90.00	\$27.52	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$35.67	\$49.43

Special Calculation Note : Operator "A" John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).
 Operator "B" Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.
 Operator "C" Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :**Details :**

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN02-2007Loc44

Craft : Elevator Effective Date : 02/22/2008 Last Posted : 02/22/2008

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Elevator Mechanic	\$38.43	\$8.78	\$4.96	\$0.55	\$3.07	\$2.00	\$1.45	\$59.24	\$78.45	
Helper	\$26.90	\$8.78	\$4.96	\$0.55	\$1.61	\$2.00	\$1.01	\$45.81	\$59.26	
0-6 months Probation	50.00	\$19.21	\$0.00	\$0.00	\$0.00	\$0.00	\$19.21		\$28.82	
1st year	54.98	\$21.13	\$8.78	\$4.96	\$0.55	\$1.27	\$2.00	\$39.49	\$50.05	
2nd year	65.00	\$24.98	\$8.78	\$4.96	\$0.55	\$1.50	\$2.00	\$43.71	\$56.20	
3rd year	70.00	\$26.90	\$8.78	\$4.96	\$0.55	\$1.61	\$2.00	\$45.81	\$59.26	
4th year	80.00	\$30.74	\$8.78	\$4.96	\$0.55	\$1.84	\$2.00	\$50.03	\$65.41	

Special Calculation Note :

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN02-2009Loc44

Craft : Elevator Effective Date : 01/21/2009 Last Posted : 01/21/2009

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification:										
Elevator Mechanic	\$39.43	\$9.53	\$5.46	\$0.55	\$3.15	\$2.75	\$1.48	\$62.35	\$82.06	
Helper	\$27.60	\$9.53	\$5.46	\$0.55	\$1.66	\$2.75	\$1.04	\$48.59	\$62.39	
0-6 months Probation	50.00	\$19.71	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$20.07	\$29.93	
1st year	55.00	\$21.69	\$9.53	\$5.46	\$0.55	\$1.30	\$2.75	\$2.07	\$43.35	\$54.19
2nd year	65.00	\$25.63	\$9.53	\$5.46	\$0.55	\$1.54	\$2.75	\$2.44	\$47.90	\$60.71
3rd year	70.00	\$27.60	\$9.53	\$5.46	\$0.55	\$1.66	\$2.75	\$2.62	\$50.17	\$63.97
4th year	80.00	\$31.54	\$9.53	\$5.46	\$0.55	\$1.89	\$2.75	\$3.00	\$54.72	\$70.50

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN01-2007Loc44

Craft : Elevator Effective Date : 01/01/2010 Last Posted : 11/20/2007

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification:										
Elevator Mechanic	\$44.43	\$10.03	\$5.96	\$0.55	\$2.95	\$2.85	\$4.52	\$71.29	\$93.50	
Helper	\$32.90	\$10.03	\$5.96	\$0.55	\$1.77	\$2.85	\$2.62	\$56.68	\$73.13	
0-6 months Probation	50.00	\$22.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$22.57	\$33.68	
1st year	54.98	\$24.43	\$10.03	\$5.96	\$0.55	\$1.22	\$2.85	\$2.07	\$47.11	\$59.32
2nd year	65.00	\$28.88	\$10.03	\$5.96	\$0.55	\$1.44	\$2.85	\$2.44	\$52.15	\$66.59
3rd year	70.00	\$31.10	\$10.03	\$5.96	\$0.55	\$1.55	\$2.85	\$2.62	\$54.66	\$70.21
4th year	80.00	\$35.54	\$10.03	\$5.96	\$0.55	\$1.77	\$2.85	\$3.00	\$59.70	\$77.48

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN01-2007Loc44

Craft : Elevator Effective Date : 01/01/2011 Last Posted : 11/20/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Elevator Mechanic	\$47.43	\$10.53	\$6.46	\$0.55	\$2.95	\$3.35	\$4.52	\$75.79	\$99.50	
Helper	\$35.90	\$10.53	\$6.46	\$0.55	\$1.77	\$3.35	\$2.62	\$61.18	\$79.13	
0-6 months Probation	50.00	\$23.71	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$24.07	\$35.93	
1st year	54.98	\$26.08	\$10.53	\$6.46	\$0.55	\$1.22	\$3.35	\$2.07	\$50.26	\$63.30
2nd year	65.00	\$30.83	\$10.53	\$6.46	\$0.55	\$1.44	\$3.35	\$2.44	\$55.60	\$71.01
3rd year	70.00	\$33.20	\$10.53	\$6.46	\$0.55	\$1.55	\$3.35	\$2.62	\$58.26	\$74.86
4th year	80.00	\$37.94	\$10.53	\$6.46	\$0.55	\$1.77	\$3.35	\$3.00	\$63.60	\$82.58

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Local 886

Change # : CN01-2008Loc886

Craft : Cement Effective Date : 08/29/2008 Last Posted : 08/29/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Cement Mason		\$25.85	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$39.25	\$52.18	
Apprentice	Percent										
1st 6 months	55.00	\$14.22	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$27.62	\$34.73	
2nd 6 months	65.00	\$16.80	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$30.20	\$38.60	
3rd 6 months	75.00	\$19.39	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$32.79	\$42.48	
4th 6 months	80.00	\$20.68	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$34.08	\$44.42	
5th 6 months	85.00	\$21.97	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$35.37	\$46.36	
6th 6 months	90.00	\$23.26	\$4.75	\$4.25	\$0.15	\$1.00	\$3.25	\$0.00	\$36.67	\$48.30	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE, FULTON, HURON, LUCAS, OTTAWA, SANDUSKY,
SENECA, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Drywall Local 886

Change # : CN-012008Loc886

Craft : Cement Effective Date : 08/29/2008 Last Posted : 08/29/2008

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Amnuty	Other	Total PWR	Overtime Rate	
Classification										
Drywallers	\$26.31	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$40.76	\$53.92	
Apprentice	Percent									
1st 6 months	50.00	\$13.16	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$27.60	\$34.18
2nd 6 months	55.00	\$14.47	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$28.92	\$36.16
3rd 6 months	60.00	\$15.79	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$30.24	\$38.13
4th 6 months	70.00	\$18.42	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$32.87	\$42.08
5th 6 months	75.00	\$19.73	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$34.18	\$44.05
6th 6 months	80.00	\$21.05	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$35.50	\$46.02
7th 6 months	90.00	\$23.68	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$38.13	\$49.97
8th 6 months	95.00	\$24.99	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$39.44	\$51.94

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Journeymen to 1 Apprenticeal

Jurisdiction (* denotes special jurisdictional note) :
ALLEN, AUGLAIZE, ERIE, FULTON, HARDIN, HANCOCK,
HENRY, HURON, LOGAN, LUCAS, MERCER, OTTAWA,
PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT,
WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Ironworker Local 55

Change # : CN01-2009Loc55

Craft : Ironworker Effective Date : 07/01/2009 Last Posted : 05/08/2009

	Fringe Benefit Payments							Total PWR	Overtime Rate	
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Ironworker	\$28.00	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$46.39	\$60.39	
Pre-Engineered Metal Bldg, Siding & Decking	\$23.28	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$41.67	\$53.31	
Metal Fence & Guardrail Work	\$19.10	\$6.32	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$36.46	\$46.01	
Apprentice	Percent									
Probation 90 days	50.00	\$14.00	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$32.39	\$39.39
1st year	55.00	\$15.40	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$33.79	\$41.49
2nd year	70.00	\$19.60	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$37.99	\$47.79
3rd year	80.00	\$22.40	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$40.79	\$51.99
4th year	90.00	\$25.20	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$43.59	\$56.19

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

4 Journeyman to 1 Apprentice
 Ornamental Work: 2 Journeymen to 1 Apprentice
 Spinning Cables on Suspension Bridges:
 1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CRAWFORD*, DEFIANCE*, ERIE*, FULTON, HANCOCK,
 HENRY, HURON*, LUCAS, OTTAWA, PUTNAM*,
 SANDUSKY, SENECA, WILLIAMS*, WOOD, WYANDOT*

Special Jurisdictional Note : Crawford-From where Hwy #598 & #30 meet through W.Liberty to the Northern Border & from said Hwy junction point due west to the border.

Defiance-South from where Route #66 meets the Northern Border to the Eastern County Border.

Erie-West of Columbus Ave North to Sandusky Bay, West of Columbus Ave to Route 4 to Route 99 -all areas West of said Routes.

Huron-West from the Northern Border through Monroeville and Willard territory West of Route #99.

Putnam-East from the Northern Border through Miller City to where #696 meets the Southern Border.

Williams- East from Pioneer through Stryker to Southern Border.

Wyandot-North of Route #30.

Details :

Every employer having one or more projects is required to employ apprentices in accordance to the above Ratio Schedules.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 7 Commercial

Change # : CN01-2005Loc7

Craft : Painter Effective Date : 07/01/2007 Last Posted : 12/30/2005

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Painter-Brush-Paperhanger-Drywall Taper-Finisher	\$25.76	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$35.49	\$48.37
Refiners and Refinery Tanks	\$26.01	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$35.74	\$48.75
Spray (All Types) paint or material applied with pressure devise, foam waterproofing, fireproofing	\$26.46	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$36.19	\$49.42
Television & Radio Towers Bridges Horizontal Cable & Tanks/Stacks /Water Tanks over 30Pt	\$27.06	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$36.79	\$50.32
Solvent Based Material or Sand and Abrasive Blasting	\$26.76	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$36.49	\$49.87
Lead Paint Abatement	\$26.51	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$36.24	\$49.50
Apprentice	Percent									
1st 6 months	40.00	\$10.30	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$20.03	\$25.19
2nd 6 months	45.00	\$11.59	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$21.32	\$27.12
3rd 6 months	55.00	\$14.17	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$23.90	\$30.98
4th 6 months	60.00	\$15.46	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$25.19	\$32.91
5th 6 months	70.00	\$18.03	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$27.76	\$36.78
6th 6 months	80.00	\$20.61	\$4.50	\$5.06	\$0.17	\$0.00	\$0.00	\$0.00	\$30.34	\$40.64

Special Calculation Note : The above is also the Industrial rate for each classification.

Ratio :
4 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
FULTON, HENRY, LUCAS, OTTAWA, WOOD

Special Jurisdictional Note :

Details :

A premium of \$0.75 per hour shall be paid for the application for solvent-based catalized materials of two or more component materials regardless of the method of application. Swing stage and chair rates \$.50. The premium shall be in addition to the

classification involved.

Prevailing Wage Rate Laborers

Name of Union: Labor HevHwy 2

Change # : CN01-2009HevHwy2

Classification : Laborer Effective Date : 05/01/2009 Last Posted : 03/06/2009

	BHR	H&W	Pension	App Tr.	Total PWR	Overtime Rate
Classification						
Group 1	\$25.70	\$4.80	\$2.50	\$0.25	\$33.25	\$46.10
Group 2	\$25.87	\$4.80	\$2.50	\$0.25	\$33.42	\$46.35
Group 3	\$26.20	\$4.80	\$2.50	\$0.25	\$33.75	\$46.85
Group 4	\$26.65	\$4.80	\$2.50	\$0.25	\$34.20	\$47.52
Watch Person	\$18.00	\$4.80	\$2.50	\$0.25	\$25.55	\$34.55
APPRENTICES						
0-1000 hrs	\$15.42	\$4.80	\$2.50	\$0.25	\$22.97	\$30.68
1001-2000 hrs	\$17.99	\$4.80	\$2.50	\$0.25	\$25.54	\$34.53
2001-3000 hrs	\$20.56	\$4.80	\$2.50	\$0.25	\$28.11	\$38.39
3001-4000 hrs	\$23.13	\$4.80	\$2.50	\$0.25	\$30.68	\$42.25
More than 4000 hrs	\$25.70	\$4.80	\$2.50	\$0.25	\$33.25	\$46.10

Special Calculation Note : Watchman has no Apprentices

Classification Description :

Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Ratio: 1 Journeymen to 1 Apprentice
4 Journeymen to 1 Apprentice thereafter

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), Lead Abatement, Hazardous Waste (level C)

Group 3

Blast and Powder Person, Muckers (with miners), Wrencher (mechanical joints & utility pipeline), Yarnier, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Concrete Crew in Tunnels, Utility pipeline Tappers, Waterline, Caulker, Signal Person, Grade Checker

Group 4

Miner, Welder, Gunite Nozzle Person

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK,
SUMMIT, TRUMBULL, WOOD

Special Jurisdictional Note :

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor Local 500 Building

Change # : CN01-2009L500

Craft : Laborer Effective Date : 07/01/2009 Last Posted : 03/24/2009

Fringe Benefit Payments											
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate		
Classification											
Laborer	\$22.92	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$33.21	\$44.67		
Group 2	\$23.12	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$33.41	\$44.97		
Group 3	\$23.32	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$33.61	\$45.27		
Group 4	\$23.42	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$33.71	\$45.42		
Group 5	\$13.40	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$23.69	\$30.39		
Group 6	\$16.72	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$27.01	\$35.37		
Apprentice	Percent										
1st 1000 hrs	60.00	\$13.75	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$24.04	\$30.92	
2nd 1000 hrs	70.00	\$16.04	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$26.33	\$34.36	
3rd 1000 hrs	80.00	\$18.34	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$28.63	\$37.79	
4th 1000 hrs	90.00	\$20.63	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$30.92	\$41.23	
More than 4000 hrs	100.00	\$22.92	\$4.80	\$2.50	\$0.49	\$0.00	\$2.50	\$0.00	\$33.21	\$44.67	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 2 Journeymen to 1 Apprentice
- 7 Journeymen to 2 Apprentices
- 9 Journeymen to 3 Apprentices
- 4 Journeymen to 1 Apprentice there after

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HENRY, LUCAS, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Group 1

Building and construction Laborer, Signalman, Flagman, Tool Cribman, Carpenter Tender, Utility Construction Laborer, Guardrail Erector, and Hazardous Waste (Level A)

Group 2

Finisher Tender, Concrete Handler, Bottom Men, Scaffold Builders, Tunnel Laborer, Pipe Layer, Air and Power Driven Tools, Burner on Demolition work, Swinging Scaffold, Mucker, Caisson Worker, Cofferdam Worker, Powder Man and Dynamite Blaster, Creosote Worker, Mortar Mixer, Form Setter, Mason Tender, Plaster Tender, Hod Carrier, Laser Beam Set-up Man, Stone Mason Tender and Hazardous Waste (Level B)

Group 3

Gunite Operator and Hazardous Waste (Level C)

Group 4

Hazardous Waste (Level D)

Group 5

Watchman, Parking, Landscaping

Group 6

Installation of Fencing

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Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 3 (OH)

Change # : CN01-2008Loc3

Craft : Bricklayer Effective Date : 09/30/2008 Last Posted : 09/30/2008

	BHR	Fringe Benefit Payments							Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Bricklayer	\$28.65	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$41.32	\$55.64	
Stone & Marble Masons-Refractory Worker	\$28.65	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$41.32	\$55.64	
Pointer Caulker Cleaner	\$28.65	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$41.32	\$55.64	
Improver 1st 6 months	\$16.73	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$29.40	\$37.77	
Improver 2nd 6 months	\$19.52	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$32.19	\$41.95	
Improver 3rd 6 months	\$20.92	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$33.59	\$44.05	
Improver 4th 6 months	\$22.31	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$34.98	\$46.13	
Improver 5th 6 months	\$25.10	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$37.77	\$50.32	
Improver 6th 6 months	\$26.50	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$0.00	\$39.17	\$52.42	
Apprentice	Percent									
1st 6 months	49.99	\$14.32	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$26.99	\$34.15	
2nd 6 months	54.99	\$15.75	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$28.42	\$36.30	
3rd 6 months	60.00	\$17.19	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$29.86	\$38.46	
4th 6 months	70.00	\$20.05	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$32.72	\$42.75	
5th 6 months	74.99	\$21.48	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$34.15	\$44.90	
6th 6 months	80.00	\$22.92	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$35.59	\$47.05	
7th 6 months	90.00	\$25.78	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$38.46	\$51.35	
8th 6 months	94.99	\$27.21	\$4.80	\$7.34	\$0.53	\$0.00	\$0.00	\$39.88	\$53.49	

Special Calculation Note : Boatswain Chair and Swing Stage shall be one dollar (\$1.00) above base rate. Radial Smoke Stacks shall be fifty cents (\$.50) above base rate. Improver work force cannot exceed 20% on any one job.

Ratio :
3 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
FULTON*, HENRY*, LUCAS, WOOD*

Special Jurisdictional Note : In Fulton County the following townships are included: (Amboy, Swan Creek and Fulton). In Henry County the following townships are included: (Washington, Damascus, Richfield, Bartlow, Harrison, Monroe and Marion). In Wood County the following townships are included: (Perrysburg, Ross, Lake, Troy, Freedom, Montgomery, Webster, Portage, Middleton, Plain, Liberty, Henry, Washington, Weston, Milton, Jackson and Grand Rapids).

Details :
IMPROVERS ARE IN AN APPROVED APPRENTICESHIP PROGRAM.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 46

Change # : CN01-2008Loc46

Craft : Bricklayer Effective Date : 06/05/2008 Last Posted : 06/05/2008

	BHR	H&W	Fringe Benefit Payments					Total PWR	Overtime Rate
			Pension	App Tr.	Vac.	Annuity	Other		
Classification:									
Bricklayer	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99
Tile Layer- Terrazzo Mason- Marble Mason- Pointer Caulker Cleaner-Stone Mason-Block Layer	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99
Gunnite Mason- Refractory Mason-Sewer Mason	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99
TILE & MARBLE HELPERS & FINISHERS	\$22.38	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$36.17	\$47.36
Apprentice	Percent								
1st year	55.00	\$14.37	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$28.16	\$35.35
2nd year	65.00	\$16.98	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$30.77	\$39.27
3rd year	80.00	\$20.90	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$34.69	\$45.15
4th year	92.00	\$24.04	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$37.83	\$49.85

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
Bricklayers thru Sewer Masons
3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY,
SENECA, WOOD*

Tile & Marble Finishers Ratio:
2 Mechanics to 1 Finisher
3 Mechanics to 2 Finishers
4 Mechanics to 2 Finishers
5 Mechanics to 3 Finishers

Special Jurisdictional Note : This jurisdiction also covers the Islands of Lake Erie North of Sandusky. In Wood: Townships of Perry and Bloom.

Details :

HANCOCK COUNTY

PRREVAILING WAGE RATES

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Millwright & Piledriver Local 1393 NW Zone 1

Change # : CN01-2008LocNWmil1393

Craft : Carpenter Effective Date : 12/05/2008 Last Posted : 12/05/2008

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Carpenter-Millwright & Piledriver	\$27.30	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$0.00	\$43.40	\$57.05	
Apprentice	Percent									
1st 6 months	55.00	\$15.02	\$6.00	\$0.00	\$0.33	\$0.00	\$0.00	\$21.34	\$28.85	
2nd 6 months	60.00	\$16.38	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$32.48	\$40.67	
3rd 6 months	70.00	\$19.11	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$35.21	\$44.77	
4th 6 months	75.00	\$20.48	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$36.58	\$46.81	
5th 6 months	80.00	\$21.84	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$37.94	\$48.86	
6th 6 months	85.02	\$23.21	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$39.31	\$50.92	
7th 6 months	90.00	\$24.57	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$40.67	\$52.96	
8th 6 months	95.02	\$25.94	\$6.00	\$4.77	\$0.33	\$0.00	\$5.00	\$42.04	\$55.01	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
 CRAWFORD, DEFIANCE, FULTON, HANCOCK, HENRY,
 LUCAS, OTTAWA, PAULDING, SANDUSKY, SENECA,
 WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter NW District Floorlayer
Local 248

Change # : CN01-2008NWflor248

Craft : Carpenter Effective Date : 12/05/2008 Last Posted : 12/05/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Carpenter-Floorlayer		\$26.35	\$6.00	\$4.75	\$0.35	\$0.00	\$3.75	\$0.00	\$41.20	\$54.38	
Apprentice	Percent										
1st 3 months	45.00	\$11.86	\$5.85	\$0.00	\$0.35	\$0.00	\$0.00	\$0.00	\$18.06	\$23.99	
Next 9 months	55.00	\$14.49	\$5.85	\$2.61	\$0.35	\$0.00	\$2.06	\$0.00	\$25.36	\$32.61	
Next 6 months	65.00	\$17.13	\$5.85	\$3.09	\$0.35	\$0.00	\$2.44	\$0.00	\$28.86	\$37.42	
Next 6 months	75.00	\$19.76	\$5.85	\$3.56	\$0.35	\$0.00	\$2.81	\$0.00	\$32.33	\$42.21	
Next 6 months	80.00	\$21.08	\$5.85	\$3.80	\$0.35	\$0.00	\$3.00	\$0.00	\$34.08	\$44.62	
Next 6 months	85.00	\$22.40	\$5.85	\$4.04	\$0.35	\$0.00	\$3.19	\$0.00	\$35.83	\$47.03	
Next 6 months	90.00	\$23.72	\$5.85	\$4.28	\$0.35	\$0.00	\$3.38	\$0.00	\$37.58	\$49.43	
Next 6 months	95.00	\$25.03	\$5.85	\$4.51	\$0.35	\$0.00	\$3.56	\$0.00	\$39.30	\$51.82	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
PAULDING, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheetmetal Local 33 (Toledo)

Change # : CN01-2009Toledo33

Craft : Sheetmetal Worker Effective Date : 02/27/2009 Last Posted : 02/27/2009

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Sheetmetal Worker	\$30.22	\$5.05	\$9.45	\$1.42	\$0.00	\$1.00	\$0.40	\$47.54	\$62.65	
Apprentice	Percent									
First year	45.00	\$13.60	\$5.05	\$0.00	\$1.42	\$0.00	\$0.40	\$20.47	\$27.27	
3rd 6 months	50.00	\$15.11	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$31.93	\$39.49	
4th 6 months	55.00	\$16.62	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$33.44	\$41.75	
5th 6 months	60.00	\$18.13	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$34.95	\$44.02	
6th 6 months	65.00	\$19.64	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$36.46	\$46.28	
7th 6 months	70.00	\$21.15	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$37.97	\$48.55	
8th 6 months	75.00	\$22.66	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$39.49	\$50.82	
9th 6 months	80.00	\$24.18	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$41.00	\$53.08	
10th 6 months	85.00	\$25.69	\$5.05	\$9.45	\$1.42	\$0.50	\$0.40	\$42.51	\$55.35	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Journeyman to 1 Apprentice
 - 2 Journeymen to 1 Apprentice
 - 3 Journeymen to 1 Apprentice
 - 4 Journeymen to 2 Apprentices
 - 5 Journeymen to 2 Apprentices
 - 6 Journeymen to 2 Apprentices
 - 7 Journeymen to 3 Apprentices
 - 8 Journeymen to 3 Apprentices
 - 9 Journeymen to 3 Apprentices
 - 10 Journeymen to 4 Apprentices
 - 11 Journeymen to 4 Apprentices
 - 12 Journeymen to 4 Apprentices
 - 13 Journeymen to 5 Apprentices
 - 14 Journeymen to 5 Apprentices
 - 15 Journeymen to 5 Apprentices
- Maintaining a 3 Journeymen to 1 Apprentice Ratio

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
OTTAWA, PAULDING, PUTNAM, SENECA, WILLIAMS,
WOOD

Special Jurisdictional Note :

Details :

Other = Supplemental unemployment benefits.

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - Building Local 18 - Zone 3

Change # : CN01-2009Loc18zone3

Craft : Operating Engineer Effective Date : 05/01/2009 Last Posted : 05/01/2009

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Operator-Class 1	\$29.49	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.69	\$55.43	
Class 2	\$29.37	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.57	\$55.26	
Class 3	\$28.33	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$39.53	\$53.70	
Class 4	\$27.15	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$38.35	\$51.92	
Class 5	\$21.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$32.89	\$43.74	
Class 6	\$29.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$40.94	\$55.81	
Class 7	\$29.99	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.19	\$56.18	
Class 8	\$30.49	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.69	\$56.93	
Class 9	\$30.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04	\$41.94	\$57.31	
Apprentice	Percent									
1st Year	50.00	\$14.75	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$25.94	\$33.32	
2nd Year	60.00	\$17.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$28.89	\$37.74	
3rd Year	70.00	\$20.64	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$31.84	\$42.16	
4th Year	80.00	\$23.59	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$34.79	\$46.59	
Field Mechanic Trainee										
1st year 1st year	50.00	\$14.75	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$25.94	\$33.32	
2nd year	60.00	\$17.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$28.89	\$37.74	
3rd year	70.00	\$20.64	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$31.84	\$42.16	
4th year	80.00	\$23.59	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04	\$34.79	\$46.59	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

For every (5) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice. On jobs where maintenance engineers are to be employed, for every (1) Class 1 Mechanics there may be (1) Mechanic Trainee & so fourth. Mechanic Trainee rate is a percentage of Class 1 rate.

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment.

Mechanic Trainees will receive 10% increase if required to have CDL

Class 1 - Barrier Moving Machine; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types) Derricks (all types); Draglines Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Gradalls; Helicopter Operators; hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Hydraulic Gantry (lift system); Laser Finishing Machines; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Engineers (Mechanic and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms, Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all) used on caissons for foundations and sub-structure work; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Tug Boats. Horizontal Directional Drill, Rough Terrain Forklift with Winch/Hoist, Laser Screed, and Like equipment; Compact Cranes, track or rubber over 4,000 pound capacity, self-erecting cranes: stationary, track or truck (all configurations) bucket trench machines (over 24 " wide).

Class 2 - Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs. Bulldozers; CMI type Equipment; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats; Vermeer Type Concrete Saw; All rotomills, grinders & planers of all types, Articulating/end dumps (minus (\$4.00 hour from Class B)

Class 3 - A Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or skid steer loader with or without attachments; Boilers (15 lbs pressure and over); All concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drillers - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled); Man lifts; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie Inserter/Remover; Rotovator (Lime-Soil Stabilizer); Submersible Pumps (4 inches and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24 inches and under); Utility Operators; Material hoist/elevators.

Class 4 - Ballast Re-locator; Backfillers and Tampers; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Spreader; Conveyors, used for handling building materials; Concrete Mixers, one bag capacity (side loader); Concrete Mixers, capacity more than one bag; Crushers; Deck Hands; Drum Fireman (in Asphalt Plant); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Guniting Machines; Hydro-Seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2 inch discharge); Road Widening Trenchers; Rollers (except asphalt); All Concrete pumps (without Boom with 4 inch or smaller systems); Self-Propelled Power Spreaders; Concrete Spreaders; Self-Propelled Sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepfoot rollers or graders; VAC/ALLS; Vibratory Compactors, with integral power; Welder Operators.

Class 5 - Boilers (less than 15 lbs. pressure); Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen, Submersible Pumps (under 4 inch discharge). Directional Drill Locator and Allen Screed Concrete Paver. Fueling and greasing (plus \$3.00), compact cranes; track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

Class 7 - Boom & Jib 150 - 180 feet

Class 8 - Boom & Jib 180 - 249 feet

Class 9 - Boom & Jib 250 - or over

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - HevHwy II

Change # : CN01-2009Loc18hevhwyl

Craft : Operating Engineer Effective Date : 05/01/2009 Last Posted : 05/01/2009

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Operator-Class 1	\$29.49	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$40.69	\$55.43
Class 2	\$29.37	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$40.57	\$55.26
Class 3	\$28.33	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$39.53	\$53.70
Class 4	\$27.15	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$38.35	\$51.92
Class 5	\$21.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$32.89	\$43.74
Class 6	\$29.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$40.94	\$55.81
Class 7	\$29.74	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$40.94	\$55.81
Class 8	\$29.99	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$41.19	\$56.18
Great Lakes Floating Agreement										
Class 1	\$35.41	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$46.61	\$64.31
Class 2	\$33.91	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$45.11	\$62.06
Class 3	\$30.18	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$41.38	\$56.47
Class 4	\$25.09	\$6.66	\$4.00	\$0.50	\$0.00	\$0.00	\$0.04		\$36.29	\$48.84
Apprentice										
	Percent									
1st Year	50.00	\$14.75	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$25.94	\$33.32
2nd Year	60.00	\$17.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$28.89	\$37.74
3rd Year	70.00	\$20.64	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$31.84	\$42.16
4th Year	80.00	\$23.59	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$34.79	\$46.59
Field Mech Trainee										
1st year	49.80	\$14.69	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$25.89	\$33.23
2nd year	59.74	\$17.62	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$28.82	\$37.63
3rd year	69.71	\$20.56	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$31.76	\$42.04
4th year	79.68	\$23.50	\$6.66	\$4.00	\$0.50	\$0.00	\$0.04		\$34.70	\$46.45

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

For every (5) Operating Engineer Journeymen employed by the company ,there may be employed (1) Registered Apprentice. On jobs where maintenance engineers are to be employed, for every (2) Class 2 Mechanics there may be (1) Mechanic Trainee & so fourth. Mechanic Trainee rate is a percentage of Class 2 rate.

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELA WARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, FURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT,

VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS,
WOOD, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL

Class 1 - Air Compressors on Steel Erection; Barrier Moving Machine; Boiler Operators, on Compressors or Generators, when mounted on a rig; Cableways; Combination Concrete mixers & Towers; Concrete Pumps; Concrete Plants (over 4 yd capacity); Cranes (all types, including Boom Trucks, Cherry Pickers); Derricks; Draglines; Dredgers (dipper, clam or suction); Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls; Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial - Type Tractors; Jet Engine Dryers (D8 or D9), Diesel Tractors; Locomotives (standard gage); Maintenance Operators (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Side Booms; Slip Form Pavers; Tower Dericks; Tree Shredders; Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators. Horizontal Directional Drill (Over 500,000 ft.lbs.thrust) and Rough Terrain Forklift with Winch/Hoist; Compact Cranes, track rubber over 4,000 pound capacity, self-erecting cranes; stationary, track or truck (all configurations) Bucket trench machines (over 24 inches wide).

Class 2 - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or skid steer loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Endloaders; Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Maintenance Operators, Class B (Portage and Summit Counties only); Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Trench Machines (24inch wide and under); Vermeer Type Concrete saw. Material Transfer Equipment (Shuttle buggy) Asphalt; All rotomills,grinders and planers of all types.

Class 3 - A-Frames; Air Compressors, on tunnel work (low Pressure); Asphalt Plant Engineers; Bobcat-type and/or skid steer loader with or without attachments; Power Boilers (15 lbs pressure and over); Highway Drills (all types); Rollers, asphalt; Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rotovator (lime-soil Stabilzer); Switch & Tie Tampers (without lifting and aligning device); Locomotives (narrow gage); Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Utilities Operators, (small equipment); Welding Machines; Material hoist/elevators.

Class 4 -Ballast Re-loacator; Backfillers; Batch Plants; Bar and Joint Installing Machines; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yd and under); Conveyors (highway); Concrete Saws (multiple); Crushers; Deckhands; Farm type tractors, with attachments (highway), except masonry; Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway); Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers; Plant Mixers; Post Drivers; Post Hole Diggers (power auger); Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Tractors, pulling sheepfoot rollers or graders; Steam Firemen; Vibratory Compactors, with integral power.

Class 5 - Compressors (portable, Sewer, Heavy and Highway); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters; Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen; Drum Fireman (in Asphalt Plant); Oil Heaters (Asphalt Plant); Tire Repairmen; VAC/ALLS; Fueling and greasing (plus \$3.00), compact cranes: track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

Class 7 - Crane Boom 150 ft - 180 ft

Class 8 - Crane Boom over 180 ft .

GREAT LAKES FLOATING AGREEMENT

Class 1 -Diver,Wet Tender,Engineer,(Hyd.Dredge)

Class 2-Crane Backhoe Operator,Mechanic/Welder,Assistant Engineer (Hyd. Dredge), Leverman(Hyd Dredge) Diver Tender.

Class 3-Deck Equipment Operator, (Machineryman), Maint. of Crane, Tug/Launch Operator, Loader/Dozer on Barge, Deck Machinery.

Class4-Deck Equipment Operator, (Machineryman/Fireman)(4 equipment Units or more), Deck Hand, Deck Engineer, Crane Maintenance, 50T and under/Backhoe 115,000lbs or less, Tug Operator.

Prevailing Wage Rate Laborers

Name of Union: Labor Local 574

Change # : CN01-2008Loc574

Classification : Laborer Effective Date : 05/12/2008 Last Posted : 05/12/2008

	BHR	H&W	Pension	App Tr.	Total PWR	Overtime Rate
Classification						
Laborer Group 1	\$22.85	\$4.40	\$2.20	\$0.20	\$29.65	\$41.08
Group 2	\$23.05	\$4.40	\$2.20	\$0.20	\$29.85	\$41.38
Group 3	\$23.25	\$4.40	\$2.20	\$0.20	\$30.05	\$41.68
Group 4	\$23.45	\$4.40	\$2.20	\$0.20	\$30.25	\$41.98
Group 5	\$12.70	\$4.40	\$2.20	\$0.20	\$19.50	\$25.85

Classification Description :

Group 1

Building & Construction Laborer, Signalman, Flagman, Tool Cribman, Carpenter Tender, Finisher Tender, Concrete Handler, Utility Construction Laborer, Guard Rail Erectors, Fence Installer, Caulkers, Water Trucks, and Hazardous Waste (Level A)

Group 2

Bottom Man, Grade Checker, Pumps (3inch or under), off road trucks, Concrete Saws, Fork Lift, Skid Steer, Concrete Specialist, Vibrator and Tamp Person, Tunnel laborer, Pipe Layer, Air and Power Driven Tools, Burner on Demolition Work, Swinging Scaffold, Mucker, Caisson Worker, Cofferdam Worker, Powder Men and Dynamite Blaster, Creosote Worker, Form Setter, Laser Beam Set-up Man, and Hazardous Waste (Level B)

Group 3

Mason Tender, Scaffold Builder, Mortar Mixer, Plasterer Tender, Hod Carrier, Stone Mason Tender, Gunnite Operator and Hazardous Waste (Level C)

Group 4

Hazardous Waste (Level D)

Group 5

Watchman

Hazardous Waste Removal and Lead Abatement:

Level A

Only in established "safe zones" may consist of, from normal work clothes to normal skin protection such as gloves, face shields goggles, coveralls and occasionally respiratory protection.

Level B

Protective equipment includes a protective suit and an air purifying respirator (APR) with the appropriate filter canisters. The ensemble is used when the contaminants are reliably known not to be hazardous to the skin and not IDLH (Immediately Dangerous to Life or Health) and correct filter protection is available.

Level C

Protective equipment includes a chemically resistant splash suit and a SCBA or Airline Fed Respirator. This ensemble is required when the situation is very hazardous, such as oxygen deficient atmospheres, IDLH atmospheres, or confined space entries.

Level D

Protective equipment is required when the area has been determined to contain extremely toxic contaminants or contaminants unknown but may be expected to be extremely toxic and/or immediately dangerous to life and health.

Jurisdiction (* denotes special jurisdictional note) :

HANCOCK, HARDIN, MARION, SENECA, WYANDOT

Special Jurisdictional Note :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 8 Inside

Change # : CN01-2009Loc8in

Craft : Electrician Effective Date : 06/04/2009 Last Posted : 06/04/2009

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electrician Class A (less than 2 yrs)	\$34.00	\$9.99	\$6.02	\$0.51	\$0.00	\$0.00	\$0.46	\$50.98	\$67.98	
Electrician Class B (2 thru 4 yrs)	\$32.50	\$9.99	\$7.48	\$0.49	\$0.00	\$0.00	\$0.46	\$50.92	\$67.17	
Class C (5 or more yrs)	\$31.00	\$9.99	\$8.93	\$0.45	\$0.00	\$0.00	\$0.46	\$50.83	\$66.33	
Apprentice	Percent									
1st 0-900 hrs	30.00	\$10.20	\$8.59	\$0.46	\$0.15	\$0.00	\$0.00	\$0.46	\$19.86	\$24.96
2nd 901-1800 hrs	40.00	\$13.60	\$8.79	\$0.61	\$0.20	\$0.00	\$0.00	\$0.46	\$23.66	\$30.46
3rd 1801-3300 hrs	50.00	\$17.00	\$8.99	\$3.01	\$0.26	\$0.00	\$0.00	\$0.46	\$29.72	\$38.22
4th 3301-4800 hrs	60.00	\$20.40	\$9.19	\$3.61	\$0.31	\$0.00	\$0.00	\$0.46	\$33.97	\$44.17
5th 4801-6300 hrs	70.00	\$23.80	\$9.39	\$4.21	\$0.36	\$0.00	\$0.00	\$0.46	\$38.22	\$50.12
6th 6300-8000 hrs	80.00	\$27.20	\$9.59	\$4.82	\$0.41	\$0.00	\$0.00	\$0.46	\$42.48	\$56.08

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

Journeymen ----- Max. Apprentices
 from 1 to 3 2
 from 4 to 6 4
 from 7 to 9 6
 etc

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
 OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA,
 WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

OTHER: IS SAFETY TRAINING

Respiratory Conditions:

Where this condition is found to exist, the employer will furnish adequate protective equipment and a premium of five percent (5%) above the employee's regular rate of pay.

Cable Splicing:

When a workman is required to make up cables, pot heads, or splices, on lead cable only, a five percent (5%) per hour premium shall be added to the employee's regular rate of pay.

Note:

A premium of 5% above the employee's regular rate shall be paid to workmen performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75 feet above the ground, also similar structures 30 feet above the roofs of buildings on which the work is being performed. This premium will also apply where workmen are called upon to perform work in caissons and tunnels more than 30 feet deep and in tunnels under air pressure. All work performed 40 feet above any floor or pit floor (excepting work performed in a "Bucket Truck" or from a property erected State-approved scaffold) or any height above any hazardous location, such as acid pits, machinery, etc., a premium of 5% above the employee's regular rate of pay shall be paid.

A premium of 5 % above the employee's regular rate of pay shall be paid if a welding certification is necessary.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheetmetal Local 33 (Toledo) Decking

Change # : CN01-2008Loc33(Tol)Deck

Craft : Sheetmetal Worker Effective Date : 10/16/2008 Last Posted : 10/16/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Sheetmetal Worker Decking & Siding		\$20.83	\$4.80	\$5.76	\$0.38	\$0.00	\$0.00	\$0.30	\$32.07	\$42.48	
Decking & Siding Specialty Trainees	Percent										
1st 30 days	63.45	\$13.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.22	\$19.82	
2nd thru 6th months	63.45	\$13.22	\$4.80	\$5.76	\$0.00	\$0.00	\$0.00	\$0.00	\$23.78	\$30.38	
7th thru 12th months	63.45	\$13.22	\$4.80	\$5.76	\$0.38	\$0.00	\$0.00	\$0.30	\$24.46	\$31.06	
2nd year	77.50	\$16.14	\$4.80	\$5.76	\$0.38	\$0.00	\$0.00	\$0.30	\$27.38	\$35.45	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen To 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SENECA, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Work but not limited to: Exterior application of manufactured and/or job site fabricated metal decking, siding and exterior appurtenances thereto. The erection of pre-engineered metal buildings, pre-manufactured gas stations and appurtenances thereto. The installation of metal roofs and appurtenances. The erection and/or job site fabrication of draft or fire curtains and appurtenances thereto.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter - NW District 1581

Change # : CN01-2008LocNW1581

Craft : Carpenter Effective Date : 12/05/2008 Last Posted : 12/05/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Carpenter		\$23.71	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$37.04	\$48.89	
Apprentice	Percent										
1st 6months	55.00	\$13.04	\$6.00	\$0.00	\$0.33	\$0.00	\$0.00	\$0.00	\$19.37	\$25.89	
2nd 6months	60.00	\$14.23	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$27.56	\$34.67	
3rd 6months	65.00	\$15.41	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$28.74	\$36.45	
4th 6months	75.00	\$17.78	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$31.11	\$40.00	
5th 6months	80.00	\$18.97	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$32.30	\$41.78	
6th 6months	85.00	\$20.15	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$33.48	\$43.56	
7th 6months	90.00	\$21.34	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$34.67	\$45.34	
8th 6months	95.00	\$22.52	\$6.00	\$3.50	\$0.33	\$0.00	\$3.50	\$0.00	\$35.85	\$47.12	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, HANCOCK, HENRY, PAULDING, WILLIAMS

Special Jurisdictional Note :

Details :

Special Work Rates:

40-100 foot free fall - \$.50 per hour above scale

Over 100 foot free fall - \$1.00 per hour above scale

Prevailing Wage Rate Skilled Crafts

Name of Union: Glazier Local 1020

Change # : CN01-2009Loc1020

Craft : Glazier Effective Date : 02/27/2009 Last Posted : 02/27/2009

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Glazier	\$18.11	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$21.69	\$30.75	
Apprentice	Percent									
1st 6 months	50.00	\$9.06	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$12.64	\$17.16
2nd 6 months	55.00	\$9.96	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$13.54	\$18.52
3rd 6 months	60.00	\$10.87	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$14.45	\$19.88
4th 6 months	65.00	\$11.77	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$15.35	\$21.24
5th 6 months	70.00	\$12.68	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$16.26	\$22.60
6th 6 months	75.00	\$13.58	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$17.16	\$23.95
7th 6 months	80.00	\$14.49	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$18.07	\$25.31
8th 6 months	90.00	\$16.30	\$1.63	\$1.80	\$0.10	\$0.00	\$0.00	\$0.05	\$19.88	\$28.03

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice per shop

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, HANCOCK, HARDIN, LOGAN,
MERCER, PAULDING, PUTNAM, SHELBY*, VAN WERT,
WYANDOT

Special Jurisdictional Note : Shelby Cnty: Northern part

Details :

Journeymen in charge of 6 or more men shall receive \$1.00 an hour premium.

Prevailing Wage Rate Skilled Crafts

Name of Union: Roofer Local 134

Change # : CN01-2008Loc134

Craft : Roofer Effective Date : 08/12/2008 Last Posted : 08/12/2008

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Roofer	\$24.35	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$0.00	\$39.80	\$51.98	
Yardman	\$14.29	\$4.95	\$1.45	\$0.00	\$0.00	\$0.00	\$0.00	\$20.69	\$27.83	
Helper (1st 1000 hours)	\$10.86	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10.86	\$16.29	
Helper (under 3 years)	\$10.86	\$4.95	\$0.45	\$0.21	\$0.00	\$0.00	\$0.00	\$16.47	\$21.90	
Helper (over 3 years)	\$10.86	\$4.95	\$1.45	\$0.21	\$0.00	\$0.00	\$0.00	\$17.47	\$22.90	
Apprentice	Percent									
1st 6 months	50.00	\$12.18	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$27.62	\$33.71	
2nd 6 months	55.00	\$13.39	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$28.84	\$35.54	
3rd 6 months	60.00	\$14.61	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$30.06	\$37.36	
4th 6 months	65.00	\$15.83	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$31.28	\$39.19	
5th 6 months	70.00	\$17.04	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$32.50	\$41.02	
6th 6 months	75.00	\$18.26	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$33.71	\$42.84	
7th 6 months	80.00	\$19.48	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$34.93	\$44.67	
8th 6 months	85.00	\$20.70	\$6.20	\$6.88	\$0.21	\$0.00	\$2.16	\$36.15	\$46.50	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
 Roofer Helper Ratio 1 Helper for every 3 Journeymen on the job
 in counties Lucas, Wood and Monroe. 1 Helper for every 1
 Journeymen in the remaining counties.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS,
 PAULDING, PUTNAM, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Laborers

Name of Union: Labor HevHwy 3

Change # : CN01-2008HevHwy3

Classification : Laborer Effective Date : 05/01/2008 Last Posted : 04/30/2008

	BHR	H&W	Pension	App Tr.	Total PWR	Overtime Rate
Classification						
Group 1	\$25.02	\$4.40	\$2.20	\$0.25	\$31.87	\$44.38
Group 2	\$25.19	\$4.40	\$2.20	\$0.25	\$32.04	\$44.64
Group 3	\$25.52	\$4.40	\$2.20	\$0.25	\$32.37	\$45.13
Group 4	\$25.97	\$4.40	\$2.20	\$0.25	\$32.82	\$45.81
Watch Person	\$17.75	\$4.40	\$2.20	\$0.25	\$24.60	\$33.48
APPRENTICES						
0-1000 hrs	\$15.01	\$4.40	\$2.20	\$0.25	\$21.86	\$29.36
1001-2000 hrs	\$17.51	\$4.40	\$2.20	\$0.25	\$24.36	\$33.12
2001-3000 hrs	\$20.02	\$4.40	\$2.20	\$0.25	\$26.87	\$36.88
3001-4000 hrs	\$22.52	\$4.40	\$2.20	\$0.25	\$29.37	\$40.63
More than 4000 hrs	\$25.02	\$4.40	\$2.20	\$0.25	\$31.87	\$44.38

Special Calculation Note : Watchmen have no Apprentices

Classification Description :

Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Ratio: 1 Journeymen to 1 Apprentice

4 Journeymen to 1 Apprentice thereafter

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker (Swimming) Pool Construction Laborer, Utility Man, Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), Lead Abatement, Hazardous Waste (level C)

Group 3

Blast and Powder Person, Muckers (with miners), Wrencher (mechanical joints & utility pipeline), Yarnier, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person, Grade Checker

Group 4

Miner, Welder, Gunnite Nozzle Person

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SCIOTO, SENECA, SHELBY, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note :

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos Local 207 Michigan District

Change # : CN01-2006Loc207A

Craft : Asbestos Worker Effective Date : 08/01/2007 Last Posted : 02/10/2006

	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Classification									
Asbestos Abatement Journeyman	\$25.75	\$4.75	\$1.60	\$0.50	\$0.00	\$0.00	\$0.00	\$32.60	\$45.48
600 hrs & 1 year is a 1st year Trainee	\$16.80	\$4.75	\$1.00	\$0.50	\$0.00	\$0.00	\$0.00	\$23.05	\$31.45
1200 hrs & 2 years is a 2nd year Trainee	\$18.80	\$4.75	\$1.00	\$0.50	\$0.00	\$0.00	\$0.00	\$25.05	\$34.45

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Abatement Journeymen to 1 Trainee on a shop-wide basis.

Jurisdiction (* denotes special jurisdictional note) :

ERIE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PUTNAM, SANDUSKY, SENECA, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Asbestos abatement and removal, insulation removal, lead abatement and removal or hazardous materials abatement and removal. Lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason & Plasterer/ BAC Local 46

Change # : CN01-2008Loc46

Craft : Bricklayer Effective Date : 07/10/2008 Last Posted : 07/10/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Cement Mason		\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99	
Plasterer		\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99	
Apprentice		Percent									
1st year		55.00	\$14.37	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$28.16	\$35.35	
2nd year		65.00	\$16.98	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$30.77	\$39.27	
3rd year		80.00	\$20.90	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$34.69	\$45.15	
4th year		92.00	\$24.04	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$37.83	\$49.85	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
3 Journeymen to 1 Apprentice per job

Jurisdiction (* denotes special jurisdictional note) :
DEFIANCE, ERIE, FULTON, HANCOCK, HENRY, HURON,
LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY,
SENECA, WILLIAMS, WOOD

Special Jurisdictional Note : This jurisdiction also covers the Islands of Lake Erie North of Sandusky.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 8 Voice Data Video

Change # : CN01-2006Loc8VDV

Craft : Voice Data Video Effective Date : 12/29/2006 Last Posted : 12/29/2006

Classification	Fringe Benefit Payments							Total PWR	Overtime Rate	
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electrical-Installer Technician Less than 2 years Class 4JA	\$24.29	\$7.24	\$1.63	\$0.36	\$0.00	\$0.00	\$0.16	\$33.68	\$45.83	
Installer Technician At least 2 years Class 4JB	\$23.29	\$7.24	\$2.60	\$0.35	\$0.00	\$0.00	\$0.16	\$33.64	\$45.29	
Installer Technician At least 3 years Class 4JC	\$22.29	\$7.24	\$3.57	\$0.33	\$0.00	\$0.00	\$0.16	\$33.59	\$44.74	
BICSI Certified Less than 2 years Class 4JA	\$25.29	\$7.24	\$1.66	\$0.38	\$0.00	\$0.00	\$0.16	\$34.73	\$47.38	
BICSI Certified At Least 2 years Class 4JB	\$24.29	\$7.24	\$2.63	\$0.36	\$0.00	\$0.00	\$0.16	\$34.68	\$46.83	
BICSI Certified At least 3 years Class 4JC	\$23.29	\$7.24	\$3.60	\$0.35	\$0.00	\$0.00	\$0.16	\$34.64	\$46.29	
Cable Puller	\$7.88	\$2.50	\$0.24	\$0.12	\$0.00	\$0.00	\$0.16	\$10.90	\$14.84	
Apprentice	Percent									
1st 750 hrs	55.00	\$13.36	\$2.50	\$0.90	\$0.20	\$0.00	\$0.00	\$0.16	\$17.12	\$23.80
2nd 750 hrs	65.00	\$15.79	\$2.50	\$1.06	\$0.24	\$0.00	\$0.00	\$0.16	\$19.75	\$27.64
3rd 750 hrs	75.00	\$18.22	\$7.24	\$1.45	\$0.27	\$0.00	\$0.00	\$0.16	\$27.34	\$36.45
4th 750 hrs	80.00	\$19.43	\$7.24	\$1.48	\$0.29	\$0.00	\$0.00	\$0.16	\$28.60	\$38.32
5th 750 hrs	85.00	\$20.65	\$7.24	\$1.52	\$0.31	\$0.00	\$0.00	\$0.16	\$29.88	\$40.20
6th 750 hrs	90.00	\$21.86	\$7.24	\$1.63	\$0.33	\$0.00	\$0.00	\$0.16	\$31.22	\$42.15

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice per project
5 Installer Techs to 1 Cable Puller

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Work covered but not limited to: installation, testing, service, and maintenance of all VDV systems which utilize the transmission and/or transference of voice, sound, vision, or digital for commercial, educational, security, and entertainment purposes. TV monitoring and surveillance, background/foreground music, intercom and telephone, interconnection, inventory control systems, microwave transmission, multimedia, multiplex, nurse call systems, radio page, school intercom and sound, burglar alarm, and low-voltage master clock systems.

The following work is EXCLUDED from the Voice Data Video Technician work scope:

The installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.

The installation of conduit and/or raceways shall be installed by Inside Wireman. On sites where there is no Inside Wireman employed, The Voice Data Technician may install raceway, or conduit not greater than 10 feet.

Fire Alarm Work is EXCLUDED on all new construction sites or wherever the fire alarm system is installed in conduit.

ALL HVAC control work.

OTHER IS: Safety Training & Substance Abuse.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter - NW District - Overhead Door

Change # : CN02-2007LocNW248

Craft : Carpenter Effective Date : 09/06/2007 Last Posted : 09/06/2007

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification:										
Carpenter - Journeyman Mechanic	\$20.00	\$0.00	\$1.00	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$21.20	\$31.20
Intermediate Mechanic Level 2	\$15.85	\$0.00	\$0.00	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$16.05	\$23.97
Mechanic Level 1	\$12.00	\$0.00	\$0.00	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$12.20	\$18.20

Special Calculation Note : Fully paid reasonable & customary comprehensive medical/surgical insurance shall be provided for employee, spouse and dependent children by employer.

Ratio :

1 Journeyman Mechanic to 1 Mechanic Level 1 or Intermediate Mechanic Level 2

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

All work related to the repair, transportation, installation and servicing of doors and gates of any type: and repair, transportation and servicing of any and all items related to doors and gates: and the preparation of any openings, passageways and/or access where a door and/or gate will be installed.

Including but not limited to: Upward acting doors, horizontally sliding doors, rapid roll fabric doors, overhead chain gates, sliding grills, air doors, fire doors and any other doors/or gates which are used to gain access to or prevent access to any area, enclosed or otherwise and Dock Levers. Also any devices and/or items used to operate, open or close doors.

Journeyman Mechanic - an individual that has adequately demonstrated his knowledge and proficiency at all parts of the trade, who has 3 years documented experience at that trade, or who has been certified by a bonafide apprenticeship program, registered with the US Dept of Labor/Bureau of Apprenticeship.

Intermediate Mechanic Level 2- an employee who has performed work as a junior mechanic at least 3 years.

Mechanic Level 1- the employer may hire persons who are not journeypersons. These employees will start at 60% of the journeypersons wage rate and the employer is not required to pay fringe benefits, until the Mechanic becomes a Journeyman Mechanic.

Prevailing Wage Rate Skilled Crafts

Name of Union: Boilermaker Local 85

Change # : CN01-2002Loc85

Craft : Boilermaker Effective Date : 07/15/2006 Last Posted : 01/09/2003

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Boilermaker		\$32.70	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$45.30	\$61.65	
Apprentice	Percent										
1st 6 months	70.00	\$22.89	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$35.49	\$46.93	
2nd 6 months	72.50	\$23.71	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$36.31	\$48.16	
3rd 6 months	75.00	\$24.53	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$37.13	\$49.39	
4th 6 months	77.50	\$25.34	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$37.94	\$50.61	
5th 6 months	80.00	\$26.16	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$38.76	\$51.84	
6th 6 months	85.00	\$27.80	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$40.39	\$54.29	
7th 6 months	90.00	\$29.43	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$42.03	\$56.75	
8th 6 months	95.00	\$31.07	\$4.55	\$5.15	\$0.15	\$0.00	\$2.45	\$0.30	\$43.67	\$59.20	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, ASHLAND, AUGLAIZE, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FULTON, HANCOCK, HARDIN, HENRY, HURON, KNOX, LOGAN, LUCAS, MARION, MERCER, MORROW, OTTAWA, PAULDING, PUTNAM, RICHLAND, SANDUSKY, SENECA, SHELBY, UNION, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Statewide Office Systems

Change # : CN01-2007JurSTWIDEOfficeSystems

Craft : Carpenter Effective Date : 09/13/2007 Last Posted : 09/13/2007

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Carpenter-Installers		\$16.00	\$4.92	\$0.79	\$0.08	\$0.00	\$0.00	\$0.00	\$21.79	\$29.79	
Helper		\$9.50	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$14.50	\$19.25	
Installer Trainee	Percent										
1st 6 months	58.05	\$9.29	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$14.29	\$18.93	
2nd 6 months	61.00	\$9.76	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$14.76	\$19.64	
3rd 6 months	64.00	\$10.24	\$4.92	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$15.24	\$20.36	
4th 6 months	66.95	\$10.71	\$4.92	\$0.58	\$0.08	\$0.00	\$0.00	\$0.00	\$16.29	\$21.65	
5th 6 months	69.95	\$11.19	\$4.92	\$0.62	\$0.08	\$0.00	\$0.00	\$0.00	\$16.81	\$22.41	
6th 6 months	72.90	\$11.66	\$4.92	\$0.65	\$0.08	\$0.00	\$0.00	\$0.00	\$17.31	\$23.15	
7th 6 months	75.90	\$12.14	\$4.92	\$0.69	\$0.08	\$0.00	\$0.00	\$0.00	\$17.83	\$23.91	
8th 6 months	78.85	\$12.62	\$4.92	\$0.72	\$0.08	\$0.00	\$0.00	\$0.00	\$18.34	\$24.64	
9th 6 months	81.80	\$13.09	\$4.92	\$0.79	\$0.08	\$0.00	\$0.00	\$0.00	\$18.88	\$25.42	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

(1) Installer to (1) Trainee or (1) Helper

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Office systems is defined as modular systems with demountable units such as desks, partitions and shelving.

INSTALLER: is defined as a qualified office systems mechanic capable of laying out, estimating and installing various office system manufactured products.

INSTALL TRAINEE: is defined as a person training in the estimating, layout and installation in all facets of the office systems industry. An installer trainee will work to assist an installer or lead installer in all installations. He is NOT permitted to work without the assistance of lead installer

INSTALL HELPER: is defined as a person who assists in the delivery, staging and clean up of related office system work. He is NOT to be involved with the installation or layout of work related to office systems. Receiving, unloading, unpacking, & removal of rubbish shall be done by install helpers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN01-2007Loc44

Craft : Elevator Effective Date : 01/01/2012 Last Posted : 11/20/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Elevator Mechanic	\$50.43	\$11.03	\$6.96	\$0.55	\$2.95	\$3.85	\$4.52	\$80.29	\$105.50	
Helper	\$38.90	\$11.03	\$6.96	\$0.55	\$1.77	\$3.85	\$2.62	\$65.68	\$85.13	
0-6 months Probation	50.00	\$25.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$25.57	\$38.18	
1st year	54.98	\$27.73	\$11.03	\$6.96	\$0.55	\$1.22	\$3.85	\$2.07	\$53.41	\$67.27
2nd year	65.00	\$32.78	\$11.03	\$6.96	\$0.55	\$1.44	\$3.85	\$2.44	\$59.05	\$75.44
3rd year	70.00	\$35.30	\$11.03	\$6.96	\$0.55	\$1.55	\$3.85	\$2.62	\$61.86	\$79.51
4th year	80.00	\$40.34	\$11.03	\$6.96	\$0.55	\$1.77	\$3.85	\$3.00	\$67.50	\$87.68

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding).

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos & Heat & Frost Insulators Local 45

Change # : CN01-2008Loc45

Craft : Asbestos Worker Effective Date : 07/25/2008 Last Posted : 07/25/2008

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Asbestos Insulation Worker	\$29.37	\$7.75	\$6.25	\$0.68	\$0.00	\$4.00	\$0.00	\$48.05	\$62.74	
Apprentices Before July 1st 2005										
1st period 1st yr	\$16.41	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$31.09	\$39.30	
2nd period 1st yr	\$18.01	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$32.69	\$41.70	
3rd period 2nd yr	\$19.11	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$33.79	\$43.35	
4th period 2nd yr	\$20.71	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$35.39	\$45.75	
5th period 3rd yr	\$21.81	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$36.49	\$47.39	
6th period 3rd yr	\$23.41	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$38.09	\$49.80	
7th period 4th yr	\$24.52	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$39.20	\$51.46	
8th period 4th yr	\$26.12	\$7.75	\$6.25	\$0.68	\$0.00	\$0.00	\$0.00	\$40.80	\$53.86	
9th period 5th yr	\$24.96	\$7.75	\$6.25	\$0.68	\$0.00	\$4.00	\$0.00	\$43.64	\$56.12	
10th period 5th yr	\$26.43	\$7.75	\$6.25	\$0.68	\$0.00	\$4.00	\$0.00	\$45.11	\$58.32	
Apprentice	Percent									
1st period 1st yr	50.00	\$14.69	\$5.25	\$2.00	\$0.68	\$0.00	\$0.00	\$22.62	\$29.96	
2nd period 1st yr	55.00	\$16.15	\$1.25	\$3.13	\$0.68	\$0.00	\$0.00	\$21.21	\$29.29	
3rd period 2nd yr	60.00	\$17.62	\$1.25	\$3.13	\$0.68	\$0.00	\$0.00	\$22.68	\$31.49	
4th period 2nd yr	65.00	\$19.09	\$1.88	\$4.69	\$0.68	\$0.00	\$0.00	\$26.34	\$35.89	
5th period 3rd yr	70.00	\$20.56	\$1.88	\$4.69	\$0.68	\$0.00	\$0.00	\$27.81	\$38.09	
6th period 3rd yr	75.00	\$22.03	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$34.21	\$45.22	
7th period 4th yr	80.00	\$23.50	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$35.68	\$47.42	
8th period 4th yr	85.00	\$24.96	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$37.14	\$49.63	
9th period 5th yr	90.00	\$26.43	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$38.61	\$51.83	
10th period 5th yr	95.00	\$27.90	\$5.25	\$6.25	\$0.68	\$0.00	\$0.00	\$40.08	\$54.03	

Special Calculation Note :

Ratio :
4 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE*, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA,
PUTNAM, SANDUSKY, SENECA, WOOD, WYANDOT

Special Jurisdictional Note : In Erie County (covered by the city limits of Sandusky, Ohio) the following townships are included: (Groton, Margaretta, Oxford and Perkins)

Details :

The removal of all insulation materials whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breechings etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electric Locals 71 & 245
Outside Utility Power PENDING

Change # : CN01-2007Locs71&245

Craft : Lineman Effective Date : 01/01/2008 Last Posted : 09/24/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electric-Lineman	\$30.23	\$4.75	\$0.84	\$0.21	\$0.00	\$4.32	\$0.00	\$40.35	\$55.47	
Cable Splicer	\$31.65	\$4.75	\$0.88	\$0.22	\$0.00	\$4.52	\$0.00	\$42.02	\$57.85	
Equipment Mechanic "C"	\$19.54	\$4.75	\$0.54	\$0.14	\$0.00	\$2.79	\$0.00	\$27.76	\$37.53	
Equipment Mechanic "B"	\$21.84	\$4.75	\$0.60	\$0.15	\$0.00	\$3.12	\$0.00	\$30.46	\$41.38	
Equipment Mechanic "A"	\$24.12	\$4.75	\$0.67	\$0.17	\$0.00	\$3.45	\$0.00	\$33.16	\$45.22	
Operator "C"	\$19.54	\$4.75	\$0.54	\$0.14	\$0.00	\$2.79	\$0.00	\$27.76	\$37.53	
Operator "B"	\$24.12	\$4.75	\$0.67	\$0.17	\$0.00	\$3.45	\$0.00	\$33.16	\$45.22	
Operator "A"	\$27.18	\$4.75	\$0.75	\$0.19	\$0.00	\$3.89	\$0.00	\$36.76	\$50.35	
Operator w/current employer 1yr or more prior to 9/2/02	\$26.38	\$4.75	\$0.73	\$0.18	\$0.00	\$3.77	\$0.00	\$35.81	\$49.00	
Line Truck w/Auger	\$21.52	\$4.75	\$0.60	\$0.15	\$0.00	\$3.08	\$0.00	\$30.10	\$40.86	
Groundman /Truck Dr. 0-12 months	\$15.12	\$4.75	\$0.42	\$0.10	\$0.00	\$2.16	\$0.00	\$22.55	\$30.11	
Groundman /Truck DL 0-12 months w/CDL	\$16.63	\$4.75	\$0.46	\$0.11	\$0.00	\$2.38	\$0.00	\$24.33	\$32.65	
Groundman /Truck Dr. 1 year or more	\$16.63	\$4.75	\$0.46	\$0.11	\$0.00	\$2.38	\$0.00	\$24.33	\$32.65	
Groundman/ Truck Dr. 1 year or more w/CDL	\$19.65	\$4.75	\$0.54	\$0.14	\$0.00	\$2.81	\$0.00	\$27.89	\$37.71	
Apprentice Lineman & Substation	Percent									
1st 6 Mo	60.00	\$18.14	\$4.75	\$0.50	\$0.13	\$0.00	\$2.59	\$0.00	\$26.11	\$35.18
2nd 6 Mo	65.00	\$19.65	\$4.75	\$0.54	\$0.14	\$0.00	\$2.81	\$0.00	\$27.89	\$37.71
3rd 6 Mo	70.00	\$21.16	\$4.75	\$0.59	\$0.15	\$0.00	\$3.03	\$0.00	\$29.68	\$40.26
4th 6 Mo	75.00	\$22.67	\$4.75	\$0.63	\$0.16	\$0.00	\$3.24	\$0.00	\$31.45	\$42.79
5th 6 Mo	80.00	\$24.18	\$4.75	\$0.67	\$0.17	\$0.00	\$3.46	\$0.00	\$33.23	\$45.33
6th 6 Mo	85.00	\$25.70	\$4.75	\$0.71	\$0.18	\$0.00	\$3.67	\$0.00	\$35.01	\$47.85
7th 6 Mo	90.00	\$27.21	\$4.75	\$0.75	\$0.19	\$0.00	\$3.89	\$0.00	\$36.79	\$50.39

Special Calculation Note : Substation Technician Journeyman \$30.23 plus (\$4.75 Health&Welfare)+ (\$.84 Pension)+(\$4.32 Annuity)+(.21 App. Training)

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,
 AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL,
 CHAMPAIGN, CLARK, CLERMONT, CLINTON,
 COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA,
 DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD,
 FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga,
 GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN,
 HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES,
 HURON, JACKSON, JEFFERSON, KNOX, LAKE,
 LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS,
 MAHONING, MARION, MEDINA, MEIGS, MEIGS*,
 MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN,
 MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING,
 PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM,
 RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA,
 SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS,
 UNION, VAN WERT, VINTON, WARREN, WASHINGTON,
 WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :**Details :**

Operator "A" John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater than 25 tons and less than 45 tons).

Operator "B" Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C" Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Ironworker Local 55

Change # : CN03-2007Loc55

Craft : Ironworker Effective Date : 10/08/2008 Last Posted : 10/08/2008

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Ironworker		\$28.45	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$44.78	\$59.00
Pre-Engineered Metal Bldg, Siding & Decking		\$23.73	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$40.06	\$51.92
Metal Fence & Guardrail Work		\$20.85	\$5.22	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$35.54	\$45.97
Apprentice										
	Percent									
Probation 90 days	50.00	\$14.23	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$30.56	\$37.67
1st year	55.00	\$15.65	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$31.98	\$39.80
2nd year	70.00	\$19.91	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$36.25	\$46.20
3rd year	80.00	\$22.76	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$39.09	\$50.47
4th year	90.00	\$25.60	\$6.86	\$8.10	\$0.37	\$0.00	\$1.00	\$0.00	\$41.94	\$54.74

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

4 Journeyman to 1 Apprentice
 Ornamental Work: 2 Journeymen to 1 Apprentice
 Spinning Cables on Suspension Bridges:
 1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CRAWFORD*, DEFIANCE*, ERIE*, FULTON, HANCOCK,
 HENRY, HURON*, LUCAS, OTTAWA, PUTNAM*,
 SANDUSKY, SENECA, WILLIAMS*, WOOD, WYANDOT*

Special Jurisdictional Note :

Crawford-From where Hwy #598 & #30 meet through W.Liberty to the Northern Border & from said Hwy junction point due west to the border.
 Defiance-South from where Route #66 meets the Northern Border to the Eastern County Border.
 Erie-West of Columbus Ave North to Sandusky Bay, West of Columbus Ave to Route 4 to Route 99 -all areas West of said Routes.
 Huron-West from the Northern Border through Monroeville and Willard territory West of Route #99.
 Putnam-East from the Northern Border through Miller City to where #696 meets the Southern Border.
 Williams- East from Pioneer through Stryker to Southern Border.
 Wyandot-North of Route #30.

Details :

Every employer having one or more projects is required to employ apprentices in accordance to the above Ratio Schedules.

Prevailing Wage Rate Skilled Crafts

Name of Union: Truck Driver Bldg & Hwy Class 1
Locals 20,40,92,92b,100,175,284,438,377,505,637,908,957

Change # : CN1-2009BldgHwy

Craft : Truck Driver Effective Date : 05/01/2009 Last Posted : 07/10/2007

Classification	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Truck Driver CLASS 1 4 wheel service trucks - 4 wheel dump trucks - Batch trucks - Oil Distributor - Asphalt Distributor - Tandems	\$22.08	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$33.59	\$44.63
Apprentice	Percent								
First 6 months	63.95	\$14.12	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$25.63	\$32.69
7-12 months	67.95	\$15.00	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$26.51	\$34.02
13-18 months	71.95	\$15.89	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$27.40	\$35.34
19-24 months	75.95	\$16.77	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$28.28	\$36.66
25-30 months	79.99	\$17.66	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$29.17	\$38.00
31-36 months	84.95	\$18.76	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$30.27	\$39.65
37-42 months	90.00	\$19.87	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$31.38	\$41.32
43-48 months	94.99	\$20.97	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$32.48	\$42.97

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spraybar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 04/01/2008 Last Posted : 08/16/2007

Fringe Benefit Payments											
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate		
Classification:											
Sprinkler Fitter	\$31.85	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$0.00	\$46.65	\$62.58		
Apprentice	Percent										
GRADE1- CLASS1- 1st 6mo	50.00	\$15.93	\$6.51	\$0.00	\$0.30	\$0.00	\$0.25	\$22.99	\$30.95		
CLASS 2- 2nd 6mo	50.00	\$15.93	\$6.51	\$0.00	\$0.30	\$0.00	\$0.25	\$22.99	\$30.95		
CLASS3- 1st 6mo	55.00	\$17.52	\$7.55	\$3.20	\$0.30	\$0.00	\$0.25	\$28.82	\$37.58		
CLASS 4- 2nd 6mo	60.00	\$19.11	\$7.55	\$3.20	\$0.30	\$0.00	\$0.25	\$30.41	\$39.96		
CLASS 5 GRADE2- 1st 6mo	65.00	\$20.70	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$35.50	\$45.85		
CLASS6- 2nd 6mo	70.01	\$22.30	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$37.10	\$48.25		
CLASS7- 1st 6mo	75.00	\$23.89	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$38.69	\$50.63		
CLASS 8- 2nd 6mo	80.00	\$25.48	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$40.28	\$53.02		
CLASS 9- 1st 6mo	85.00	\$27.07	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$41.87	\$55.41		
CLASS 10- 2nd 6mo	90.01	\$28.67	\$7.55	\$3.20	\$0.30	\$0.00	\$3.75	\$43.47	\$57.80		

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason (OCA) Heavy Highway District 1 A & B

Change # : CN01-2009HvyHwy

Craft : Cement Mason Effective Date : 05/22/2009 Last Posted : 05/22/2009

		Fringe Benefit Payments								
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate
Classification										
Cement Mason District 1-A		\$26.85	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$37.49	\$50.92
District 1-B		\$28.32	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$38.96	\$53.12
Apprentice	Percent									
1st Year	60.00	\$16.11	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$26.75	\$34.80
2nd Year	75.00	\$20.14	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$30.78	\$40.85
3rd Year	90.00	\$24.17	\$5.09	\$3.00	\$0.40	\$0.00	\$2.15	\$0.00	\$34.81	\$46.89

Special Calculation Note :

Ratio :

2 Journeymen to 1 Apprentice
Company Wide

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, FULTON, GEAUGA,
HANCOCK, HENRY, LAKE, LUCAS, PUTNAM, WOOD

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site, Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Plasterer & Drywall Local 886

Change # : CN02-2008Loc886

Craft : Cement Effective Date : 11/17/2008 Last Posted : 11/17/2008

Classification	Fringe Benefit Payments							Total PWR	Overtime Rate	
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Plasterer	\$28.07	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$40.02	\$54.06	
Drywall	\$26.31	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$38.26	\$51.42	
Drywall Apprentice & Improver										
Improver	\$13.16	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$25.11	\$31.69	
1st 6 months	\$14.47	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$26.42	\$33.66	
2nd 6 months	\$15.79	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$27.74	\$35.64	
3rd 6 months	\$18.42	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$30.37	\$39.58	
4th 6 months	\$19.73	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$31.68	\$41.55	
5th 6 months	\$21.05	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$33.00	\$43.53	
6th 6 months	\$23.68	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$35.63	\$47.47	
7th 6 months	\$24.99	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$36.94	\$49.44	
Plasterer Apprentice	Percent									
1st 6 mo	50.00	\$14.04	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$25.98	\$33.00
2nd 6 mo	55.00	\$15.44	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$27.39	\$35.11
3rd 6 mo	60.00	\$16.84	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$28.79	\$37.21
4th 6 mo	70.00	\$19.65	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$31.60	\$41.42
5th 6 mo	75.00	\$21.05	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$33.00	\$43.53
6th 6 mo	80.00	\$22.46	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$34.41	\$45.63
7th 6 mo	90.00	\$25.26	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$37.21	\$49.84
8th 6 mo	95.00	\$26.67	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$38.62	\$51.95

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, DEFIANCE, ERIE, FULTON,
HANCOCK, HARDIN, HENRY, HURON, LOGAN, LUCAS,
MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY,
SENECA, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

***Improvers receive no fringe benefits for the first 90 days. Then \$3.75 Health & Welfare

Workers on Swing Stage will be paid (\$.25) per hour above journeyman rate.

Nozzelmen or Operators of the Plastering Browning Gun shall receive (\$.75) per hour above journeyman rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Local 509 NE Interior Systems

Change # : CN01-2006JurLoc509Int Systems

Craft : Carpenter Effective Date : 06/01/2008 Last Posted : 06/08/2006

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Carpenter-Window Shade-Venetian Blinds-Drapery-Installer	\$15.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15.50	\$23.25
Apprentice	Percent									
1st six months	50.00	\$7.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$7.75	\$11.63
2nd six months	57.00	\$8.83	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8.83	\$13.25
3rd six months	64.00	\$9.92	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$9.92	\$14.88
4th six months	71.00	\$11.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11.00	\$16.51
5th six months	85.00	\$13.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13.17	\$19.76

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

(4) Journeymen - (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electric Locals 71 & 245
High Tension Pipe Cable PENDING

Change # : CN01-2007Locs71&245

Craft : Lineman Effective Date : 01/01/2008 Last Posted : 09/24/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electric-Lineman	\$31.88	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$40.53	\$56.47	
Welder- Cable Splicer-X-ray Tech	\$31.88	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$40.53	\$56.47	
Equipment Mechanic "C"	\$20.62	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$27.55	\$37.86	
Equipment Mechanic "B"	\$23.03	\$3.75	\$0.58	\$0.06	\$0.00	\$2.91	\$0.00	\$30.33	\$41.85	
Equipment Mechanic "A"	\$25.44	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$33.10	\$45.82	
New Hires AFTER 9/1/02 Oprator "C"	\$20.62	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$27.55	\$37.86	
Operator "B"	\$25.44	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$33.10	\$45.82	
Operator "A"	\$28.66	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$36.81	\$51.14	
Operator PRIOR to 9/1/02 1 yr or more	\$27.32	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$35.47	\$49.13	
Groundman /Truck Dr. 0-12 months	\$15.94	\$3.75	\$0.39	\$0.04	\$0.00	\$1.93	\$0.00	\$22.05	\$30.02	
Groundman/Truck Dr. 0 months to 12 mos w/CDL year	\$17.53	\$3.75	\$0.40	\$0.04	\$0.00	\$2.01	\$0.00	\$23.73	\$32.50	
Groundman /Truck Dr. 1 year or over	\$17.53	\$3.75	\$0.45	\$0.04	\$0.00	\$2.25	\$0.00	\$24.02	\$32.78	
Groundman/ Truck Dr. 1 year or over w/CDL	\$20.72	\$3.75	\$0.47	\$0.05	\$0.00	\$2.33	\$0.00	\$27.32	\$37.68	
Apprentice	Percent									
1st 6 Mo	60.00	\$19.13	\$3.75	\$0.48	\$0.05	\$0.00	\$2.41	\$0.00	\$25.82	\$35.38
2nd 6 Mo	65.00	\$20.72	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$27.65	\$38.01
3rd 6 Mo	70.00	\$22.32	\$3.75	\$0.56	\$0.06	\$0.00	\$2.81	\$0.00	\$29.50	\$40.65
4th 6 Mo	75.00	\$23.91	\$3.75	\$0.60	\$0.06	\$0.00	\$3.01	\$0.00	\$31.33	\$43.29
5th 6 Mo	80.00	\$25.50	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$33.16	\$45.92
6th 6 Mo	85.00	\$27.10	\$3.75	\$0.68	\$0.07	\$0.00	\$3.41	\$0.00	\$35.01	\$48.56
7th 6 Mo	90.00	\$28.69	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$36.84	\$51.19

Special Calculation Note : Operator "A" John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).
 Operator "B" Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.
 Operator "C" Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,
AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL,
CHAMPAIGN, CLARK, CLERMONT, CLINTON,
COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA,
DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD,
FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga,
GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN,
HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES,
HURON, JACKSON, JEFFERSON, KNOX, LAKE,
LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS,
MAHONING, MARION, MEDINA, MEIGS, MERCER,
MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY,
PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM,
RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS,
UNION, VAN WERT, VINTON, WARREN, WASHINGTON,
WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :**Details :**

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: BAC/Cement Mason Heavy Highway A & B

Change # : CN01-2008HvyHwy

Craft : Bricklayer Effective Date : 07/10/2008 Last Posted : 07/10/2008

Classification	Fringe Benefit Payments									Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Amnuty	Other				
Bricklayer A Highway	\$25.75	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$0.00	\$34.67	\$47.55	
Bricklayer B Sewer & Water Treatment	\$26.75	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$0.00	\$35.67	\$49.05	
Apprentice (A)	Percent										
1st year	49.98	\$12.87	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$21.79	\$28.22	
2nd year	70.00	\$18.02	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$26.94	\$35.96	
3rd year	90.00	\$23.17	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$32.10	\$43.68	
Apprentice (B)	Percent										
1st year	51.91	\$13.37	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$22.29	\$28.97	
2nd year	72.71	\$18.72	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$27.64	\$37.00	
3rd year	93.48	\$24.07	\$6.10	\$2.50	\$0.32	\$0.00	\$0.00	\$0.00	\$32.99	\$45.03	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site, Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos & Heat & Frost Insulators Local 45

Change # : CN01-2005Loc45

Craft : Asbestos Worker Effective Date : 07/01/2009 Last Posted : 11/28/2005

Fringe Benefit Payments										
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification										
Asbestos Insulation Worker	\$33.77	\$6.75	\$8.75	\$0.38	\$0.00	\$0.00	\$0.00	\$49.65	\$66.53	
Apprentices Before July 1st 2005										
1st period 1st yr	\$17.20	\$6.75	\$6.75	\$0.38	\$0.00	\$0.00	\$0.00	\$31.08	\$39.68	
2nd period 1st yr	\$18.89	\$6.75	\$6.75	\$0.38	\$0.00	\$0.00	\$0.00	\$32.77	\$42.22	
3rd period 2nd yr	\$20.07	\$6.75	\$7.25	\$0.38	\$0.00	\$0.00	\$0.00	\$34.45	\$44.49	
4th period 2nd yr	\$21.76	\$6.75	\$7.25	\$0.38	\$0.00	\$0.00	\$0.00	\$36.14	\$47.02	
5th period 3rd yr	\$22.95	\$6.75	\$7.75	\$0.38	\$0.00	\$0.00	\$0.00	\$37.83	\$49.31	
6th period 3rd yr	\$24.64	\$6.75	\$7.75	\$0.38	\$0.00	\$0.00	\$0.00	\$39.52	\$51.84	
7th period 4th yr	\$25.83	\$6.75	\$8.25	\$0.38	\$0.00	\$0.00	\$0.00	\$41.21	\$54.13	
8th period 4th yr	\$27.52	\$6.75	\$8.25	\$0.38	\$0.00	\$0.00	\$0.00	\$42.90	\$56.66	
9th period 5th yr	\$28.71	\$6.75	\$8.75	\$0.38	\$0.00	\$0.00	\$0.00	\$44.59	\$58.95	
10th period 5th yr	\$30.39	\$6.75	\$8.75	\$0.38	\$0.00	\$0.00	\$0.00	\$46.27	\$61.47	
Apprentice	Percent									
1st period 1st yr	50.00	\$16.89	\$6.75	\$1.63	\$0.38	\$0.00	\$0.00	\$25.64	\$34.09	
2nd period 1st yr	55.00	\$18.57	\$6.75	\$1.63	\$0.38	\$0.00	\$0.00	\$27.33	\$36.62	
3rd period 2nd yr	60.00	\$20.26	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$31.77	\$41.90	
4th period 2nd yr	65.00	\$21.95	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$33.46	\$44.44	
5th period 3rd yr	70.00	\$23.64	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$35.15	\$46.97	
6th period 3rd yr	75.00	\$25.33	\$6.75	\$4.38	\$0.38	\$0.00	\$0.00	\$36.84	\$49.50	
7th period 4th yr	80.00	\$27.02	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$40.72	\$54.22	
8th period 4th yr	85.00	\$28.70	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$42.40	\$56.76	
9th period 5th yr	90.00	\$30.39	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$44.09	\$59.29	
10th period 5th yr	95.00	\$32.08	\$6.75	\$6.57	\$0.38	\$0.00	\$0.00	\$45.78	\$61.82	

Special Calculation Note :

Ratio :
4 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE*, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA,
PUTNAM, SANDUSKY, SENECA, WOOD, WYANDOT

Special Jurisdictional Note : In Erie County (covered by the city limits of Sandusky, Ohio) the following townships are included: (Groton, Margaretta, Oxford and Perkins)

Details :

The removal of all insulation materials whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breechings etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter/Sign Local 639 (Cleveland Area)

Change # : CN01-2006Loc639Cleve

Craft : Painter Effective Date : 01/03/2006 Last Posted : 01/03/2006

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Painter-Sign Painter		\$20.20	\$3.13	\$3.25	\$0.20	\$1.96	\$0.00	\$0.00	\$28.74	\$38.84	
Apprentice	Percent										
1000 hrs	40.00	\$8.08	\$3.13	\$3.25	\$0.20	\$1.07	\$0.00	\$0.00	\$15.73	\$19.77	
2000 hrs	50.00	\$10.10	\$3.13	\$3.25	\$0.20	\$1.22	\$0.00	\$0.00	\$17.90	\$22.95	
3000 hrs	60.00	\$12.12	\$3.13	\$3.25	\$0.20	\$1.37	\$0.00	\$0.00	\$20.07	\$26.13	
4000 hrs	70.00	\$14.14	\$3.13	\$3.25	\$0.20	\$1.51	\$0.00	\$0.00	\$22.23	\$29.30	
5000 hrs	75.00	\$15.15	\$3.13	\$3.25	\$0.20	\$1.59	\$0.00	\$0.00	\$23.32	\$30.89	
6000 hrs	80.00	\$16.16	\$3.13	\$3.25	\$0.20	\$1.66	\$0.00	\$0.00	\$24.40	\$32.48	
7000 hrs	85.00	\$17.17	\$3.13	\$3.25	\$0.20	\$1.74	\$0.00	\$0.00	\$25.49	\$34.07	
8000 hrs	90.00	\$18.18	\$3.13	\$3.25	\$0.20	\$1.81	\$0.00	\$0.00	\$26.57	\$35.66	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :
 ALLEN, ASHLAND, ASHTABULA, AUGLAIZE, BELMONT,
 CARROLL, CHAMPAIGN, COLUMBIANA, COSHOCTON,
 CRAWFORD, CUYAHOGA, DEFIANCE, ERIE, FULTON,
 GEAUGA, GUERNSEY, HANCOCK, HARDIN, HARRISON,
 HENRY, HOLMES, HURON, JEFFERSON, KNOX, LAKE,
 LOGAN, LORAIN, LUCAS, MAHONING, MARION,
 MEDINA, MERCER, MONROE, MORROW, NOBLE,
 OTTAWA, PAULDING, PIKE, PORTAGE, PUTNAM,
 RICHLAND, SANDUSKY, SENECA, SHELBY, STARK,
 SUMMIT, TRUMBULL, TUSCARAWAS, VAN WERT,
 WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 788
Commercial- Industrial New & Old

Change # : CN01-2008Loc788

Craft : Painter Effective Date : 10/16/2008 Last Posted : 10/16/2008

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Painter-Brush-Roll	\$21.80	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$30.51	\$41.41
Paperhanger	\$22.20	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$30.91	\$42.01
Structural Steel	\$23.40	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$32.11	\$43.81
Drywall	\$22.80	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$31.51	\$42.91
REFINERY Brush & Roll	\$24.59	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$33.30	\$45.60
Paper Hanger	\$24.79	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$33.50	\$45.90
Structural Steel	\$24.99	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$33.70	\$46.20
Drywall	\$25.59	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$34.30	\$47.10
POWERHOUSE										
Brush & Roll	\$26.24	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$34.95	\$48.07
Paper Hanger	\$26.50	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$35.21	\$48.46
Structural Steel	\$26.69	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$35.40	\$48.75
Drywall	\$26.74	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$0.00	\$35.45	\$48.82
Apprentice	Percent									
1st 6months	35.00	\$7.63	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$16.34	\$20.16
2nd 6months	45.00	\$9.81	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$18.52	\$23.42
3rd 6months	50.00	\$10.90	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$19.61	\$25.06
4th 6months	55.00	\$11.99	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$20.70	\$26.70
5th 6months	60.00	\$13.08	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$21.79	\$28.33
6th 6months	70.00	\$15.26	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$23.97	\$31.60
7th 6months	75.00	\$16.35	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$25.06	\$33.24
8th 6months	80.00	\$17.44	\$4.56	\$3.85	\$0.30	\$0.00	\$0.00	\$0.00	\$26.15	\$34.87

Special Calculation Note : Drywall -Apprentice Rates below:

- 1st 6 months 35% of Journeyman rate plus full fringes
- 2nd 6 months 40% of Journeyman rate plus full fringes
- 3rd 6 months 50% of Journeyman rate plus full fringes
- 4th 6 months 60% of Journeyman rate plus full fringes
- 5th 6 months 70% of Journeyman rate plus full fringes
- 6th 6 months 80% of Journeyman rate plus full fringes

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, CRAWFORD, ERIE, HANCOCK, HURON,
MARION, MORROW, OTTAWA, RICHLAND, SANDUSKY,
SENECA, WYANDOT

Special Jurisdictional Note :

Details :

Surfaces 40 feet above interior or exterior where material is applied or labor performed above ground level, rates apply down to ground level at \$.50 per hour above the applicable rate of pay.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Plasterer

Change # : CN01-2008Loc886

Craft : Cement Effective Date : 11/17/2008 Last Posted : 11/17/2008

Classification	Fringe Benefit Payments									Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other				
Plasterer	\$28.07	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.00	\$40.02	\$54.06		
Apprentice	Percent										
1st 6 months	50.00	\$14.04	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$26.36	\$33.38	
2nd 6 months	55.00	\$15.44	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$27.77	\$35.49	
3rd 6 months	60.00	\$16.84	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$29.17	\$37.59	
4th 6 months	70.00	\$19.65	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$31.98	\$41.80	
5th 6 months	75.00	\$21.05	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$33.38	\$43.91	
6th 6 months	80.00	\$22.46	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$34.79	\$46.01	
7th 6 months	90.00	\$25.26	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$37.59	\$50.22	
8th 6 months	95.00	\$26.67	\$4.70	\$3.50	\$0.25	\$0.00	\$3.50	\$0.38	\$39.00	\$52.33	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, DEFIANCE, ERIE, FULTON,
HANCOCK, HARDIN, HENRY, HURON, LOGAN, LUCAS,
MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY,
SENECA, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 46

Change # : CN01-2008Loc46

Craft : Bricklayer Effective Date : 06/05/2008 Last Posted : 06/05/2008

Classification	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Bricklayer	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99
Tile Layer- Terrazzo Mason- Marble Mason- Pointer Caulker Cleaner-Stone Mason-Block Layer	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99
Gunnite Mason- Refractory Mason-Sewer Mason	\$26.13	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$39.92	\$52.99
TILE & MARBLE HELPERS & FINISHERS	\$22.38	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$0.00	\$36.17	\$47.36
Apprentice	Percent								
1st year	55.00	\$14.37	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$28.16	\$35.35
2nd year	65.00	\$16.98	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$30.77	\$39.27
3rd year	80.00	\$20.90	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$34.69	\$45.15
4th year	92.00	\$24.04	\$5.80	\$7.50	\$0.49	\$0.00	\$0.00	\$37.83	\$49.85

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

Bricklayers thru Sewer Masons
3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY,
SENECA, WOOD*

Tile & Marble Finishers Ratio:

2 Mechanics to 1 Finisher
3 Mechanics to 2 Finishers
4 Mechanics to 2 Finishers
5 Mechanics to 3 Finishers

Special Jurisdictional Note : This jurisdiction also covers the Islands of Lake Erie North of Sandusky. In Wood: Townships of Perry and Bloom.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Plumber Pipefitter Local 50

Change # : CN01-2009Loc50

Craft : Plumber/Pipefitter Effective Date : 03/09/2009 Last Posted : 03/09/2009

Classification	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Plumber-Pipefitter	\$33.45	\$7.94	\$4.60	\$0.80	\$0.00	\$4.30	\$0.00	\$51.09	\$67.81
Metal Trades Helper 4th year	\$14.38	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$0.00	\$27.72	\$34.91
Metal Trades Helper 3rd year	\$13.88	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$0.00	\$27.22	\$34.16
Metal Trades Helper 2nd year	\$13.38	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$0.00	\$26.72	\$33.41
Metal Trades Helper 1st year	\$12.88	\$7.94	\$0.00	\$0.80	\$0.00	\$0.00	\$0.00	\$21.62	\$28.06
Apprentice	Percent								
1st Period	45.00	\$15.05	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$28.39	\$35.92
2nd Period	50.00	\$16.73	\$7.94	\$4.60	\$0.80	\$0.00	\$0.00	\$30.07	\$38.43
3rd Period	55.00	\$18.40	\$7.94	\$4.60	\$0.80	\$0.00	\$2.15	\$33.89	\$43.09
4th Period	60.00	\$20.07	\$7.94	\$4.60	\$0.80	\$0.00	\$2.15	\$35.56	\$45.60
5th Period	65.00	\$21.74	\$7.94	\$4.60	\$0.80	\$0.00	\$2.58	\$37.66	\$48.53
6th Period	70.00	\$23.41	\$7.94	\$4.60	\$0.80	\$0.00	\$2.58	\$39.33	\$51.04
7th Period	75.00	\$25.09	\$7.94	\$4.60	\$0.80	\$0.00	\$3.01	\$41.44	\$53.98
8th Period	80.00	\$26.76	\$7.94	\$4.60	\$0.80	\$0.00	\$3.01	\$43.11	\$56.49
9th Period	85.00	\$28.43	\$7.94	\$4.60	\$0.80	\$0.00	\$3.44	\$45.21	\$59.43
10th Period	90.00	\$30.11	\$7.94	\$4.60	\$0.80	\$0.00	\$3.44	\$46.89	\$61.94

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Apprentice to 1 Journeymen
 - 2 Apprentices to 2 Journeymen
 - 2 Apprentices to 2 - 3 Journeymen
 - 3 Apprentices to 4 - 5 Journeymen
 - 4 Apprentices to 6 - 8 Journeymen
 - 5 Apprentices to 9 - 10 Journeymen
 - 6 Apprentices to 11 - 13 Journeymen
 - 7 Apprentices to 14 - 15 Journeymen
 - 8 Apprentices to 16 - 18 Journeymen
 - 9 Apprentices to 19 - 20 Journeymen
 - 10 Apprentices to 21 - 25 Journeymen
 - 11 Apprentices to 26 - 30 Journeymen
 - 12 Apprentices to 31 - 35 Journeymen
 - 13 Apprentices to 36 - 40 Journeymen
- Each shop will be entitled to one (1) apprentice for every five (5) journeymen thereafter, in continuation of the above chart. One (1) journeymen must be employed to train and supervise the first

Jurisdiction (* denotes special jurisdictional note) :

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, WOOD

apprentice in any shop except a Master Plumber or Master Steamfitter working with the tools of the trade shall be entitled to one (1) apprentice.

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 245 Outside
Toledo Chapter

Change # : CN01-2007Loc245out

Craft : Lineman Effective Date : 09/01/2008 Last Posted : 05/02/2007

	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Electric-Lineman	\$33.15	\$4.75	\$0.99	\$0.30	\$0.00	\$5.80	\$0.00	\$44.99	\$61.56	
Traffic Signal & Lighting Journeyman	\$29.84	\$4.75	\$0.89	\$0.28	\$0.00	\$5.22	\$0.00	\$40.98	\$55.90	
Operator I	\$26.52	\$4.75	\$0.79	\$0.25	\$0.00	\$4.64	\$0.00	\$36.95	\$50.21	
Operator II	\$23.21	\$4.75	\$0.69	\$0.23	\$0.00	\$4.06	\$0.00	\$32.94	\$44.54	
Groundman / Truck Driver 12 Months & Over	\$19.82	\$4.75	\$0.59	\$0.20	\$0.00	\$3.46	\$0.00	\$28.82	\$38.73	
Groundman / Truck Driver 2nd 6 Months	\$16.66	\$4.75	\$0.49	\$0.18	\$0.00	\$2.91	\$0.00	\$24.99	\$33.32	
Groundman / Truck Driver 1st 6 Months	\$14.50	\$4.75	\$0.43	\$0.16	\$0.00	\$2.53	\$0.00	\$22.37	\$29.62	
TRAFFIC SIGNAL LIGHTING APPRENTICES:										
1st 6 months	\$17.90	\$4.75	\$0.53	\$0.19	\$0.00	\$3.13	\$0.00	\$26.50	\$35.45	
2nd 6 months	\$19.40	\$4.75	\$0.58	\$0.20	\$0.00	\$3.39	\$0.00	\$28.32	\$38.02	
3rd 6 months	\$20.89	\$4.75	\$0.62	\$0.21	\$0.00	\$3.65	\$0.00	\$30.12	\$40.57	
4th 6 months	\$22.38	\$4.75	\$0.67	\$0.22	\$0.00	\$3.91	\$0.00	\$31.93	\$43.12	
5th 6 months	\$23.87	\$4.75	\$0.71	\$0.23	\$0.00	\$4.17	\$0.00	\$33.73	\$45.67	
6th 6 months	\$26.86	\$4.75	\$0.80	\$0.26	\$0.00	\$4.70	\$0.00	\$37.37	\$50.80	
Lineman Apprentice	Percent									
1st 6 Mo	60.00	\$19.89	\$4.75	\$0.59	\$0.20	\$0.00	\$3.48	\$0.00	\$28.91	\$38.85
2nd 6 Mo	65.00	\$21.55	\$4.75	\$0.64	\$0.22	\$0.00	\$3.77	\$0.00	\$30.93	\$41.70
3rd 6 Mo	60.00	\$19.89	\$4.75	\$0.69	\$0.23	\$0.00	\$4.06	\$0.00	\$29.62	\$39.56
4th 6 Mo	75.00	\$24.86	\$4.75	\$0.74	\$0.24	\$0.00	\$4.35	\$0.00	\$34.94	\$47.37
5th 6 Mo	80.00	\$26.52	\$4.75	\$0.79	\$0.25	\$0.00	\$4.64	\$0.00	\$36.95	\$50.21
6th 6 Mo	85.00	\$28.18	\$4.75	\$0.84	\$0.27	\$0.00	\$4.93	\$0.00	\$38.97	\$53.06
7th 6 Mo	90.00	\$29.83	\$4.75	\$0.89	\$0.28	\$0.00	\$5.22	\$0.00	\$40.98	\$55.89

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

(1) Journeyman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, DEFIANCE, ERJE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeymen in the performance of his/her work on the ground, including the use of hand tools. A Groundmen, Under no circumstances , shall this classification climb poles, towers, ladders, or work from an elevated platform or bucket truck. Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Truck Driver Bldg & HevHwy Class 2
Locals 20,40,92,92b,100,175,284,438,377,505,637,908,957

Change # : CN1-2009BldgHevHwy

Craft : Truck Driver Effective Date : 06/04/2009 Last Posted : 06/04/2009

Classification	Fringe Benefit Payments									Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other				
Truck Driver CLASS 2 Tractor Trailer-Semi Tractor Trucks-Pole Trailers-Ready Mix Trucks-Fuel Trucks- Asphalt-Oil Spraybar men- 5 Axel & Over -Belly Dumps-End Dumps-Articulated Dump Trucks- Low boys-Heavy duty Equipment(irrespective of load carried) when used exclusively for transportation-Truck Mechanics (when needed)	\$22.50	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$0.00	\$34.01	\$45.26		
Apprentice	Percent										
First 6 months	64.00	\$14.40	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$25.91	\$33.11		
7-12 months	67.95	\$15.29	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$26.80	\$34.44		
13-18 months	71.99	\$16.20	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$27.71	\$35.81		
19-24 months	75.95	\$17.09	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$28.60	\$37.14		
25-30 months	80.00	\$18.00	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$29.51	\$38.51		
31-36 months	85.00	\$19.12	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$30.63	\$40.20		
37-42 months	90.00	\$20.25	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$31.76	\$41.89		
43-48 months	95.00	\$21.37	\$6.11	\$4.90	\$0.50	\$0.00	\$0.00	\$32.89	\$43.57		

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,
AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL,
CHAMPAIGN, CLARK, CLERMONT, CLINTON,
COLUMBIANA, COSHOCTON, CRAWFORD, DARKE,
DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE,
FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY,
HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY,
HIGHLAND, HOCKING, HOLMES, HURON, JACKSON,
JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN,
LORAIN, LUCAS, MADISON, MAHONING, MARION,
MEDINA, MEIGS, MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW, MUSKINGUM,
NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS,
SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON,
WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD,

WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spraybar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN02-2007Loc669

Craft : Sprinkler Fitter Effective Date : 08/10/2007 Last Posted : 08/10/2007

Classification	Fringe Benefit Payments									
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Sprinkler Fitter	\$31.00	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$0.00	\$44.90	\$60.40	
Apprentice	Percent									
GRADE1- CLASS1- 1st 6mo	50.00	\$15.50	\$5.96	\$0.00	\$0.30	\$0.00	\$0.25	\$22.01	\$29.76	
CLASS 2- 2nd 6mo	50.00	\$15.50	\$5.96	\$0.00	\$0.30	\$0.00	\$0.25	\$22.01	\$29.76	
CLASS3- 1st 6mo	55.00	\$17.05	\$7.00	\$3.10	\$0.30	\$0.00	\$0.25	\$27.70	\$36.23	
CLASS 4- 2nd 6mo	60.00	\$18.60	\$7.00	\$3.10	\$0.30	\$0.00	\$0.25	\$29.25	\$38.55	
CLASS 5 GRADE2- 1st 6mo	65.00	\$20.15	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$34.05	\$44.13	
CLASS6- 2nd 6mo	70.01	\$21.70	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$35.60	\$46.45	
CLASS7- 1st 6mo	75.00	\$23.25	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$37.15	\$48.78	
CLASS 8- 2nd 6mo	80.00	\$24.80	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$38.70	\$51.10	
CLASS 9- 1st 6mo	85.00	\$26.35	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$40.25	\$53.42	
CLASS 10- 2nd 6mo	90.01	\$27.90	\$7.00	\$3.10	\$0.30	\$0.00	\$3.50	\$41.80	\$55.75	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 01/01/2009 Last Posted : 08/23/2007

Classification	Fringe Benefit Payments										Total PWR	Overtime Rate
	BHR	H&W	Pension		App Tr.	Vac.	Annuity		Other			
Sprinkler Fitter	\$31.85	\$8.20	\$3.30		\$0.30	\$0.00	\$4.00		\$0.00	\$47.65	\$63.58	
Apprentice	Percent											
GRADE1- CLASS1- 1st 6mo	50.00	\$15.93	\$7.16	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$23.64	\$31.60		
CLASS 2- 2nd 6mo	50.00	\$15.93	\$7.16	\$0.00	\$0.30	\$0.00	\$0.25	\$0.00	\$23.64	\$31.60		
CLASS3- 1st 6mo	55.00	\$17.52	\$8.20	\$3.20	\$0.30	\$0.00	\$0.25	\$0.00	\$29.47	\$38.23		
CLASS 4- 2nd 6mo	60.00	\$19.11	\$8.20	\$3.20	\$0.30	\$0.00	\$0.25	\$0.00	\$31.06	\$40.61		
CLASS 5 GRADE2- 1st 6mo	65.00	\$20.70	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$36.40	\$46.75		
CLASS6- 2nd 6mo	70.01	\$22.30	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$38.00	\$49.15		
CLASS7- 1st 6mo	75.00	\$23.89	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$39.59	\$51.53		
CLASS 8- 2nd 6mo	80.00	\$25.48	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$41.18	\$53.92		
CLASS 9- 1st 6mo	85.00	\$27.07	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$42.77	\$56.31		
CLASS 10- 2nd 6mo	90.01	\$28.67	\$8.20	\$3.20	\$0.30	\$0.00	\$4.00	\$0.00	\$44.37	\$58.70		

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

'Work but not limited to:shall consist of the installation,dismantling,maintenance,repairs,adjustments,and corrections of all fire protection and fire control systems including the unloading,handling by hand,power equipment and installation of all piping or tubing,appurtenances and equipment pertaining thereto,including both overhead and underground water mains,fire hydrants and hydrant mains,standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto,also included shall be CO-2 and Cardox Systems, Dry Chemical Systems,Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 04/01/2009 Last Posted : 08/23/2007

	Fringe Benefit Payments										
	BHR	H&W	Pension		App Tr.	Vac.	Annuity		Other	Total PWR	Overtime Rate
Classification:											
Sprinkler Fitter	\$32.70	\$8.20	\$3.30		\$0.30	\$0.00	\$4.00		\$0.00	\$48.50	\$64.85
Apprentice	Percent										
GRADE1-CLASS1- 1st 6mo	50.00	\$16.35	\$7.16	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$27.36	\$35.53	
CLASS 2- 2nd 6mo	50.00	\$16.35	\$7.16	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$27.36	\$35.53	
CLASS3- 1st 6mo	55.00	\$17.99	\$8.20	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$30.04	\$39.03	
CLASS 4- 2nd 6mo	60.00	\$19.62	\$8.20	\$3.30	\$0.30	\$0.00	\$0.25	\$0.00	\$31.67	\$41.48	
CLASS 5 GRADE2- 1st 6mo	65.00	\$21.26	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$37.06	\$47.68	
CLASS6- 2nd 6mo	70.01	\$22.89	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$38.69	\$50.14	
CLASS7- 1st 6mo	75.00	\$24.53	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$40.32	\$52.59	
CLASS 8- 2nd 6mo	80.00	\$26.16	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$41.96	\$55.04	
CLASS 9- 1st 6mo	85.00	\$27.80	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$43.60	\$57.49	
CLASS 10- 2nd 6mo	90.01	\$29.43	\$8.20	\$3.30	\$0.30	\$0.00	\$4.00	\$0.00	\$45.23	\$59.95	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : CN01-2007Loc669

Craft : Sprinkler Fitter Effective Date : 01/01/2010 Last Posted : 08/23/2007

Classification	Fringe Benefit Payments									
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Sprinkler Fitter	\$32.70	\$8.90	\$3.40	\$0.30	\$0.00	\$4.25	\$0.00	\$49.55	\$65.90	
Apprentice	Percent									
GRADE1- CLASS1- 1st 6mo	50.00	\$16.35	\$7.86	\$0.00	\$0.30	\$0.00	\$0.25	\$24.76	\$32.94	
CLASS 2- 2nd 6mo	50.00	\$16.35	\$7.86	\$0.00	\$0.30	\$0.00	\$0.25	\$24.76	\$32.94	
CLASS3- 1st 6mo	55.00	\$17.99	\$8.90	\$3.20	\$0.30	\$0.00	\$0.25	\$30.64	\$39.63	
CLASS 4- 2nd 6mo	60.00	\$19.62	\$8.90	\$3.20	\$0.30	\$0.00	\$0.25	\$32.27	\$42.08	
CLASS 5 GRADE2- 1st 6mo	65.00	\$21.26	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$37.91	\$48.53	
CLASS6- 2nd 6mo	70.01	\$22.89	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$39.54	\$50.99	
CLASS7- 1st 6mo	75.00	\$24.53	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$41.18	\$53.44	
CLASS 8- 2nd 6mo	80.00	\$26.16	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$42.81	\$55.89	
CLASS 9- 1st 6mo	85.00	\$27.80	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$44.45	\$58.34	
CLASS 10- 2nd 6mo	90.01	\$29.43	\$8.90	\$3.20	\$0.30	\$0.00	\$4.25	\$46.08	\$60.80	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

OTHER IS: SPRINKLER FITTERS PROMOTION FUND.

Work but not limited to: shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Carbox Systems, Dry Chemical Systems, Foam Systems and all

other fire protection systems.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electric Locals 71 & 245
Under Ground Utilities (URD) PENDING

Change # : CN01-2007Locs71&245

Craft : Lineman Effective Date : 09/24/2007 Last Posted : 09/24/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Electric-Lineman	\$30.58	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$39.23	\$54.52	
Welder- Cable Splicer-X-ray Tech	\$30.58	\$3.75	\$0.80	\$0.08	\$0.00	\$4.02	\$0.00	\$39.23	\$54.52	
Equipment Mechanic "C"	\$19.78	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$26.71	\$36.60	
Equipment Mechanic "B"	\$22.09	\$3.75	\$0.58	\$0.06	\$0.00	\$2.91	\$0.00	\$29.39	\$40.44	
Equipment Mechanic "A"	\$24.40	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$32.06	\$44.26	
New Hires AFTER 9/1/02 Operator "C"	\$19.78	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$26.71	\$36.60	
Operator "B"	\$24.40	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$32.06	\$44.26	
Operator "A"	\$27.49	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$35.64	\$49.39	
Operator PRIOR to 9/1/02 1 yr or more	\$26.21	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$34.36	\$47.46	
Groundman /Truck Dr. 0-12 months	\$15.29	\$3.75	\$0.39	\$0.04	\$0.00	\$1.93	\$0.00	\$21.40	\$29.04	
Groundman/Truck Dr. 0 months to 12 mos w/CDL year	\$16.82	\$3.75	\$0.40	\$0.04	\$0.00	\$2.01	\$0.00	\$23.02	\$31.43	
Groundman /Truck Dr. 1 year or over	\$16.82	\$3.75	\$0.45	\$0.04	\$0.00	\$2.25	\$0.00	\$23.31	\$31.72	
Groundman/ Truck Dr. 1 year or over w/CDL	\$19.88	\$3.75	\$0.47	\$0.05	\$0.00	\$2.33	\$0.00	\$26.48	\$36.42	
Apprentice	Percent									
1st 6 Mo	60.00	\$18.35	\$3.75	\$0.48	\$0.05	\$0.00	\$2.41	\$0.00	\$25.04	\$34.21
2nd 6 Mo	65.00	\$19.88	\$3.75	\$0.52	\$0.05	\$0.00	\$2.61	\$0.00	\$26.81	\$36.75
3rd 6 Mo	70.00	\$21.41	\$3.75	\$0.56	\$0.06	\$0.00	\$2.81	\$0.00	\$28.59	\$39.29
4th 6 Mo	75.00	\$22.93	\$3.75	\$0.60	\$0.06	\$0.00	\$3.01	\$0.00	\$30.35	\$41.82
5th 6 Mo	80.00	\$24.46	\$3.75	\$0.64	\$0.06	\$0.00	\$3.21	\$0.00	\$32.12	\$44.36
6th 6 Mo	85.00	\$25.99	\$3.75	\$0.68	\$0.07	\$0.00	\$3.41	\$0.00	\$33.90	\$46.90
7th 6 Mo	90.00	\$27.52	\$3.75	\$0.72	\$0.07	\$0.00	\$3.61	\$0.00	\$35.67	\$49.43

Special Calculation Note : Operator "A" John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).
 Operator "B" Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.
 Operator "C" Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS,
AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL,
CHAMPAIGN, CLARK, CLERMONT, CLINTON,
COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA,
DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD,
FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA,
GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN,
HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES,
HURON, JACKSON, JEFFERSON, KNOX, LAKE,
LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS,
MADISON, MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN,
MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING,
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM,
RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS,
UNION, VAN WERT, VINTON, WARREN, WASHINGTON,
WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :**Details :**

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN02-2007Loc44

Craft : Elevator Effective Date : 02/22/2008 Last Posted : 02/22/2008

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Elevator Mechanic	\$38.43	\$8.78	\$4.96	\$0.55	\$3.07	\$2.00	\$1.45		\$59.24	\$78.45
Helper	\$26.90	\$8.78	\$4.96	\$0.55	\$1.61	\$2.00	\$1.01		\$45.81	\$59.26
0-6 months Probation	50.00	\$19.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$19.21		\$28.82
1st year	54.98	\$21.13	\$8.78	\$4.96	\$0.55	\$1.27	\$2.00	\$0.80	\$39.49	\$50.05
2nd year	65.00	\$24.98	\$8.78	\$4.96	\$0.55	\$1.50	\$2.00	\$0.94	\$43.71	\$56.20
3rd year	70.00	\$26.90	\$8.78	\$4.96	\$0.55	\$1.61	\$2.00	\$1.01	\$45.81	\$59.26
4th year	80.00	\$30.74	\$8.78	\$4.96	\$0.55	\$1.84	\$2.00	\$1.16	\$50.03	\$65.41

Special Calculation Note :

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN02-2009Loc44

Craft : Elevator Effective Date : 01/21/2009 Last Posted : 01/21/2009

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Amnity	Other			
Elevator Mechanic	\$39.43	\$9.53	\$5.46	\$0.55	\$3.15	\$2.75	\$1.48		\$62.35	\$82.06
Helper	\$27.60	\$9.53	\$5.46	\$0.55	\$1.66	\$2.75	\$1.04		\$48.59	\$62.39
0-6 months Probation	50.00	\$19.71	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$20.07		\$29.93
1st year	55.00	\$21.69	\$9.53	\$5.46	\$0.55	\$1.30	\$2.75	\$2.07	\$43.35	\$54.19
2nd year	65.00	\$25.63	\$9.53	\$5.46	\$0.55	\$1.54	\$2.75	\$2.44	\$47.90	\$60.71
3rd year	70.00	\$27.60	\$9.53	\$5.46	\$0.55	\$1.66	\$2.75	\$2.62	\$50.17	\$63.97
4th year	80.00	\$31.54	\$9.53	\$5.46	\$0.55	\$1.89	\$2.75	\$3.00	\$54.72	\$70.50

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN01-2007Loc44

Craft : Elevator Effective Date : 01/01/2010 Last Posted : 11/20/2007

	Fringe Benefit Payments							Total PWR	Overtime Rate	
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification:										
Elevator Mechanic	\$44.43	\$10.03	\$5.96	\$0.55	\$2.95	\$2.85	\$4.52	\$71.29	\$93.50	
Helper	\$32.90	\$10.03	\$5.96	\$0.55	\$1.77	\$2.85	\$2.62	\$56.68	\$73.13	
0-6 months Probation	50.00	\$22.21	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$22.57	\$33.68	
1st year	54.98	\$24.43	\$10.03	\$5.96	\$0.55	\$1.22	\$2.85	\$2.07	\$47.11	\$59.32
2nd year	65.00	\$28.88	\$10.03	\$5.96	\$0.55	\$1.44	\$2.85	\$2.44	\$52.15	\$66.59
3rd year	70.00	\$31.10	\$10.03	\$5.96	\$0.55	\$1.55	\$2.85	\$2.62	\$54.66	\$70.21
4th year	80.00	\$35.54	\$10.03	\$5.96	\$0.55	\$1.77	\$2.85	\$3.00	\$59.70	\$77.48

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding).

Prevailing Wage Rate Skilled Crafts

Name of Union: Elevator Local 44

Change # : CN01-2007Loc44

Craft : Elevator Effective Date : 01/01/2011 Last Posted : 11/20/2007

Classification	Fringe Benefit Payments								Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Elevator Mechanic	\$47.43	\$10.53	\$6.46	\$0.55	\$2.95	\$3.35	\$4.52	\$75.79	\$99.50	
Helper	\$35.90	\$10.53	\$6.46	\$0.55	\$1.77	\$3.35	\$2.62	\$61.18	\$79.13	
0-6 months Probation	50.00	\$23.71	\$0.00	\$0.00	\$0.00	\$0.00	\$0.36	\$24.07	\$35.93	
1st year	54.98	\$26.08	\$10.53	\$6.46	\$0.55	\$1.22	\$3.35	\$2.07	\$50.26	\$63.30
2nd year	65.00	\$30.83	\$10.53	\$6.46	\$0.55	\$1.44	\$3.35	\$2.44	\$55.60	\$71.01
3rd year	70.00	\$33.20	\$10.53	\$6.46	\$0.55	\$1.55	\$3.35	\$2.62	\$58.26	\$74.86
4th year	80.00	\$37.94	\$10.53	\$6.46	\$0.55	\$1.77	\$3.35	\$3.00	\$63.60	\$82.58

Special Calculation Note : OTHER IS :HOLIDAY & VACATION PAY

Ratio :

The total number of Helpers & Apprentices employed shall not exceed the number of Mechanics on any one job, except on jobs where (2) teams or more are working, (1) extra Helper or Apprentice may be employed for the first (2) teams and an extra Helper or Apprentice for each additional (3) teams.

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, CRAWFORD, DEFIANCE, FULTON, HANCOCK, HARDIN, HENRY, HURON, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

A Helper or Apprentice certified to weld shall be paid mechanic's rate when performing welding, (excluding tack welding.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Drywall Local 886

Change # : CN-012008Loc886

Craft : Cement Effective Date : 08/29/2008 Last Posted : 08/29/2008

		Fringe Benefit Payments									
		BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other	Total PWR	Overtime Rate	
Classification											
Drywallers		\$26.31	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$40.76	\$53.92	
Apprentice	Percent										
1st 6 months	50.00	\$13.16	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$27.60	\$34.18	
2nd 6 months	55.00	\$14.47	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$28.92	\$36.16	
3rd 6 months	60.00	\$15.79	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$30.24	\$38.13	
4th 6 months	70.00	\$18.42	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$32.87	\$42.08	
5th 6 months	75.00	\$19.73	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$34.18	\$44.05	
6th 6 months	80.00	\$21.05	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$35.50	\$46.02	
7th 6 months	90.00	\$23.68	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$38.13	\$49.97	
8th 6 months	95.00	\$24.99	\$4.70	\$3.50	\$0.25	\$2.50	\$3.50	\$0.00	\$39.44	\$51.94	

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprenticeal

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, ERIE, FULTON, HARDIN, HANCOCK, HENRY, HURON, LOGAN, LUCAS, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, VAN WERT, WILLIAMS, WOOD

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Ironworker Local 55

Change # : CN01-2009Loc55

Craft : Ironworker Effective Date : 07/01/2009 Last Posted : 05/08/2009

	Fringe Benefit Payments							Total PWR	Overtime Rate	
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other			
Classification										
Ironworker	\$28.00	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$46.39	\$60.39	
Pre-Engineered Metal Bldg, Siding & Decking	\$23.28	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$41.67	\$53.31	
Metal Fence & Guardrail Work	\$19.10	\$6.32	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$36.46	\$46.01	
Apprentice	Percent									
Probation 90 days	50.00	\$14.00	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$32.39	\$39.39
1st year	55.00	\$15.40	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$33.79	\$41.49
2nd year	70.00	\$19.60	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$37.99	\$47.79
3rd year	80.00	\$22.40	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$40.79	\$51.99
4th year	90.00	\$25.20	\$7.35	\$9.35	\$0.43	\$0.00	\$1.00	\$0.26	\$43.59	\$56.19

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

4 Journeyman to 1 Apprentice
Ornamental Work: 2 Journeymen to 1 Apprentice
Spinning Cables on Suspension Bridges:
1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
CRAWFORD*, DEFIANCE*, ERIE*, FULTON, HANCOCK,
HENRY, HURON*, LUCAS, OTTAWA, PUTNAM*,
SANDUSKY, SENECA, WILLIAMS*, WOOD, WYANDOT*

Special Jurisdictional Note : Crawford-From where Hwy #598 & #30 meet through W.Liberty to the Northern Border & from said Hwy junction point due west to the border.

Defiance-South from where Route #66 meets the Northern Border to the Eastern County Border.

Erie-West of Columbus Ave North to Sandusky Bay, West of Columbus Ave to Route 4 to Route 99 -all areas West of said Routes.

Huron-West from the Northern Border through Monroeville and Willard territory West of Route #99.

Putnam-East from the Northern Border through Miller City to where #696 meets the Southern Border.

Williams- East from Pioneer through Stryker to Southern Border.

Wyandot-North of Route #30.

Details :

Every employer having one or more projects is required to employ apprentices in accordance to the above Ratio Schedules.

Prevailing Wage Rate Laborers

Name of Union: Labor HevHwy 3

Change # : CN01-2009HevHwy3

Classification : Laborer Effective Date : 05/01/2009 Last Posted : 03/06/2009

	BHR	H&W	Pension	App Tr.	Total PWR	Overtime Rate
Classification						
Group 1	\$25.27	\$4.80	\$2.50	\$0.25	\$32.82	\$45.46
Group 2	\$25.44	\$4.80	\$2.50	\$0.25	\$32.99	\$45.71
Group 3	\$25.77	\$4.80	\$2.50	\$0.25	\$33.32	\$46.21
Group 4	\$26.22	\$4.80	\$2.50	\$0.25	\$33.77	\$46.88
Watch Person	\$18.00	\$4.80	\$2.50	\$0.25	\$25.55	\$34.55
APPRENTICES						
0-1000 hrs	\$15.16	\$4.80	\$2.50	\$0.25	\$22.71	\$30.29
1001-2000 hrs	\$17.69	\$4.80	\$2.50	\$0.25	\$25.24	\$34.09
2001-3000 hrs	\$20.22	\$4.80	\$2.50	\$0.25	\$27.77	\$37.88
3001-4000 hrs	\$22.74	\$4.80	\$2.50	\$0.25	\$30.29	\$41.66
More than 4000 hrs	\$25.27	\$4.80	\$2.50	\$0.25	\$32.82	\$45.46

Special Calculation Note : Watchmen have no Apprentices

Classification Description :

Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Ratio: 1 Journeymen to 1 Apprentice
4 Journeymen to 1 Apprentice thereafter

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker (Swimming) Pool Construction Laborer, Utility Man, Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), Lead Abatement, Hazardous Waste (level C)

Group 3

Blast and Powder Person, Muckers (with miners), Wrencher (mechanical joints & utility pipeline), Yarnier, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person, Grade Checker

Group 4

Miner, Welder, Gunnite Nozzle Person

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SCIOTO, SENECA, SHELBY, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note :

Prevailing Wage Rate Laborers

Name of Union: Labor Local 574

Change # : CN01-2009Loc574

Classification : Laborer Effective Date : 05/01/2009 Last Posted : 03/30/2009

	BHR	H&W	Pension	App Tr.	Total PWR	Overtime Rate
Classification						
Laborer Group 1	\$23.15	\$4.80	\$2.50	\$0.20	\$30.65	\$42.22
Group 2	\$23.45	\$4.80	\$2.50	\$0.20	\$30.95	\$42.67
Group 3	\$23.65	\$4.80	\$2.50	\$0.20	\$31.15	\$42.97
Group 4	\$23.85	\$4.80	\$2.50	\$0.20	\$31.35	\$43.28
Group 5	\$13.00	\$4.80	\$2.50	\$0.20	\$20.50	\$27.00

Classification Description :

Group 1

Building & Construction Laborer, Signalman, Flagman, Tool Cribman, Carpenter Tender, Finisher Tender, Concrete Handler, Utility Construction Laborer, Guard Rail Erectors, Fence Installer, Caulkers, Water Trucks, and Hazardous Waste (Level A)

Group 2

Bottom Man, Grade Checker, Pumps (3inch or under), off road trucks, Concrete Saws, Fork Lift, Skid Steer, Concrete Specialist, Vibrator and Tamp Person, Tunnel laborer, Pipe Layer, Air and Power Driven Tools, Burner on Demolition Work, Swinging Scaffold, Mucker, Caisson Worker, Cofferdam Worker, Powder Men and Dynamite Blaster, Creosote Worker, Form Setter, Laser Beam Set-up Man, and Hazardous Waste (Level B)

Group 3

Mason Tender, Scaffold Builder, Mortar Mixer, Plasterer Tender, Hod Carrier, Stone Mason Tender, Gunnite Operator and Hazardous Waste (Level C)

Group 4

Hazardous Waste (Level D)

Group 5

Watchman

Hazardous Waste Removal and Lead Abatement:

Level A

Only in established "safe zones" may consist of, from normal work clothes to normal skin protection such as gloves, face shields goggles, coveralls and occasionally respiratory protection.

Level B

Protective equipment includes a protective suit and an air purifying respirator (APR) with the appropriate filter canisters. The ensemble is used when the contaminants are reliably known not to be hazardous to the skin and not IDLH (Immediately Dangerous to Life or Health) and correct filter protection is available.

Level C

Protective equipment includes a chemically resistant splash suit and a SCBA or Airline Fed Respirator. This ensemble is required when the situation is very hazardous, such as oxygen deficient atmospheres, IDLH atmospheres, or confined space entries.

Level D

Protective equipment is required when the area has been determined to contain extremely toxic contaminants or contaminants unknown but may be expected to be extremely toxic and/or immediately dangerous to life and health.

Jurisdiction (* denotes special jurisdictional note) :

HANCOCK, HARDIN, MARION, SENECA, WYANDOT

Special Jurisdictional Note :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 46

Change # : CN01-2009Loc46

Craft : Bricklayer Effective Date : 06/01/2009 Last Posted : 05/22/2009

	Fringe Benefit Payments							Total PWR	Overtime Rate
	BHR	H&W	Pension	App Tr.	Vac.	Annuity	Other		
Classification									
Bricklayer	\$26.64	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$0.00	\$41.17	\$54.49
Tile Layer- Terrazzo Mason- Marble Mason- Pointer Caulker Cleaner-Stone Mason-Block Layer	\$26.64	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$0.00	\$41.17	\$54.49
Gunnite Mason- Refractory Mason-Sewer Mason	\$26.64	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$0.00	\$41.17	\$54.49
TILE & MARBLE HELPERS & FINISHERS	\$22.89	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$0.00	\$37.42	\$48.87
Apprentice	Percent								
1st year	55.00	\$14.65	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$29.18	\$36.51
2nd year	64.95	\$17.30	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$31.83	\$40.48
3rd year	79.97	\$21.30	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$35.83	\$46.49
4th year	92.00	\$24.51	\$6.05	\$7.99	\$0.49	\$0.00	\$0.00	\$39.04	\$51.29

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :
Bricklayers thru Sewer Masons
3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY*,
SENECA

Tile & Marble Finishers Ratio:
2 Mechanics to 1 Finisher
3 Mechanics to 2 Finishers
4 Mechanics to 2 Finishers
5 Mechanics to 3 Finishers

Special Jurisdictional Note : This jurisdiction also covers the Islands of Lake Erie North of Sandusky.

Details :

ATTACHMENT 13: CONTRACTING DEFINITIONS

A

Addenda or Addendum	Written or graphic instrument issued prior to the RFP Proposal deadline which modifies or interprets the proposed Contract Documents by additions, deletions, clarifications, or corrections. Addenda become part of the Contract Documents when the Performance Contract is executed.
Alternate	A change in the proposed Project scope, alternate materials, or methods of construction and an amount stated on the RFP Proposal to be added to or deducted from the base RFP Proposal if the corresponding Alternate is incorporated into the Contract.
Alternative Dispute Resolution	A voluntary and non-binding process for the administrative review, consideration, and attempted settlement of a dispute, without resort to judicial process including negotiation and mediation, but not arbitration.
Applicable Law	All applicable federal, state, and local codes, statutes, ordinances, and regulations in the performance of the Work on the Project.
Approved Equal	A component listed in the Specifications after the Standard.
As-Built Documents	Documents, including, but not limited to, Drawings, Addenda, Specifications, executed Change Orders, and other elements of the Contract Documents which the Contractor annotates and otherwise modifies to indicate changes made during the construction process, the location of concealed and buried items, and other information useful to the Owner throughout the life of the completed Project.

B

Building Information Model or BIM	A digital representation of physical and functional characteristics of a facility; a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle, which is defined as existing from earliest conception to demolition.
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C

Certification of Contract Completion	A form used to document that the Contractor's construction of the Work is complete, and the Contractor has complied with all conditions precedent to final payment and release of retainage. This form may also be used to document partial completion.
Certified Claim	A demand or assertion, initiated by written notice, certified by the Contractor seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract.
Change Order	A document, executed by the Owner and the Contractor, which modifies the Contract.

Claim Affidavit	A sworn document used in conjunction with filing a lien, which contains a claim on the funds that are due to the Contractor, in favor of a Person supplying labor, materials, or services for the value of labor, materials, or services supplied.
Conformed Documents	Contract Documents with all Addenda items incorporated by the Contractor, published, and issued to the Owner.
Construction Progress Schedule	The critical path schedule for performance of the Contract; showing the time for completing construction of the Work within the Contract Time; the planned sequence for performing the various components of construction of the Work; the interrelationship between the activities of the Contractor, Subcontractors, Material Suppliers, and the Owner; and the Contractors' resource and cost loading information; as periodically updated during the performance of the Work.
Contract	The state of legal obligation entered into by the Owner and the Contractor, whereby they have agreed to an exchange of certain acts, materials, equipment, and services for certain monetary consideration, under all terms and conditions specified in the Contract Documents, which shall remain in full force and effect until such time as all obligations under the Contract have been lawfully and completely discharged, or the Contract is terminated under other conditions specified in the Contract Documents.
Contract Completion	The date established in the Contract, including adjustments authorized by executed Change Orders, by which deficiencies listed in the Punch List are corrected, the Contractor's construction of the Work is 100 percent complete, and the Contractor has complied with conditions precedent to final payment and release of retained funds.
Contract Documents	Collectively, the documents that constitute the substance of the Contract including, but not limited to, the Request for Proposals, Drawings, Specifications, Addenda if any, General Conditions of the Contract, Wage Rates; and the executed Performance Contract, Service Agreement, Performance Bond, Guarantee Bond, and Change Orders if any.
Contract Sum	The amount stipulated in the Performance Contract that is the total amount payable to the Contractor for performance of construction of the Work, including adjustments authorized by executed Change Orders.
Contract Time	The period stipulated in the Performance Contract for performance of construction of the Work, in consecutive days, beginning and ending on the dates established by the Notice to Proceed, including adjustments authorized by executed Change Orders.
Contractor	A Person, which is party to the Contract for the performance of Work on the Project in cooperation with Separate Contractors and Persons, and in accordance with the Contract Documents.
Contractor Payment Request	The form furnished by the Owner that is to be used by the Contractor in requesting payments and which, when signed by the Contractor, shall serve as an affidavit that payments requested are in proportion to the Work completed as shown on the Schedule of Values.

Contractor's Punch List A document prepared by the Contractor which consists of a list of items of Work to be completed or corrected by the Contractor as a condition precedent to the Owner issuing the Punch List.

Costs of Recovery Costs incurred by a Contractor for acceleration of the Work in order to recover from a delay or other impact in which the Work falls behind the approved Construction Progress Schedule.

D

Day A calendar day of 24 hours measured from midnight to midnight, unless otherwise expressly specified to mean a business day.

Defective Work Work that does not conform to the Contract Documents; or does not meet the requirements of any applicable statute, rule or regulation, inspection, reference standard, test or approval; or has been damaged prior to final payment, unless responsibility for the protection thereof has been expressly assumed by the Owner; or that is not free from defects in workmanship, materials or equipment during the period of any warranty or guarantee.

Drawings Graphic portions of the Contract Documents, showing the design, type of construction, location, dimension, and character of the Work to be provided by the Contractor, which generally includes plans, elevations, sections, details, schedules, diagrams, notes, and text.

E

Enclosure, Permanent The condition in which the permanent exterior walls and roofs are in place, insulated and weather tight, and permanent windows and entrances are in place.

Enclosure, Temporary The condition in which the permanent exterior walls and roofs are in place, insulated and weather tight, and windows and entrances are provided with suitable temporary enclosures.

Energy Conservation Measures or ECM An installation or modification of an installation in, or a remodeling of, an existing building in order to reduce the Owner's energy consumption and operating costs.

Extra Materials Materials required by the Contract Documents which are not incorporated into the Project but which are given to the Owner to be used for future maintenance or repairs.

F

Field Work Order A written document prepared and executed by the Owner that directs a change in the Work.

Final Acceptance The Owner's acceptance of the construction Work performed by the Contractor after Certification of Contract Completion.

Final Inspection The final review of the construction Work of the Contractor by the Owner to determine whether issuance of the Certificate of Contract Completion is appropriate.

furnish Supply and deliver to the Site, or other specified location, ready for installation.

G

General Conditions The General Conditions of the Contract.

Guarantee Bond A bond or other instrument of security submitted by the Contractor, in a form provided by the Owner, to provide assurance that the Contractor will achieve the energy conservation savings stated in the Contractor's RFP Proposal.

H

Hazardous Materials Any material, substance, pollutant, or contaminant that is defined, regulated, referenced, or classified in the Comprehensive Environmental Response, Compensation and Liability Act, the Federal Water Pollution Control Act, the Resource Conservation and Recovery Act, the Clean Air Act, the Hazardous Materials Transportation Uniform Safety Act, the Toxic Substances Control Act, or any other Applicable Law relating to any hazardous, toxic, or dangerous waste, substance, or material. Any substance or material that, after release into the environment or upon exposure, ingestion, inhalation, or assimilation, either directly from the environment or directly by ingestion through food chains, will, or may reasonably be anticipated to, cause death, disease, behavior abnormalities, cancer or genetic abnormalities and specifically includes, but is not limited to, asbestos, polychlorinated biphenyls ("PCBs"), radioactive materials, including radon and naturally occurring radio nuclides, natural gas, natural gas liquids, liquefied natural gas, synthetic gas, oil, petroleum and petroleum-based derivatives and urea formaldehyde.

I

install Put into use or place in final position, complete and ready for intended service or use.

L

Liquidated Damages A sum established in the Contract Documents, to be paid to the Owner because of the Contractor's failure to complete construction of the Work, or a portion thereof, within the Contract Time.

M

Material Supplier A Person who furnishes materials or supplies on the Project.

mediation A voluntary process in which a neutral third party meets with the parties who have a disagreement or dispute and attempts to facilitate a mutually satisfactory resolution.

Milestone A significant date or event in the development of construction of the Work identified in the Contract Documents and illustrated on the Construction Progress Schedule.

N

negotiation A form of Alternative Dispute Resolution in which all parties involved are represented by those invested with the authority to agree to a determination of an adjustment in the Contract Sum, Contract Time, or both.

Notice of Commencement A notice prepared by the Owner identifying the Project, the Contractor, the Contractor's Performance Bond Surety, and the name of the Owner's representative upon whom a Claim Affidavit may be served.

Notice of Intent to Award A written notice provided by the Owner to the apparent successful Offeror stating that upon satisfactory compliance with all conditions precedent for execution of a Contract within the time specified, the Owner intends to execute a Contract with the Offeror.

Notice to Proceed A written notice provided by the Owner authorizing the Contractor to proceed with construction of the Work and establishing the dates for commencement and completion of construction of the Work.

O

Offeror A Person that submitted an RFP Proposal.

Owner Owens Community College

P

Partial Occupancy The Owner occupies or uses a portion of the Project prior to Contract Completion, temporary occupancy is approved by authorities having jurisdiction, and items of construction of Work cannot be completed until a subsequent date.

Performance Bond A performance and payment bond submitted by the Contractor, in a form provided by the Owner, to provide assurance that the Contractor will perform the construction of the Work of the Contract, including making required payments to Subcontractors and Materials Suppliers.

Performance Contract The form furnished by the Owner that, when completed and signed by the Contractor and the Owner, and approved by the Attorney General of the State, evidences entry into the Contract.

Person	An individual, corporation, business trust, estate, partnership, association, or other public or private entity.
Project	An energy conservation public improvement, for which the Work is performed under the Contract Documents.
Project Manager	A permanent employee of the Owner assigned to the Project and authorized to perform specific responsibilities.
Proposal	The offer of a Contractor to perform the Work set forth in a Proposal Request.
Proposal Request	A document issued after execution of the Contract requesting a Proposal from the Contractor, which may initiate a Change Order to modify the Contract.
Punch List	A document listing items of Work requiring correction or completion by the Contractor as a condition precedent to Contract Completion.

R

Record Documents	Electronic files and printed documents of all nature prepared by the Contractor, which incorporate the information shown on the Contractor's As-Built Documents. They consist of the "Record Drawings" and "Record Project Manual," the Certification of Contract Completion (as complete), Contractor's Warranty, Manufacturers' Warrantees, Certificate(s) of Occupancy, approved shop drawings and other action submittals, Field Work Orders, Proposal Requests, Requests for Interpretation, Addenda, Change Orders, Balancing Reports, and the final version of the approved Construction Progress Schedule.
Request for Change Order	A written notice from the Contractor accompanied by a Proposal for a change in the Work.
Request for Interpretation	A written request to the Owner seeking an interpretation or clarification of the Contract Documents.
Request for Proposals or RFP	An invitation for Offerors to submit an RFP Proposal for the Project.
RFP Proposal	A written proposal to perform the Contract, submitted in response to the RFP, accompanied by other required documents.

S

Samples	Physical examples furnished by the Contractor to illustrate materials, equipment or workmanship and establish criteria by which the Work shall be judged.
Schedule of Values	A full, accurate, and detailed statement furnished by the Contractor reflecting a defined breakdown of the Contract Sum.
Separate Contractor	A contractor, other than the Contractor, that is performing work on the Project.

Service Agreement	The agreement between the Owner and the Contractor, executed simultaneously with the Performance Contract, whereby the Contractor agrees to (1) perform services upon the Energy Conservation Measures installed by the Contractor under the Contract, and (2) guarantee certain energy and operational savings from the installation of the Energy Conservation Measures.
Shop Drawings	Drawings, diagrams, illustrations, schedules, performance charts, brochures, catalog data and other data specially prepared or provided by the Contractor, a Subcontractor or a Material Supplier to illustrate some portion of the Work. Shop Drawings are not Contract Documents.
Site	The location designated for the Project.
Specifications	Those portions of the Contract Documents consisting of detailed written administrative, procedural, and technical requirements for the construction of the Work, whether physically on the Drawings or bound in separate volume(s), including identification of acceptable materials, methods, equipment, quality, and workmanship.
Standard	A component listed first in the Specifications.
State	The State of Ohio
Subcontractor	A Person who undertakes to perform any part of the Work on the Project under a contract with the Contractor.
Substitution	An article, device, material, equipment, form of construction, or other item, proposed by a prospective Offeror prior to the RFP Proposal deadline and approved by the Owner by Addendum, for incorporation or use in the Work as being functionally and qualitatively equivalent to essential attributes of a Standard or Approved Equal specified in the Contract Documents.
Supplementary Conditions	Amendments to the General Conditions, issued as a separate document, which describe conditions unique to a particular Project, which may include provisions regarding the assignment of responsibility for refuse removal, safety and security precautions and programs, temporary Project facilities and utilities, weather and fire protection, scaffolding and equipment, materials and services to be used commonly by the Contractor and requiring the Contractor to provide assistance in the utilization of any applicable equipment system, preparation of operation and maintenance manuals, and training of Owner personnel for operation and maintenance of the Project.
Surety	A Person providing a Performance Bond or a Guarantee Bond to the Contractor, as applicable, to indemnify the State against all direct and consequential damages suffered by the Contractor's failure to perform the Contract and to pay all lawful claims of Subcontractors, Material Suppliers and laborers, as applicable, or of the Contractor to achieve the energy conservation savings stated in the Contractor's RFP Proposal.

W

- Work The labor, materials, equipment, and services, individually or collectively which are required by the Contract Documents, to be performed or provided by the Contractor for the Project. (upper case "W")
- work The activity performed by an individual (not the Contractor) which contributes to the installation of a product, component, or system; or which contributes to the removal or demolition of a product, component, or system. (lower case "w")

ATTACHMENT 14:
PERFORMANCE CONTRACT AND RELATED FORMS

This Attachment 14 contains the following:

1. Performance Contract
2. Delinquent Personal Property Tax Statement, Lucas County
3. DMA Certification
4. Performance and Payment Bond
5. Supplementary Conditions

By submitting an RFP Proposal under this RFP, the Offeror understands and agrees that the contents of the Performance Contract and the Supplementary Conditions contained herein are non-negotiable and the Selected Offeror shall not be permitted to modify these documents in any manner. The Delinquent Personal Property Tax Statement, DMA Certification, and Performance and Payment Bond must all be properly executed as a condition precedent to Contract execution.

PERFORMANCE CONTRACT

This Contract, as evidenced by this Performance Contract, is made by and between:

[Insert Name of Contractor]

(the "Contractor") and Owens Community College (the "Owner").

CONTRACT DOCUMENTS

In addition to the terms and conditions of this Performance Contract, incorporated into this Contract are the following Contract Documents:

- Schedule A: Standard Conditions of Contract for Construction
 - Schedule A-Exhibit 1: Scope of Work
 - Schedule A-Exhibit 2: Performance and Payment Bond Form
 - Schedule A-Exhibit 3: Contracting Definitions
 - Schedule A-Exhibit 4: General Conditions of the Contract
 - Schedule A-Exhibit 5: Supplementary Conditions
 - Schedule A-Exhibit 6: Wage Rate Requirements
 - Schedule A-Exhibit 7: Construction Progress Schedule
 - Schedule A-Exhibit 8: Payment Schedule
- Schedule B: Service Agreement
 - Schedule B-Exhibit 1: Guaranteed Savings Schedule
 - Schedule B-Exhibit 2: Baseline Energy Consumption
 - Schedule B-Exhibit 3: Guarantee Bond Form
- Schedule C: Owner's Request for Proposal
 - Schedule C-Exhibit 1: Owner's Request for Proposal No. ENERGY 01 ("RFP"), dated October 2, 2009
 - Schedule C-Exhibit 2: RFP Addendum Issued *[Insert Date]*

In consideration of the mutual promises herein contained, the Owner and the Contractor agree as set forth below:

ARTICLE 1

- 1.1 The Contractor shall perform the entire Work described in the Contract Documents and reasonably inferable as necessary to produce the results intended by the Contract Documents for:
 - Contract No. ENERGY 01
 - Energy Conservation Project
 - Owens Community College
- 1.2 The Contractor shall install identifiable Energy Conservation Measures, facility improvement measures, and operational efficiency improvements as delineated in the Contract Documents, which will result in energy savings or allow the Owner to avoid future capital or operational costs ("Guaranteed Savings"), as set forth in the Service Agreement (Schedule B).
- 1.3 After installation of the Energy Conservation Measures, facility improvement measures, and operational efficiency improvements delineated in the Contract Documents, the Contractor shall provide the services identified in the Service Agreement (Schedule B), which include services that are necessary to monitor, measure, and achieve the identified Guaranteed Savings.
- 1.4 The Owner shall take all actions identified in this Performance Contract that are necessary to achieve the Guaranteed Savings.

- 1.5 The Owner shall provide the Contractor, Separate Contractors, or other Persons reasonably necessary for the performance of the Work, with access to the Site which is reasonably necessary to effectuate the Work. Notwithstanding the foregoing, the Owner reserves the right to restrict and/or deny access to the facilities to any of such foregoing Persons if such restriction or denial is based upon the Owner's reasonable safety and/or security concerns. The Owner may request criminal background checks on any Person being provided access to the Site by, or through, the Contractor.

ARTICLE 2

- 2.1 The Owner shall pay for the performance of the construction Work of this Contract, subject to additions and deductions as provided in the Contract Documents, the Contract Sum of *[Insert Total Installation Amount]*, comprised of the following:

RFP Proposal Amount	\$ <i>[Insert RFP Proposal Amount]</i>
Alternate <i>[Insert Alternates Awarded]</i>	\$ <i>[Insert Alternate Amounts]</i>

- 2.2 The Owner shall pay the Contractor upon receiving Contractor Payment Request(s) as provided in the Contract Documents.

ARTICLE 3

- 3.1 The Contractor shall diligently prosecute and complete all Work such that Final Acceptance occurs on or before *[Insert Number of Days]* consecutive days, following the date of the Notice to Proceed, unless an extension of time is granted by the Owner in accordance with the Contract Documents. The period established in this paragraph is referred to as the Contract Time.
- 3.2 The Contractor shall perform and complete all construction Work under the Contract within the established Contract Time, and each applicable portion of the Work must be completed upon its respective Milestone date, unless the Contractor timely requests, and the Owner grants, an extension of time in accordance with the Contract Documents.
- 3.3 The Contractor's failure to complete all construction of the Work within the period of time specified, or failure to have the applicable portion of the Work completed upon any Milestone date, shall entitle the Owner to retain or recover from the Contractor, as Liquidated Damages, and not as penalty, the applicable amount set forth in the following table for each and every calendar day thereafter until Contract Completion or the date of completion of the applicable portion of the Work, unless the Contractor timely requests, and the Owner grants, an extension of time in accordance with the Contract Documents. The Liquidated Damages amount is applicable to Milestone dates only when so stated in this Contract.

LIQUIDATED DAMAGES SCHEDULE

<u>Contract Amount</u>	<u>Dollars Per Day</u>
Less than \$50,000	\$150
From \$50,000.01 to \$150,000	\$250
From \$150,000.01 to \$500,000	\$500
From \$500,000.01 to \$2,000,000	\$1,000
From \$2,000,000.01 to \$5,000,000	\$2,000

From \$5,000,000.01 to \$10,000,000	\$2,500
More than \$10,000,000	\$3,000

- 3.4 The Owner's right to recover the Liquidated Damages amount does not preclude any right of recovery for actual damages.
- 3.5 The Service Agreement shall commence on *[MM, DD, YYYY]* and shall conclude 5 years from the date that the Owner executes the Final Certification of Contract Completion. The Owner shall have the option, in its sole discretion, to renew the Service Agreement for 5 additional terms of 1 year each. The term of the Service Agreement, including any renewals, shall be completed no later than 10 years from the date that the Owner executes the Final Certification of Contract Completion.

ARTICLE 4

- 4.1 Pursuant to Schedule B, the Contractor guarantees to the Owner that the facilities shall realize certain savings under this Contract. In order to ensure payment of any savings shortfall as provided in Schedule B, the Contractor shall provide throughout the term of this Contract (including any Partial Guarantee Year) a Guarantee Bond payable to the Owner in the amount of the guaranteed savings. The form of the Guarantee Bond is attached hereto as Schedule B, Exhibit 4.
- 4.2 In lieu of a Guarantee Bond required in this Performance Contract, the Contractor may provide a Letter of Credit for the guaranteed savings under the same terms and conditions as set forth in this Article 4.
- 4.3 The Contractor's failure to maintain a Guarantee Bond during the term of this Contract shall be considered a default under this Contract.

ARTICLE 5

- 5.1 The Contract Documents embody the entire understanding of the parties and form the basis of the Contract between the Owner and the Contractor. The Contract Documents are incorporated by reference into this Performance Contract as if fully rewritten herein.
- 5.2 The Contract and any modifications, amendments, or alterations thereto shall be governed, construed, and enforced by and under the laws of the State of Ohio.
- 5.3 If any term or provision of the Contract, or the application thereof to any Person or circumstance, is finally determined, to be invalid or unenforceable by a court of competent jurisdiction, the remainder of the Contract or the application of such term or provision to other Persons or circumstances, shall not be affected thereby, and each term and provision of the Contract shall be valid and enforced to the fullest extent permitted by law.
- 5.4 The Contract shall be binding on the Contractor and Owner, their successors and assigns, in respect to all respective covenants and obligations contained in the Contract Documents, but the Contractor may not assign the Contract without the Owner's prior written consent.
- 5.5 If there is a conflict between this Performance Contract and any of the Contract Documents incorporated herein, the following shall be the order of control:
1. This Performance Contract
 2. Schedule A: Standard Conditions of Contract for Construction
 3. Schedule C: Owner's RFP
 4. Schedule B: Service Agreement

ARTICLE 6

- 6.1 It is expressly understood by the Contractor that none of the rights, duties, and obligations described in the Contract Documents shall be valid and enforceable unless the Director of the Office of Budget and Management, if applicable, first certifies that there is a balance in the Owner's appropriation not already encumbered to pay existing obligations.
- 6.2 The Contract shall become binding and effective upon execution by the Owner and approval by the Attorney General.

ARTICLE 7

- 7.1 This Performance Contract has been executed in several counterparts, each of which shall constitute a complete original Performance Contract which may be introduced in evidence or used for any other purpose without production of any other counterparts.

ARTICLE 8

- 8.1 The Contractor hereby certifies that all applicable parties listed in Division (I)(3) or (J)(3) of O.R.C. Section 3517.13 are in full compliance with Divisions (I)(1) and (J)(1) of O.R.C. Section 3517.13.
- 8.2 The Contractor represents, warrants, and certifies that it and its employees engaged in the administration or performance of the Contract are knowledgeable of and understand the Ohio Ethics and Conflicts of Interest laws and Executive Order No. 2007-01S. The Contractor further represents, warrants, and certifies that neither the Contractor nor any of its employees will do any act that is inconsistent with such laws and Executive Order. The Contractor understands that failure to comply with Executive Order 2007-01S is, in itself, grounds for termination of the Contract and may result in the loss of other contracts with the State of Ohio
- 8.3 The Contractor certifies that it is currently in compliance with, and will continue to adhere to, the requirements of Ohio ethics laws.

ARTICLE 9

- 9.1 The Contractor represents and warrants that it has not provided any material assistance, as that term is defined in O.R.C. Section 2909.33(C), to any organization identified by, and included on, the United States Department of State Terrorist Exclusion List and that it has truthfully answered "no" to every question on the "Declaration Regarding Material Assistance/Non-assistance to a Terrorist Organization." The Contractor further represents and warrants that it has provided or will provide such to the Owner and/or the Ohio Business Gateway (<http://obg.ohio.gov/DMA2007.shtml>) prior to execution of this Performance Contract. If these representations and warranties are found to be false, the Contract is void *ab initio* and the Contractor shall immediately repay to the Owner any funds paid under the Contract.
- 9.2 The Contractor represents and warrants that it is not subject to an "unresolved" finding for recovery under Ohio Revised Code ("O.R.C.") Section 9.24. If this representation and warranty is found to be false, the Contract is void, and the Contractor shall immediately repay to the Owner any funds paid under this Contract.

IN WITNESS WHEREOF, the parties hereto have executed this Performance Contract.

CONTRACTOR

Date: _____

By: _____
(Authorized Signature)

(Print or type Contractor Name)

(Print or type Authorized Signature Name and Title)

Owens Community College

Date: _____

By: _____
Board Chair

Date: _____

By: _____
President

RICHARD CORDRAY
OHIO ATTORNEY GENERAL
APPROVED AS TO FORM

By: _____
Katharine E. Adams
Assistant Attorney General

Date: _____

TREASURER'S CERTIFICATION

This signature certifies the amount required to meet the obligation in the fiscal year in which the Contract is made, has been lawfully appropriated for such purpose and is in the treasury or in the process of collection to the credit of an appropriate fund free from any previous encumbrances.

By: _____

Date: _____

READ BEFORE COMPLETING YOUR DMA FORM

Forms not conforming to the specifications listed below or not submitted to the appropriate agency or office will not be processed.

- To complete this form, you will need a copy of the Terrorist Exclusion List for reference. The Terrorist Exclusion List can be found on the Ohio Homeland Security Web site at the following address:

<http://www.homelandsecurity.ohio.gov/dma.asp>

- Be sure you have the correct DMA form. If you are applying for a state issued license, permit, certification or registration, the "State Issued License" DMA form must be completed (HLS 0036). If you are applying for employment with a government entity, the "Public Employment" DMA form must be completed (HLS 0037). If you are obtaining a contract to conduct business with or receive funding from a government entity, the "Government Business and Funding Contracts" DMA form must be completed (HLS 0038). The Pre-certification form (HLS 0035) should only be completed if you are specifically instructed to do so by the agency or office requesting the form.
- Your DMA form is to be submitted to the issuing agency or entity. "Issuing agency or entity" means the government agency or office that has requested the form from you or the government agency or office to which you are applying for a license, employment or a business contract. For example, if you are seeking a business contract with the Ohio Department of Commerce's Division of Financial Institutions, then the form needs to be submitted to the Department of Commerce's Division of Financial Institutions. Do NOT send the form to the Ohio Department of Public Safety UNLESS you are seeking a license from or employment or business contract with one of its eight divisions listed below.

- Department of Public Safety Divisions:

Administration	Ohio Homeland Security*
Ohio Bureau of Motor Vehicles	Ohio Investigative Unit
Ohio Emergency Management Agency	Ohio Criminal Justice Services
Ohio Emergency Medical Services	Ohio State Highway Patrol

- * DO NOT SEND THE FORM TO OHIO HOMELAND SECURITY UNLESS OTHERWISE DIRECTED. FORMS SENT TO THE WRONG AGENCY OR ENTITY WILL NOT BE PROCESSED.



PUBLIC EMPLOYMENT

In accordance with section 2909.34 of the Ohio Revised Code

DECLARATION REGARDING MATERIAL ASSISTANCE/NO ASSISTANCE TO A TERRORIST ORGANIZATION

This form serves as a declaration of the provision of material assistance to a terrorist organization or organization that supports terrorism as identified by the U.S. Department of State Terrorist Exclusion List (see the Ohio Homeland Security Division Web site for the Terrorist Exclusion List).

Any answer of "yes" to any question, or the failure to answer "no" to any question on this declaration shall serve as a disclosure that material assistance to an organization identified on the U.S. Department of State Terrorist Exclusion List has been provided. Failure to disclose the provision of material assistance to such an organization or knowingly making false statements regarding material assistance to such an organization is a felony of the fifth degree.

For the purposes of this declaration, "material support or resources" means currency, payment instruments, other financial securities, funds, transfer of funds, and financial services that are in excess of one hundred dollars, as well as communications, lodging, training, safe houses, false documentation or identification, communications equipment, facilities, weapons, lethal substances, explosives, personnel, transportation, and other physical assets, except medicine or religious materials.

LAST NAME		FIRST NAME		MIDDLE INITIAL
HOME ADDRESS				
CITY		STATE	ZIP	COUNTY
HOME PHONE ()		WORK PHONE ()		

DECLARATION

In accordance with section 2909.32 (A)(2)(b) of the Ohio Revised Code

For each question, indicate either "yes," or "no" in the space provided. Responses must be truthful to the best of your knowledge.

- Are you a member of an organization on the U.S. Department of State Terrorist Exclusion List? Yes No
- Have you used any position of prominence you have with any country to persuade others to support an organization on the U.S. Department of State Terrorist Exclusion List? Yes No
- Have you knowingly solicited funds or other things of value for an organization on the U.S. Department of State Terrorist Exclusion List? Yes No
- Have you solicited any individual for membership in an organization on the U.S. Department of State Terrorist Exclusion List? Yes No
- Have you committed an act that you know, or reasonably should have known, affords "material support or resources" to an organization on the U.S. Department of State Terrorist Exclusion List? Yes No
- Have you hired or compensated a person you knew to be a member of an organization on the U.S. Department of State Terrorist Exclusion List, or a person you knew to be engaged in planning, assisting, or carrying out an act of terrorism? Yes No

In the event of a denial of licensure due to a positive indication that material assistance has been provided to a terrorist organization, or an organization that supports terrorism as identified by the U.S. Department of State Terrorist Exclusion List, a review of the denial may be requested. The request must be sent to the Ohio Department of Public Safety's Division of Homeland Security. The request forms and instructions for filing can be found on the Ohio Homeland Security Division Web site.

CERTIFICATION

I hereby certify that the answers I have made to all of the questions on this declaration are true to the best of my knowledge. I understand that if this declaration is not completed in its entirety, it will not be processed and I will be automatically disqualified. I understand that I am responsible for the correctness of this declaration. I understand that failure to disclose the provision of material assistance to an organization identified on the U.S. Department of State Terrorist Exclusion List, or knowingly making false statements regarding material assistance to such an organization is a felony of the fifth degree. I understand that any answer of "yes" to any question, or the failure to answer "no" to any question on this declaration shall serve as a disclosure that material assistance to an organization identified on the U.S. Department of State Terrorist Exclusion List has been provided by myself or my organization. If I am signing this on behalf of a company, business or organization, I hereby acknowledge that I have the authority to make this certification on behalf of the company, business or organization referenced above.

X

 APPLICANT SIGNATURE

 DATE

PERFORMANCE AND PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

_____, as Principal, at _____

_____ (Address)

and _____ as Surety, are hereby held and firmly

bound unto the State of Ohio, as Obligee, in the penal sum of _____ dollars, for the payment of which well and truly to be made, we jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns to undertake the Project known as:

Project No: ENERGY 01

Project Name: Energy Conservation Project

SIGNED AND SEALED this _____ day of _____, _____.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named Principal did on the _____ day of _____, _____, enter into a Contract with the Owens Community College, which said Contract is made a part of this Performance and Payment Bond the same as though set forth herein;

NOW, THEREFORE, if the above-named Principal shall well and faithfully do and perform the things agreed by the Obligee to be done and performed according to the terms of said Contract; and shall pay all lawful claims of Subcontractors, Material Suppliers, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said Contract; we agreeing and assenting that this undertaking shall be for the benefit of any Subcontractor, Material Supplier or laborer having a just claim as well as for the Obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said Contract or in or to the Plans and Specifications therefore shall in any way affect the obligations of said Surety on this Performance and Payment Bond, and it does hereby waive notice of any such modifications, omissions or additions in or to the terms of the Contract, the Work or the Contract Documents, including without limitation the Plans and Specifications.

PRINCIPAL:

By: _____

Title: _____

SURETY: _____

By: _____
Attorney-in-Fact

SURETY INFORMATION:

Street

City State Zip

Telephone Number

SURETY AGENT'S INFORMATION:

Agency Name

Street

City State Zip

Telephone Number

Supplementary Conditions

These Supplementary Conditions amend and supplement the General Conditions and other provisions of the Contract Documents as indicated below. All provisions which are not amended remain in full force and effect. The terms used in these Supplementary Conditions which are defined in the Contracting Definitions or in the General Conditions shall have the meanings assigned to them in those documents.

MODIFICATIONS TO GENERAL CONDITIONS

2.8.1.1 Delete Subparagraph 2.8.1.1 and replace with:

- .1 The Owner will provide approximately an interior office space suitable for Contractor administrative functions. The Contractor shall maintain this space in a clean and professional manner at all times. Additional interior service and storage space will not be allowed without the Owner's prior written approval.

2.8.1.2.1-
2.8.1.2.3 Delete Subparagraphs 2.8.1.2.1 through 2.8.1.2.3 and replace with:

- .1 Temporary storage containers including trailers will not be allowed at the Site without the Owner's prior written approval.
- .2 The Contractor is responsible to follow all of the Owner's policies and procedures while on the Owner's campus.

6.1.4.3 Delete in its entirety.

6.1.4.7 Delete in its entirety.

6.1.4.8 Delete in its entirety.

ATTACHMENT 15 - LIMITED SCOPE SERVICE AGREEMENT

This Service Agreement is made by and between: (the "Contractor, and Owens Community College, Oregon Road, Toledo, Ohio 43699 (the "Owner").

WHEREAS, pursuant to Ohio Revised Code ("O.R.C") Chapter 3345, the Owner may implement Energy Conservation Measures ("ECM") to significantly reduce the operating costs and energy consumption of its buildings; and

WHEREAS, in compliance with O.R.C. Chapter 3345, the Contractor and the Owner, executed a Performance Contract dated , 2009 ("Performance Contract") for the installation and implementation of ECM in certain of the Owner's facilities; and

WHEREAS, in addition to the Performance Contract, the Owner, and the Contractor desire to enter into this Limited Scope Service Agreement (Service Agreement), whereby the Contractor shall agree to monitor and verify the ECMs, to provide an annual energy savings report, and to guarantee certain energy savings therefrom; and

WHEREAS, in addition to the terms and conditions contained herein, incorporated into this Service Agreement are the following Exhibits:

- Exhibit 1: Guaranteed Savings Schedule
- Exhibit 2: Baseline Energy Consumption
- Exhibit 3: Guarantee Bond Form

NOW, THEREFORE, in consideration of the mutual promises, covenants, and agreements set forth herein, the parties hereto agree as follows:

ARTICLE 1: NATURE OF SERVICE AGREEMENT

- 1.1 This Service Agreement incorporates the Performance Contract and all Schedules thereto as if fully rewritten herein.
 - 1.1.1 If there is a conflict between this Service Agreement and the Performance Contract, the Performance Contract shall control.
 - 1.1.2 If any part of the General Conditions is contrary to, prohibited by, or invalid under this Agreement, that provision shall be inapplicable and deemed omitted to the extent so contrary, and the remainder of the General Conditions shall be given full force and effect.
 - 1.1.3 Capitalized terms used in this Contract and not defined hereon shall have the meaning ascribed to them in Schedule A to the Performance Contract – Exhibit 3 – Contracting Definitions.
- 1.2 The Owner enters into this Service Agreement in reliance upon the Contractor's representations that it has the necessary expertise and experience to perform its obligations hereunder, and the Contractor warrants that it does possess the necessary expertise and experience.
- 1.3 By executing this Service Agreement, the Contractor represents that it has visited the Site, become familiar with the local conditions under which the Work is to be performed hereunder, and correlated these observations with the requirements of the Contract Documents. The Contractor shall immediately notify the Owner of any discrepancies between actual field conditions and the Contract Documents.

- 1.3.1 Failure to visit the Site and examine existing conditions shall not relieve the Contractor from these requirements.
- 1.4 The Contractor shall perform the Work required hereunder and the Owner shall not hire, supervise, or pay any assistants to the Contractor in its performance under this Service Agreement. The Owner shall not be required to provide any training to the Contractor to enable it to perform the Work required by this Service Agreement.
- 1.5 The Owner retains the right to ensure that the Contractor's Work under this Service Agreement is in conformity with the terms and conditions hereunder.

ARTICLE 2: RELATIONSHIP OF PARTIES

- 2.1 During the term of this Service Agreement, the Contractor shall be engaged by the Owner solely on an independent contractor basis, and the Contractor shall therefore be responsible for all the Contractor's business expenses, including, but not limited to, employees' wages and salaries, insurance of every type and description, and all business and personal taxes, including income and Social Security taxes and contributions for Workers' Compensation and Unemployment Compensation coverage, if any.
- 2.2 It is fully understood and agreed that the Contractor is an independent contractor and neither the Contractor nor its personnel shall at any time, or for any purpose, be considered as agents, servants, or employees of the Owner or the State.
- 2.3 While the Contractor shall be required to perform the Work described hereunder for the Owner during the term of this Service Agreement, nothing herein shall be construed to imply, by reason of the Contractor's engagement hereunder on an independent contractor basis, that the Owner shall have or may exercise any right of control over the Contractor with regard to the manner or method of the Contractor's performance of Work hereunder.
- 2.4 Except as expressly provided herein, neither party shall have the right to bind or obligate the other party in any manner without the other party's prior written consent.
- 2.5 The Contractor agrees to comply with all Applicable Law in the performance of the Work hereunder.

ARTICLE 3: VERIFICATION OF SAVINGS AND NOTICE OF DEFECTIVE WORK

- 3.1 The Owner shall review the annual report submitted by the Contractor documenting the guaranteed savings. The Owner shall verify and negotiate to reconcile the results of the annual report of the guaranteed savings pursuant to Article 8.
- 3.2 If the Contractor fails to correct any Defective Work or persistently fails to perform the Work required by this Service Agreement, the Owner may issue a written notice to the Contractor providing 3 days for the Contractor to begin to correct the Defective Work ("72-Hour Notice").
 - 3.2.1 A copy of the 72-Hour Notice shall be issued to the Contractor's Guarantee Bond Surety.
- 3.3 If the Contractor fails or refuses to commence and continue to correct the Defective Work with diligence and promptness within three business days after receiving the 72-Hour Notice, the Owner may, without jeopardizing other remedies, take any action the Owner deems appropriate to correct the Defective Work including, but not limited to, exercising its termination rights under paragraph 12.1.

- 3.3.1 If the Owner proceeds as described in paragraph 3.3, the Contractor shall pay all resulting costs and damages. These costs and damages include, but are not limited to, the cost of correcting the Defective Work and the related fees and charges of engineers, architects, attorneys, and other professionals. The Contracting shall deduct the costs and damages from payments then or thereafter due the Contractor. If the payments then or thereafter due to the Contractor under this Service Agreement are insufficient to cover such amount, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

ARTICLE 4: THE OWNER

- 4.1 During the term of this Service Agreement, the Owner shall furnish, or authorize its energy suppliers to furnish, to the Contractor, upon its reasonable written request, the Owner's pertinent and complete records concerning energy and water consumption and related maintenance for the Site.
- 4.2 The Owner shall notify the Contractor, or its designated Subcontractor, within two business days after the Owner's actual knowledge of:
- 4.2.1 Malfunction in the operation of the ECM or any preexisting energy related equipment that might materially impact upon the operational or energy savings described in Exhibit 1, Guaranteed Savings Schedule;
- 4.2.3 Interruption or alteration to the energy supply to the Site;
- 4.2.4 Alteration or modification in any energy-related equipment or its operation; or
- 4.2.5 An emergency condition affecting the ECM.
- 4.3 The Owner shall adhere to, follow, and implement manufacturer recommendations and the energy conservation procedures and methods of operation set forth in this Service Agreement.
- 4.4 The Owner is exempt from federal, state, and municipal sales and excise taxes. The compensation included in this Service Agreement shall be net and shall not include the amount on any such tax. The Owner shall issue exemption certificates to the Contractor upon request.

ARTICLE 5: THE CONTRACTOR

- 5.1 The Contractor shall timely and diligently perform all Work described in this Service Agreement.
- 5.2 In performing the Work described in this Service Agreement, the Contractor shall:
- 5.2.1 Comply with all Applicable Law.
- 5.2.2 Be solely responsible for all means, methods, techniques, sequences and procedures and for coordinating all portions of the Work.
- 5.2.3 Employ only skilled and reliable workers and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to them.
- 5.2.4 At all times enforce strict discipline and good order among its workers. The Owner may order the discontinuance of the services of any worker employed on the Work who does not, in the Owner's sole opinion, possess satisfactory skill and qualification or is otherwise objectionable.

- 5.2.5 Agree that all Persons working for or on behalf of the Contractor whose duties bring them upon the Owner's premises shall obey the rules and regulations that are established by the Owner including, but not limited to, those dealing with harassment.
 - 5.2.6 Be solely responsible for the acts of its employees and agents while on the Owner's premises.
 - 5.2.7 Maintain sole responsibility for any Hazardous Material the Contractor may bring to the Site.
 - 5.2.8 Within 1 day, respond to notice given by the Owner under paragraph 3.3 herein and promptly thereafter proceed with corrective measures.
 - 5.2.9 Unless otherwise specifically noted in this Service Agreement, provide and pay for all labor, materials, equipment, tools and machinery, transportation and other facilities and services necessary for the proper execution and completion of the Work.
 - 5.2.10 Follow all standards and instructions provided by the manufacturers of equipment and material used in the performance of the Work, to ensure that the terms and conditions of all applicable manufacturer warranties are complied with.
 - 5.2.11 Guarantee all of the Work, including any Work performed by Subcontractors, for a period of one year after the date of service. Neither payment, nor any provision in the Contract Documents, nor partial or entire use of the related premises by the Owner shall constitute acceptance of the Work not done in accordance with the Contract Documents, nor shall it relieve the Contractor of liability in respect to any express warranties or responsibility for fault in material or quality of Work.
 - 5.2.12 Prior to any Subcontractor performing any Work under this Service Agreement, submit the Subcontractor's name and qualifications to the Owner for approval. Upon written approval issued by the Owner to the Contractor, the Subcontractor may commence such Work.
- 5.3 The Contractor hereby warrants and represents that the Contractor is financially solvent, able to pay its debts as they mature, and in possession of sufficient working capital to perform its obligations under the Performance Contract and this Service Agreement.

ARTICLE 6: TIME OF PERFORMANCE

- 6.1 The Work as stated in this Service Agreement shall be commenced on the date that the Owner executes the Final Certification of Contract Completion and concluded five years from that date.
- 6.2 This Service Agreement shall remain in effect until the Work described in this Service Agreement is completed to the satisfaction of the Owner and until the Contractor is paid in accordance with Article 7, Compensation, or until terminated as provided in Article 12, Termination, whichever is sooner. The term of this Service Agreement shall be completed no later than 5 years from the date that the Owner executes the Final Certification of Contract Completion.
- 6.3 It is expressly agreed by the parties that none of the rights, duties, and obligations herein shall be binding on either party if award of this Service Agreement would be contrary to the terms of O.R.C. Section 3517.13, O.R.C. Section 127.16, or O.R.C. Chapter 102.

ARTICLE 7: COMPENSATION

- 7.1 The Owner shall pay the Contractor, for Work performed under this Service Agreement pursuant to the Payment Schedule, Schedule A - Exhibit 8 of the Performance Contract.
- 7.2 The Contractor shall not be reimbursed for travel, lodging, or any other expenses incurred in the performance of this Service Agreement.
- 7.3 The Contractor shall submit an invoice for the compensation incurred consistent with paragraph 7.1, and each invoice shall contain a description of the Work performed and total hours worked. Upon receipt and approval of the invoice by the Owner, a voucher for payment shall be processed.
- 7.3.1 The Owner may, in its sole discretion, decline to approve an invoice and may withhold payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Owner's sole opinion:
- 7.3.1.1 The Work has not been completed in accordance with this Service Agreement;
- 7.3.1.2 Defective Work has not been remedied;
- 7.3.1.3 The Contractor fails to perform any provision of this Service Agreement;
- 7.3.1.4 Third Party claims have been filed or there is reasonable evidence indicating the filing of such claims; or
- 7.3.1.5 The Contractor has not made proper payments to Subcontractors.
- 7.3.2 When the grounds listed in paragraph 7.3.1 above are removed, payments shall be made for the amount withheld, in accordance with this Article 7, Compensation.
- 7.4 The Contractor shall make prompt payment to all Persons and Subcontractors providing any Work required by this Service Agreement. The Contractor shall not withhold a larger percentage from Subcontractor payments, than the percentage of their payments retained by the Owner.
- 7.5 If, at any time, there should be evidence of any lien or claim for which, if established, the Owner may become liable and which is chargeable to the Contractor, the Owner shall cause to be retained an amount equal to the lien or claim from subsequent payments due to the Contractor for the purpose of securing such lien or claim.
- 7.5.1 Should there prove to be any such claim after payments are made, the Contractor shall refund to the Owner a sum of money equal to the sum of all monies that the Owner may be compelled to pay in discharging any lien or claim on the premises made obligatory by the Contractor's default.
- 7.6 It is expressly understood and agreed by the parties that none of the rights, duties, or obligations described in this Service Agreement shall be binding on either party until all relevant statutory provisions of the Ohio Revised Code, including, but not limited to, O.R.C. Section 126.07, have been complied with, and until such time as all necessary funds are available or encumbered and, when required, such expenditure of funds is approved by the Controlling Board of the State.

ARTICLE 8: SCOPE OF WORK, GUARANTEED SAVINGS AND RECONCILIATION

- 8.1 The Contractor hereby warrants and guarantees that the Owner shall achieve the operational and energy savings ("Guaranteed Savings") as described in Exhibit 1, Guaranteed Savings Schedule.
- 8.2 The Contractor's scope of work shall include monitoring and verification of the ECMs that have been installed pursuant to the Performance Contract, an annual audit of the energy savings, and an annual submission of an energy savings report to the Owner. The annual audit and annual energy savings reports will be due beginning fifteen months from the issuance of the Certification of Contract Completion, and continuing until the end of this Service Agreement.
- 8.2.1 The report shall include load adjustments due to weather, occupancy, or major equipment changes, if applicable.
- 8.3 Reconciliation of the Guaranteed Savings shall commence upon the issuance of the Final Certification of Contract Completion.
- 8.4 The Guaranteed Savings shall be measured and/or calculated as specified in Exhibit 2, Baseline Energy Consumption, and this Service Agreement.
- 8.5 If the actual energy savings in any year of the Contract are less than the Guaranteed Savings for that year, the Contractor shall, in the Owner's sole discretion, pay or credit the Owner the difference, as follows:
- 8.5.1 Within 30 days of the Owner's request, the Contractor shall submit payment to the Owner for the amount of the difference; or
- 8.5.2 The Owner may carry the negative balance forward to be included in the following year's reconciliation.
- 8.6 If the actual energy savings in any year of the Contract exceed the Guaranteed Savings for that year, the Owner shall, in its sole discretion:
- 8.6.1 Carry the positive balance forward and add it to the savings generated during any future years; or
- 8.6.2 If the prior year produced energy savings less than the Guaranteed Savings for that year and the Contractor, pursuant to paragraph 8.5.1 above, submitted payment to the Owner for the amount of the difference, submit payment to the Contractor as recovery of such amount.
- 8.7 Any disputes between the Owner and the Contractor regarding reconciliation and reimbursement for savings shortfalls shall be resolved under Article 8 of the General Conditions of the Contract (Schedule A-Exhibit 4 of the Performance Contract).

ARTICLE 9: GUARANTEE BOND

- 8.1 As a condition precedent to execution of this Service Agreement, the Contractor must file a Guarantee Bond payable to the Owner. The Guarantee Bond shall serve as assurance that the energy savings generated as a result of the Work will meet or exceed the energy savings estimate on the RFP Proposal used as the basis of award.
- 8.1.1 The initial Guarantee Bond shall be a three-year bond in the total amount of the first three (3) years of Guaranteed Savings. After the first three years, the Contractor shall file a

Guarantee Bond on an annual basis for the annual amount of the Guaranteed Savings thereafter. The total amount of the Guarantee Bonds provided each year over the term of this Service Agreement shall equal the total amount of the Guaranteed Savings over the ten year term. The Owner may waive the Guarantee Bond requirement in any year, during years four (4) through five (5) of the Service Agreement.

- 8.1.2 The Guarantee Bond must be signed by an authorized agent, with Power of Attorney, from a Surety authorized by the Department of Insurance to transact business in the State of Ohio.
- 8.2 If the Contractor cannot reimburse the Owner for savings shortfalls, because of bankruptcy or for any other reason, the Owner shall collect on the Contractor's Guarantee Bond. If the Owner is unable to collect on the Guarantee Bond, the Owner shall collect the remaining amount of Guaranteed Savings directly from the Contractor. If the Contractor is in bankruptcy, the Owner shall be a creditor in any bankruptcy proceedings for the remaining amount of the Guaranteed Savings.
- 8.3 The Contractor's failure to maintain a Guarantee Bond during the term of this Service Agreement shall be considered a default under this Service Agreement.

ARTICLE 10: ECM MODIFICATION, ALTERATION, OR UPGRADING

- 10.1 During the term of this Service Agreement, the Owner shall not, without the Contractor's prior written approval, which approval shall not be unreasonably withheld, affix or install any accessory, equipment, or devise on any of the ECM if such addition will change or impair the originally intended functions, value, or use of the ECM.
- 10.2 During the term of this Service Agreement, the Owner shall not, without the Contractor's prior written approval, which approval shall not be unreasonably withheld, move, remove, modify, alter, or change in any way the ECM or any part thereof.
 - 10.2.1 Notwithstanding paragraphs 10.1 and 10.2 above, the Owner may take reasonably necessary action to protect the ECM if, because of an emergency, it is not possible or reasonable to notify the Contractor before taking such action.
 - 10.2.2 In the event of such emergency, the Owner shall take reasonable steps to protect the ECM from damage or injury.
- 10.3 During the term of this Service Agreement, the Contractor may, with the Owner's prior written approval, which approval shall not be unreasonably withheld, change the ECM, revise any procedures for the operation of the ECM, or implement other energy saving actions on the Site, provided that:
 - 10.3.1 The Contractor complies with this Service Agreement and the Performance Contract;
 - 10.3.2 Such modifications, additions to, or replacement of the ECM, and any operational changes or new procedures, are reasonably necessary to enable the Contractor to achieve the Guaranteed Savings; and
 - 10.3.3 Any cost incurred relative to such modifications, additions, or replacement of the ECM, or operational changes or new procedures shall be the Contractor's sole responsibility.
- 10.4 All modifications, additions, or alterations made to the ECM under this Article 10, ECM Modification, Alteration, or Upgrading, shall become part of the ECM described in the Contract.

ARTICLE 11: OWNER DEFAULT

- 11.1 The following events shall constitute "Owner Default" under this Service Agreement:
- 11.1.1 Without 30 days prior notification of, and agreement by, the Contractor, changes are implemented by the Owner in the use, structure, or operating conditions of the Site, which changes significantly and detrimentally affect the ECM.
 - 11.1.2 Additions, deletions, or material alterations of equipment by the Owner, without the Contractor's prior written approval as required under Article 10, ECM Modification, Alteration, or Upgrading.
 - 11.1.3 The Owner's material failure to perform or comply with the terms of this Service Agreement, provided that such failure continues for 60 days after notice to the Owner demanding that such failure be cured; or if cure cannot be effected in such 60 days, the Owner shall be deemed to have cured the failure upon commencement of a cure within such 60 days and diligent subsequent completion thereof.

ARTICLE 12: TERMINATION

- 12.1 The Owner may, at any time prior to the completion of the Work described in this Service Agreement, suspend or terminate this Service Agreement with or without cause by giving written notice to the Contractor.
- 12.1.1 The Owner shall have terminated this Service Agreement "with cause" if the Owner terminates this Service Agreement because the Contractor:
 - 12.1.1.1 Fails to prosecute the Work hereunder with the necessary force or in a timely manner;
 - 12.1.1.2 Refuses to remedy Defective Work;
 - 12.1.1.3 Fails to perform any provision of this Service Agreement;
 - 12.1.1.4 Fails to supply enough properly skilled workers or proper materials;
 - 12.1.1.5 Fails to properly make payment to Subcontractors or Material Suppliers; or
 - 12.1.1.6 Disregards Applicable Law or orders of a public authority with jurisdiction over the Project.
 - 12.1.2 If the Owner terminates this Service Agreement for reasons other than those listed in paragraph 12.1.1, such termination shall be termination "without cause" under paragraph 12.7.1.
- 12.2 The Contractor, upon receipt of notice of suspension or termination, shall cease Work on the suspended or terminated activities under this Service Agreement, suspend or terminate all subcontracts relating to the suspended or terminated activities, take all necessary or appropriate steps to limit disbursements and minimize costs, and, if requested by the Owner, furnish a report, as of the date of receipt of notice of suspension or termination, describing the status of all Work under this Service Agreement, including, without limitation, results, conclusions resulting therefrom, and any other matters the Owner requires.

- 12.3 The Contractor shall be paid for services rendered up to the date the Contractor received notice of suspension or termination, less any payments previously made, provided the Contractor has supported such payments with detailed factual data containing services performed and hours worked. In the event of suspension or termination, any payments made by the Owner for which the Contractor has not rendered services shall be promptly refunded.
- 12.4 In the event this Service Agreement is terminated prior to its completion, the Contractor, upon payment as specified, shall deliver to the Owner all work products and documents which have been prepared by the Contractor in the course of performing Work under this Service Agreement. All such materials shall become, and remain the property of, the Owner, to be used in such manner and for such purpose as the Owner may choose.
- 12.5 The Contractor agrees to waive any right to, and shall make no claim for, additional compensation against the Owner by reason of such suspension or termination.
- 12.6 Upon an uncured event of Owner Default and 60 days written notice provided to the Owner following such event, the Contractor may terminate this Service Agreement.
- 12.7 The Contractor's guarantee that the Owner shall achieve the Guaranteed Savings shall be cancelled only if:
- 12.7.1 This Service Agreement is terminated by the Owner without cause; or
- 12.7.2 This Service Agreement is terminated by the Contractor pursuant to paragraph 12.6 above.

ARTICLE 13: RELATED AGREEMENTS

- 13.1 The Work described in this Service Agreement, is to be performed by the Contractor, who may subcontract without the Owner's approval for the purchase of articles, supplies, components, or special mechanical services that do not involve the Work described in this Service Agreement, but which are required for its satisfactory completion. The Contractor shall not enter into other subcontracts without the Owner's prior written approval, in accordance with paragraph 4.2 herein. All Work subcontracted shall be at the Contractor's sole expense.
- 13.2 The Contractor shall bind its Subcontractors to the terms and conditions of this Service Agreement, so far as applicable to the Work performed by the respective Subcontractor, and shall not agree to any provision which seeks to bind the Owner to terms inconsistent with, or at variance from, this Service Agreement.
- 13.3 The Contractor shall furnish the Owner with a list of all Subcontractors, their addresses, tax identification numbers, and the dollar amount of each subcontract.

ARTICLE 14: LIABILITY

- 14.1 The Contractor agrees to indemnify and to hold the Owner, the Owner and the State harmless and immune from any and all claims for injury or damages arising from this Service Agreement which are attributable to the Contractor's own actions or omissions of those of its trustees, officers, employees, Subcontractors, suppliers, third parties utilized by the Contractor, or joint venturers while acting under this Service Agreement.
- 14.1.1 Such claims shall include, but are not limited to, any claims made under the Fair Labor Standards Act or under any other Applicable Law involving wages, overtime, or employment matters and any claims involving patents, copyrights, and trademarks.

- 14.1.2 The Contractor shall bear all costs associated with defending the Owner, the Owner and the State against any such claims.
- 14.2 The Contractor shall provide a Certificate of Insurance, showing the Contractor's compliance with the insurance requirements set forth in this Article 14, Liability, naming Owens Community College as Additional Insured.
- 14.3 : The Contractor shall provide the following minimum insurance requirements during the term of the service agreement and if a claims-made policy is used for any coverage part, coverage will extend for two years after completion of work.
- 14.3.1 Commercial General Liability
- \$1,000,000 - Products/Completed Operations
 - \$2,000,000 - Products Liability Aggregate
 - \$ 100,000 - Fire Legal Liability
 - \$1,000,000 - Contractors' Protective Liability
 - \$2,000,000 - General Aggregate
 - \$1,000,000 - Per Occurrence Limit
 - \$ 10,000 - Medical Expense Limit
- Policy will include Broad Form Contractual Liability and no exclusion for Collapse, Underground work or Explosion. Policy must include a Per Project Aggregate endorsement.
- 14.3.2. Employment Practices Liability including Third Party Coverage - \$1,000,000
- 14.3.3. Automobile Liability - for owned, hired and non-owned vehicles \$1,000,000 - Combined Single Limit
- 14.3.4. Umbrella Liability - excess of all primary liability policies \$5,000,000 Limit
- 14.3.5. Design Professionals Liability - \$2,000,000 Aggregate Limit – for all design or preparing plans and specifications of equipment used in contract.
- 14.3.6. Workers' Compensation/Employer's Stop Gap - Statutory, \$1,000,000 Employer's Liability Limit - will provide certificate of insurance including all sub-contractors.
- 14.3.7 Policies of insurance will be primary and non-contributory and will include a waiver of subrogation in favor of Owens Community College.
- 14.3.8 Certificates of insurance will be submitted 10 days prior to the commencement of work or at signing of contract.
- 14.3 If the Contractor fails to procure and maintain such insurance, the Owner shall have the right to procure and maintain the said insurance for, and in the name of, the Contractor and the Contractor shall pay the cost thereof and shall furnish all necessary information to make effective and maintain such insurance.

ARTICLE 15: CLEANING

- 15.1 The Contractor shall be responsible for continuous removal of all debris created by the Work performed under this Service Agreement. The Contractor and its Subcontractors shall deposit their debris at a location designated by the Owner.

- 15.2 The Contractor shall be responsible for the daily removal of any materials or equipment that the Contractor requires to perform the Work hereunder. If the Contractor fails to perform such removal, the Owner shall do so and the costs for such shall be charged back to the Contractor.
- 15.3 The Contractor shall remove any unidentifiable debris and shall transport it to a disposal site acceptable to the Owner.

ARTICLE 16: SAFETY AND PROTECTION

- 16.1 The Contractor shall protect its workers and the public from injury and shall protect the property, in and about the Work required hereunder, from damage. The Contractor alone shall be responsible for any injury to the workers or public and for any damage to property in and about the Work required hereunder.
- 16.2 The Contractor shall perform its Work under this Service Agreement in accordance with Applicable Law and the best standard safety precautions, including OSHA Regulation 29 CFR Part 1926.
- 16.3 If the Contractor shall fail, in the Owner's sole opinion, to properly provide adequate protection, the Owner may cause such protection to be provided and the cost and expense thereof shall be deducted from the moneys due or to become due the Contractor under this Service Agreement.
- 16.4 If damage is done to an adjoining property, and the Contractor shall fail to immediately repair the same upon the Owner's order, the Owner shall have power to cause such repairs to be made, and the cost and expense thereof shall be deducted from the moneys due or to become due the Contractor under this Service Agreement.

ARTICLE 17: RECORD KEEPING

- 17.1 During the performance of this Service Agreement, and for a period of three years after its completion, the Contractor shall maintain auditable records of all charges pertaining to this Service Agreement and shall make such records available to the Owner as the Owner may reasonably require.
- 17.2 The Contractor shall include in all subcontracts a provision to the effect that the Subcontractor agrees that the Subcontractor, during the performance of the subcontract and for a period of three years after its completion, shall maintain auditable records of all charges pertaining to the subcontract and shall make such records available to the Owner as the Owner may reasonably require.

ARTICLE 18: CONFLICTS OF INTEREST AND ETHICS COMPLIANCE

- 18.1 No personnel of the Contractor or member of the governing body of any locality or other public official or employee of any such locality in which, or relating to which, the Work under this Service Agreement is being carried out, and who exercise any functions or responsibilities in connection with the review or approval of this Service Agreement or carrying out of any such Work, shall, prior to the completion of said Work, voluntarily acquire any personal interest, direct or indirect, which is in compatible or in conflict with the discharge and fulfillment of his or her functions and responsibilities with respect to the carrying out of said Work.
- 18.2 Any such Person who acquires an incompatible or conflicting personal interest, on or after the effective date of this Service Agreement, or who involuntarily acquires any such incompatible or conflicting personal interest, shall immediately disclose his or her interest to the Owner in writing. Thereafter, he or she shall not participate in any action affecting the Work under this Service

Agreement, unless the Owner shall determine in its sole discretion that, in the light of the personal interest disclosed, his or her participation in any such action would not be contrary to the public interest.

- 18.3 The Contractor represents, warrants, and certifies that it and its employees engaged in the administration or performance of this Service Agreement are knowledgeable of and understand the Ohio Ethics and Conflicts of Interest laws and Executive Order No. 2007-01S. The Contractor further represents, warrants, and certifies that neither the Contractor nor any of its employees will do any act that is inconsistent with such laws and Executive Order.
- 18.4 The Contractor hereby certifies that none of the Contractor's directors, principle officers or employees are employed by, or affiliated with, the Owner.

ARTICLE 19: NONDISCRIMINATION OF EMPLOYMENT

- 19.1 The Contractor agrees that the Contractor, any Subcontractor, and any person acting on behalf of the Contractor or a Subcontractor, shall not discriminate, by reason of race, color, religion, sex, age, national origin, or disability against any citizen of the State in the employment of any Person qualified and available to perform the Work under this Service Agreement.
- 19.2 The Contractor further agrees that the Contractor, any Subcontractor, and any Person acting on behalf of the Contractor or a Subcontractor shall not, in any manner, discriminate against, intimidate, or retaliate against any employee hired for the performance of Work under this Service Agreement on account of race, color, religion, sex, age, national origin, or disability.
- 19.3 The Contractor represents that it has a written affirmative action program for the employment and effective utilization of economically disadvantaged persons and shall file a description of the affirmative action program and a progress report on its implementation with the equal employment opportunity office of the Department of Administrative Services.

ARTICLE 20: DELINQUENT PERSONAL PROPERTY TAX STATEMENT

- 20.1 The Contractor hereby certifies that, prior to execution of this Service Agreement, the Contractor submitted to the Owner, a statement affirmed under oath, that the Contractor is not charged with any delinquent personal property taxes on the general tax list of personal property in any Ohio County or that the Contractor was charged with delinquent personal property taxes on any such tax list, in which case the statement shall also set forth the amount of such due and unpaid delinquent taxes and any due and unpaid penalties and interest therein.
- 20.2 If the statement indicates that the Contractor was charged with any such taxes, a copy of the statement shall be transmitted by the Owner to the appropriate County Treasurer within thirty (30) days of the date it is submitted.

ARTICLE 21: PREVAILING WAGE

- 21.1 Where applicable to the Work of this Service Agreement, the Contractor shall comply with O.R.C. Chapter 4115.
- 21.1.1 The Contractor shall be responsible, without any additional compensation from the Owner, for any increase in wages including prevailing wages which may occur during the term of this Service Agreement.

ARTICLE 22: RIGHTS IN DATA AND COPYRIGHTS/PUBLIC USE

- 22.1 The Owner shall have unrestricted authority to reproduce, distribute and use (in whole or in part) any reports, data or materials prepared by the Contractor pursuant to this Service Agreement. No such documents or other materials produced (in whole or in part) with funds provided to the Contractor by the Owner shall be subject to copyright by the Contractor in the United States or any other country.
- 22.2 The Contractor agrees that all deliverables hereunder shall be made freely available to the general public to the extent permitted or required by law.

ARTICLE 23: DRUG FREE WORKPLACE

- 23.1 The Contractor shall comply with all Applicable Law regarding smoke-free and drug-free work places and shall make a good faith effort to ensure that none of its employees or Subcontractors engaged in the Work being performed hereunder purchase, transfer, use, or possess illegal drugs or alcohol, or abuse prescription drugs in any way.

ARTICLE 24: FINDINGS FOR RECOVERY

- 24.1 The Contractor represents and warrants that it is not subject to an "unresolved" finding for recovery under O.R.C. Section 9.24. If this representation and warranty is found to be false, this Agreement shall be void, and the Contractor shall immediately repay to the Owner any funds paid under this Agreement.

ARTICLE 25: REPORTING TO CAMPUS POLICE

- 25.1 Whenever the Contractor arrives on the Owner's property to perform Work under this Service Agreement, the Contractor shall first report to the Owens Community College Department of Public Safety in person or by telephone. Failure to report may prevent invoice approvals.

ARTICLE 26: CAMPAIGN CONTRIBUTIONS

- 26.1 The Contractor hereby certifies that all applicable parties listed in Division (I)((3) or (J)(3) of O.R.C. Section 3517.13 are in full compliance with Divisions (I)(1) and (J)(1) of O.R.C. Section 3517.13.

ARTICLE 27: AMENDMENT AND WAIVER

- 27.1 This Service Agreement shall not be modified, amended or supplemented, or any rights herein waived, unless specifically agreed upon in writing by the parties hereto.
- 27.2 A waiver by any party of any breach or default by the other party under this Service Agreement shall not constitute a continuing waiver by such party of any subsequent act in breach of or in default hereunder.

ARTICLE 28: NOTICES

28.1 All notices, consents, and communications hereunder shall be given in writing, shall be deemed to be given upon receipt thereof, and shall be sent to the following addresses:

Contractor:

Owner:

David Basich
Director of Operations
Owens Community College
Oregon Road
P.O. Box 10,000
Toledo, Ohio 43699-1947

ARTICLE 29: HEADINGS

29.1 The headings in this Service Agreement have been inserted for convenient reference only and shall not be considered in any questions of interpretation or construction of this Service Agreement.

ARTICLE 30: SEVERABILITY

30.1 The provisions of this Service Agreement are severable and independent, and if any such provision shall be determined to be unenforceable in whole or in part, the remaining provisions and any partially enforceable provision shall, to the extent enforceable in any jurisdiction, nevertheless be binding and enforceable.

ARTICLE 31: CONTROLLING LAW

31.1 This Service Agreement and the rights of the parties hereunder shall be governed, construed, and interpreted in accordance with the laws of the State of Ohio. Any action or proceeding concerning this Service Agreement shall be brought in a court of competent jurisdiction in Ohio.

ARTICLE 32: SUCCESSORS AND ASSIGNS

32.1 Neither this Service Agreement, nor any rights, duties, nor obligations hereunder, may be assigned or transferred in whole or in part by the Contractor, without the Owner's prior written consent.

ARTICLE 32: ANTITRUST ASSIGNMENT

32.1 The Contractor assigns to the Owner all state and federal antitrust claims and causes of action that related to all goods and services provided for in this Service Agreement.

ARTICLE 33: EXECUTION

33.1 This Service Agreement is not binding upon the Owner unless executed in full.

IN WITNESS WHEREOF, the parties hereto have executed this Service Agreement.

CONTRACTOR

Date: _____

By: _____
(Authorized Signature)

(Print or type Contractor Name)

(Print or type Authorized Signature
Name and Title)

OWENS STATE COMMUNITY COLLEGE

By: _____
John Satkowski,
Executive Vice President for Finance
Owens State Community College

Date: _____

RICHARD CORDRAY
OHIO ATTORNEY GENERAL
APPROVED AS TO FORM

By: _____
Katharine E. Adams
Assistant Attorney General

Date: _____

GUARANTEE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

_____, as Principal, at _____

_____ (Address)

and _____ as Surety, are hereby held and firmly

bound unto the State of Ohio, as Obligee, in the penal sum of *[Insert Amount]* dollars, for the payment of which well and truly to be made, we jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-bounden Principal entered into a certain written Service Agreement with the Owens Community College dated *[Insert Contract Execution Date]* for services and other work to be performed upon, and to guarantee the achievement of certain energy savings from, the Energy Conservation Project (Project Number *[Insert Project Number]*), which Service Agreement is hereby referred to and made a part of this Guarantee Bond the same as if set forth herein;

NOW, THEREFORE, if the above-bounden Principal shall well and faithfully do and perform the things agreed by the Obligee to be done and performed according to the terms of said Service Agreement, then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said Service Agreement or renewals to said Service Agreement shall in any way affect the obligations of said Surety on this Guarantee Bond, and it does hereby waive notice of any such modifications, omissions, additions, or renewals.

PRINCIPAL:

By: _____

Title: _____

SURETY: _____

By: _____
Attorney-in-Fact

SURETY INFORMATION:

Street

City State Zip

Telephone Number

SURETY AGENT'S INFORMATION:

Agency Name

Street

City State Zip

Telephone Number

ATTACHMENT 16

**FEASIBILITY ASSESSMENT
INTEGRATED ENERGY MASTER PLAN**

The Owner retained Garforth International llc (Garforth) to prepare a Feasibility Assessment Integrated Energy Master Plan. A copy of the Garforth Report is included herein. The Garforth Report is provided for informational purposes only. The Owner makes no representations as to the accuracy of the Garforth Report. The bidder is encouraged to closely review the Garforth Report.

Garforth International llc

Energy Productivity Solutions

OWENS COMMUNITY COLLEGE TOLEDO AND FINDLAY CAMPUSES

FEASIBILITY ASSESSMENT INTEGRATED ENERGY MASTER PLAN

Final Report dated 30th June 2008

*Prepared for
Thomas Horrall
Owens Community College
Toledo, OH 43699-1947*



Prepared by Garforth International llc in collaboration with
MVV Consulting GmbH and Owens Corning



2121 Boshart Way, Toledo, Ohio 43606, USA
Office +1 419-578-9613, Fax +1 419-578-6861

Owens Community College Integrated Energy Master Plan

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Owens Community College Integrated Energy Master Plan
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Owens Community College Integrated Energy Master Plan

Feasibility Assessment

Integrated Energy Master Plan for Owens Community College

1. EXECUTIVE SUMMARY

Owens Community College is located on two campuses. The larger one close to Toledo and a much smaller campus close to Findlay, Ohio. In December 2006, the State of Ohio passed House Bill 251 which set energy efficiency and energy planning targets for all state educational institutions. In parallel, the management of the College had become increasingly concerned over the prospects for high and rising energy prices, the long-term reliability of the existing power grid, and the climate change impacts from the human use of energy. As a result the College recognized the importance of looking at energy more strategically, and they commissioned a feasibility assessment looking forward to 2030 that had the following objectives:

- Increase the energy efficiency of current and planned buildings to levels that exceed the statutory requirements of HB 251, which calls for an overall reduction in energy use by 20% by 2014 relative to the levels in 2004.
- Evaluate options for more efficient energy distribution and supply across the campuses, including various forms of on-campus generation of heat and electricity and renewable energy opportunities.
- Minimize the overall creation of greenhouse gases through the use of energy by the College.
- Minimize energy costs in the short term and reduce the impacts of future energy price increases.
- Minimize the risks and impacts of unforeseen supply interruptions.
- Create an energy structure that can grow with the needs of the campuses.
- Create an energy system that is technically and operationally flexible to incorporate new technologies as they become available or economically viable.
- Ensure the College is a role model for the rational use of energy for the students, the Counties of Lucas and Hancock, and the State of Ohio.

The Assessment was carried out by a joint team that included the management and facilities staff of the College together with architectural, construction, business, and energy expertise from both the USA and Europe. The team took a fully integrated view of the energy use of the campus. In addition to evaluating the potential for reducing energy use through structural and operational improvements in the buildings, the possibilities of more efficient energy distribution throughout the campus was assessed along with the possibilities of alternative energy supply.

The final recommended solution described in the following paragraphs, will achieve at least a 30% reduction in energy use by 2014. It will also reduce the total greenhouse gases caused by the campus by 42%. The internal rate of return on the investments needed to achieve these results will be between 15% and 26%.

In 2007, Owens Community College spent \$2.8M on gas and electricity. The Toledo Campus accounted for about 87% of the energy costs. Due to the higher energy costs in NW Ohio, the Toledo campus used 82% of the actual energy used. The College as a whole used a total of 36.9 Million kilowatt-hours per year of energy of all types to service the 961,257 square feet or

Owens Community College Integrated Energy Master Plan

89,300 square meters of the two campuses. This translates to an average energy use of about 1.5 Million Btu/square foot or 438 kWh/square meter annually. When compared with similar institutions in the USA and Europe, this was typically between 50% and 100% higher, clearly underlining the potential for efficiency gains.

The energy use of Owens Community College is responsible for creating about 19,400 metric tons of greenhouse gas per year, or the equivalent of about 4,500 medium sized cars.

Due to its very high percentage of energy use, the Team focused on the Toledo campus in detail. The buildings date from 1968 to 2003 spanning a wide range of building efficiencies and styles. There have been limited upgrades and retrofits to the buildings.

Each building has its own independent heating and cooling system. The lack of heating and cooling interconnections between buildings results in substantially higher total heating and cooling capacity than is really necessary for the campus as a whole.

There is no overall automated building management system (BMS) for the campus which limits the possibility to manage the heating, cooling, and lighting of buildings based on weather, occupancy and academic schedule. This results in excessive energy use in areas of the college with little or no activity. There are a limited number of sub-meters available to track the electricity and gas usage building by building.

Campus wide building control and effective sub-metering is a pre-requisite for the energy efficient operation of the College and a suitable Building Management System (BMS) should be immediately installed in 2009. This investment of about \$1M will immediately allow all the buildings to be operated more efficiently. They will be lit, heated, and cooled only where and when needed. They can be preconditioned depending on the weather outlook. Lighting can be an automated mix of artificial and natural daylight. Miscellaneous electrical loads can be much more readily identified and managed. Depending on the specific building, improved operation alone can typically reduce energy use by between 15 and 20%.

The Team evaluated a number of key buildings in detail, which together were a representative cross section of the Campus as a whole. These were College Hall, the Library, Math Science, Bicentennial Hall, Health Sciences, Child Care Center and the Administration Hall. Their current energy use was estimated using either metered data, or computer models, based on their age, condition and usage patterns. The potential for cost effective improvement was evaluated for each these buildings. In addition to the operational efficiencies that result from improved management due to the BMS, some structural retrofits were recommended including re-insulating a number of roofs, replacing some windows, reducing thermal bridges between the outside and inside, and reducing unmanaged air infiltration. In addition to a systematic weatherproofing approach, air infiltration reduction at high usage doors will require the construction of a number of vestibules.

Lighting is another area with significant efficiency potential in two ways. In many areas, outdated inefficient lighting systems can be easily replaced. In other areas, there is a potential to maximize the use of daylight and minimize the use of electricity for artificial lighting.

These measures represent a total investment of about \$4.5M in a range of energy efficiency retrofits from 2009 to 2013. Approximately \$2.1M is focused on improving roof insulation, \$0.8M in selective window retrofits, \$0.6M in various approaches to reduce air infiltration, \$0.8M in improving existing artificial lighting systems, and \$0.2M to enhance the potential of using daylighting as an energy-free alternative.

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Collectively, the building efficiency recommendations reduce the overall calculated energy use of the two campuses by at least 26%.

In addition to the technical measures outlined so far, the team is recommending an aggressive and continuing awareness and culture change program that sensitizes students, and academic, administrative, and facility staff to how their individual decisions affect energy use and greenhouse gas emissions. This will be a multi-faceted program with information, education, targets and incentives forming key elements. To be successful, the unquestioned commitment of the Board of Trustees and the College Director to delivering breakthrough energy efficiency and environmental gains must be in place. The Team has broad experience of energy efficiency programs in industry, colleges and communities around the world. Typically well run and well led programs such as these deliver at least a further 10% reduction in energy use.

The combination of the technical measures, improved facility management and user awareness will deliver at least 30% energy use reduction by 2014, or 50% higher than the House Bill 251 target.

However, reducing energy use by 30% does not guarantee a reduction of energy cost by anything like the same amount. In fact, it is reasonable to assume that the efficiency benefit will be economically eaten up in the coming few years by the high likelihood of rising gas and electricity prices. The pressures on prices of natural gas and electricity are many and complex, resulting from various combinations of global energy demand, reinvestment in national energy infrastructure and the economic impact of future greenhouse gas legislation. Political instability in many parts of the world will also be a contributory factor. For this reason, the Owens Community College Integrated Energy Master Plan evaluated how to reduce these economic and environmental risks beyond simply looking at energy efficiency in the buildings themselves.

The reduction in energy use has an immediate and significant impact on the supply of heating and cooling. Boilers, furnaces and air conditioners will all be oversized, and in an ideal world, the least efficient ones could be immediately eliminated, or replaced with smaller, more efficient alternatives. Since the campus does not have an interconnected heating or cooling system, these systems are already oversized for most of their operating life, since each must be individually capable of supplying the peak heating and cooling needs of each building on the handful of the coldest and hottest days.

At this point it is important to consider the Ohio climate. This is US Department of Energy Climate Zone 5 and has the characteristics of a northern continental climate. In a typical year, heating requirements are between 9 and 10 times higher than total cooling requirements. For this reason, the way in which heating is sourced and distributed is a crucial factor in the overall plan.

Three options to reconfigure the way heat for heating and domestic hot water is distributed around the campus were evaluated. In different ways, they all interlinked the heating distribution of selected buildings. This allows the buildings to share heat sources, further reducing the overall heat supply capacity needed. On average the peak demand of multiple buildings will always be less than the sum of the peak demand for each building taken alone. This is due to different usage patterns. As a result, in addition to the opportunity to reduce the size and number of boilers and furnaces due to efficiency, further downsizing is possible due to the “coincidence effect” of interconnection.

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The first option, partial centralization, included creating two clusters of buildings with shared heating networks. One is on the west side of the campus and the other on the northeast side. In this option two major buildings were left with stand alone heating and cooling. The second option was similar to the first and interconnected the two islands into a single heating network, still leaving a couple of buildings as stand alone. The last option represented a full campus heating network, with all buildings sharing heating sources. The technology used for distributing the heating is by way of pressurized hot-water, carried in highly insulated district heating pipes. This low-cost, highly reliable approach is the backbone of the large scale modern district energy systems in Europe and Asia.

District heating also has the advantage of being flexible to add new heat supply approaches in the future as they become technically or economically viable.

For each option, two basic heat supply options were considered, with an eye both on the environmental possibilities, overall reliability and economics. In both supply cases, the most efficient of the existing boilers and furnaces would be retained, supplemented by either biomass boilers or natural-gas fired combined heat and power engines.

Both of these approaches greatly reduce the greenhouse gases caused, and have significant economic benefits. Biomass, in the form of fuel grade wood chips, is considered to be greenhouse neutral, and is currently 20% of the cost of natural gas on an equivalent energy basis. The technology is well advanced, widely deployed in Europe and Asia, and meets all reasonable clean air emissions standards. However, the biomass fuel supply chain in the USA is in its infancy, with reliability of supply and future pricing very uncertain. For these reasons alone, the recommended solution does not immediately support biomass as a heating option. It should be clearly understood that this is an option that can be considered sometime in the future if the market conditions warrant.

The combined heat and power (CHP) gas engines simultaneously generate both electricity and heat on the campus. This is a proven technology, with tens of thousands of units reliably deployed around the world. CHP greatly reduces the creation of greenhouse gases and the heat waste associated with the traditional approach to generating electricity. Various engine sizes and configurations were considered for each of the heating distribution options. CHP has been less successful in the USA than elsewhere, mainly for reasons associated with the historically low price of natural gas and electricity and restrictive utility regulations. Both of these are changing rapidly.

In all scenarios, the district heating network was designed to have sufficient delivery capacity to serve the existing Penta facilities should they become a part of the College.

The investment economics of these various distribution and heat supply options were assessed for two future scenarios. The first one based on a conservative view of the future, where electricity and gas prices increase by 5% per year, there is a modest impact of greenhouse gas legislation, and with the utility regulation around CHP more or less unchanged. The discount rate for return calculations was kept at a conservative 5.25%, probably higher than that which Owens Community College as a non-profit public entity could obtain.

In this scenario, the solution combining CHP with the two interlinked islands gave the “best” compromise between investment return, and environmental performance. The incremental investment for the heating network and the centralized CHP is \$1.2M over and above the \$5.4M for the BMS and building efficiency measures. This yields an overall IRR 16% and a reduction

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in greenhouse gases by 40% from today's 19,400 metric tones per year to 11,600, or roughly equivalent to taking 1,700 cars of the road.

Few believe that the future scenario will follow this benign pattern, so a "Climate Risk" was also evaluated. In this scenario, the US passes Climate Protection legislation similar to the Senate Bill sponsored by Senators Lieberman and Warner early in the next administration. This opens the way for the US to join the international greenhouse emissions trading market already well advanced in Europe. This also has the impact of putting a price penalty on electricity generated from high carbon fuels such as coal, immediately impacting Ohio. This in turn relaxes the current constraints on the interconnection of CHP to the electricity grid both technically and economically.

Under these conditions, electricity was assumed to increase by 8% per year, gas by 7% per year. Greenhouse gas reduction allowances would be trading in the US market at \$20 per metric ton by 2010 and would increase in value by 12% per year. The impact of more welcoming CHP rules, already emerging in the recent Ohio Energy Bill SB 221, will enhance the value of locally generated electricity sales to the grid. This scenario would be seen by many as still overly conservative given the turmoil in the global energy markets and the uncertain impact of climate change legislation. The investment discount rate was again assumed to be 5.25%.

In the "Climate Risk" Scenario, the fully campus heating network combined with CHP is the "best" solution. The incremental investment is somewhat higher at \$3.49M over and above the \$5.4M for the BMS and the Building Efficiency upgrades. The resulting internal rate of return is 26%, with the greenhouse gas reduced by 42% to a level of 11,300 metric tons.

The very real added control that full integration gives will also make the ongoing energy awareness and continuous improvement program more effective. This impact is hard to quantify, but the experience from comparable situations is that this will be a significant added benefit.

The team's recommendation is to immediately embark on a program to invest about \$8.9M over the coming five years in the energy use reduction, efficient heat distribution and heat sourcing measures detailed in this report. Further, the entire system should be sized to accommodate the anticipated needs of the Penta expansion.

This solution will be an effective long-term preparation for a very uncertain energy future, an immediate economic benefit to the college, and a clear demonstration of the College's commitment to be in the forefront of leading and guiding public opinion to a more rational energy future. This solution will also more than fulfill Owens Community College's obligations under Ohio House Bill 251.

Some elements of the solution may qualify for Federal and State support in the form of existing and future grants, and these should be detailed in the next phase. However, the investment assessment was made on the assumption that no support of any kind would be available so this is not a precondition for the recommendation.

The Team did not ignore other alternative forms of energy supply. As already indicated, biomass was evaluated in detail, and was a viable option in all ways, except for the outlook for the fuel supply reliability. If this can be resolved, the College should revisit the biomass option.

Solar energy, in both thermal and electrical form was considered, and with the foreseeable costs, did not make the investment criteria. If either option shows technological advance or

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public incentives should change their viability in this region, there would be no barriers to including solar elements in the campus energy solution. If the College decided to include solar elements for educational or other reasons, this is clearly possible, but would dilute the return.

Wind generation is not a viable option given both the investments involved and the local wind quality. Again, there is nothing stopping the College from implementing wind solutions for other reasons as long as the associated dilution of return was deemed acceptable.

Low-temperature heat exchange geo-thermal solutions for heating and cooling were considered and rejected based on the investments needed to retrofit these to existing buildings. This could be revisited if for any reason the college embarked on major work that affected the landscaping such as fundamental redesign of the car parking strategy.

The beauty of a networked heating system, combined with campus wide automation and control, is that all of these possibilities can be regularly reviewed and, if deemed attractive, can be easily added to the existing infrastructure.

The recommended solution creates enormous reductions in greenhouse gases, which in a future regulated market could have significant financial value in the form of tradable emissions certificates.

To ensure the reductions are tracked and potentially tradable, the Team is recommending that the College register their 2004 baseline with The Climate Registry and ensure that it is updated annually.

The last recommendation is based on the fact that the College's need for vastly improved energy productivity is a reflection of the national and global imperatives around energy. The implications on an educational institute are obvious. The market is already demanding many more energy and climate change literate professionals in all walks of life. These range from technical craft skills to energy managers and energy economists.

To capture the potential educational opportunities from implementing the campus wide energy solution, the recommendation is to form a team to evaluate options and adjust the educational curriculum of the College to introduce energy related specialties.

The overall conclusions of the Team were presented to the Board of Trustees and senior management of the College on the 10th June 2008. The PowerPoint slides used for this meeting are included in Appendix 2.

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2. CURRENT ENERGY USE AND TARGETS

2.1. *General*

This chapter summarizes the energy use for both campuses, and recommends performance targets for both existing and new buildings. The Findlay campus is both smaller, and newer than the Toledo Campus, and consumes less than 20% of the College total. Through both its size and age, the Toledo Campus has much higher energy efficiency target possibilities and this will be reflected in the general focus of this Assessment.

2.2. *Overall Energy Costs and Usage*

The 2007 external energy demands and costs of Owens Community College are summarized in Figure 2.1. Gas is predominantly used for space heating, domestic hot water, food services, catering courses and some other educational applications. Electricity is used predominantly for lighting, cooling, IT and other plug loads. There is a small amount of building space with electric heating.

Site	Utility used	Costs \$K ¹	% \$	kWh _e ²	% kWh _e
Toledo	Gas	\$ 593	21%	13,165,586	36%
	Electricity	\$ 1,815	66%	17,058,726	46%
Toledo Total		\$ 2,408	87%	30,224,312	82%
Findlay	Gas	\$ 116	4%	3,440,265	9%
	Electricity	\$ 235	9%	3,222,157	9%
Findlay Total		\$ 351	13%	6,662,422	18%
OCC Total		\$ 2,759	100	36,886,734	100%

Figure 2.1 2007 Energy Usage Overview

Not included in Table 2.1 are the internal costs of the Facilities Management Team for energy related functions. Many of the recommended solutions will result in simplified and more automated operation. However, a significant portion of the overall energy gains will come from changed behavior of staff and students, so any Facility Management resources freed up from a technical standpoint should be assigned to support energy culture change programs.

¹ Costs are estimated based on 2007 billing. At the time of preparing the Assessment not all the year end data was available, and some 2006 data was used to complete a 12 month estimate.

² Throughout the report, both US units and equivalent kilowatt hour units are used. For comparison purposes, one kilowatt-hour equivalent (1 kWh_e) is 3,412 British Thermal Units (Btu).

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The table shows the impact of the higher electricity costs in Toledo compared to Findlay. The average cost for Toledo is 10.6 cents/kWh as against 7.3 c/kWh in Findlay. This further underlines the importance of focusing on the Toledo Campus.

The next key step taken was to understand how energy is used around the campuses. The first breakdown was to understand the current gas and electricity use by building, where possible with metered data. Where metered data was not available a variety of building modeling techniques were used to fill in the gaps.

2.3. *Energy Use – Toledo Campus*

Figure 2.2 and 2.3 show the electricity and natural gas use for the major applications on the Toledo Campus for the year 2007 based on the available metering data.

Bldg No.	Building	Area ft ²	Area m ²	SEI kWh/m ²	Total kWh/a
1 to 7	Westside	273,243	25,385	263	6,675,600
8	Facility Service Bldg.	32,708	3,039	73	221,200
9 + 11	ET & Transportation	133,820	12,432	140	1,743,600
12	Library	30,887	2,869	246	705,900
13	Audio Visual Classroom	33,560	3,118	233	726,300
14	Math Science	41,951	3,897	307	1,195,100
15	Student Health	92,268	8,572	231	1,981,920
16	CFPA	74,396	6,912	196	1,352,160
19	Law Enforcement	35,776	3,324	213	707,800
24	WCSD heat	53,994	5,016	280	1,047,800
24	WCSD lights				359,200
24	WCSD Chrysler				2
Total Buildings		802,603	74,564	224	16,716,582
	Modulars				191,520
	Complex Outside Lighting				31,386
	HT Bridge Outside Lighting				5,164
	Shooting Range				11,328
	North 20mph sign				0
	South 20mph sign				5,786
	Center Emergency Prep.				96,960
Total Others					342,144
Toledo Campus Total		802,603	74,564	229	17,058,726

Figure 2.2 Electricity Usage - Toledo Campus

The entire west side of the campus is tracked with only a single meter. The buildings concerned are College Hall, Computer Technology, Administration Hall, Health Technology Hall, Bicentennial Hall, Child Care, and Alumni Hall. The electrical base load for these buildings was estimated by modeling the end use services for each of the individual buildings and then matched to the west side total. That being said, even this level of sub metering is somewhat unusual, allowing for a relatively accurate breakdown of base electricity use by building.

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Gas is metered to every building where gas is used. Four buildings do not have gas services; Computer Technology, Health Technology, Bicentennial Hall, Workforce and Community Services.

Bldg No.	Building	Area ft ²	Area m ²	SEI kWh/a*m ²	Total kWh/a	Total BTU/a	Total ccf/a
1	College Hall	134,551	12,500	162	2,025,716	6,912,030,000	67,765
2	Computer Tech	1,872	174	0	0	0	0
3	Administration Hall	26,025	2,418	198	478,471	1,632,612,000	16,006
4	Health Technologie Hall	42,457	3,944	0	0	0	0
5	Bicetenial Hall	18,113	1,683	0	0	0	0
6	Child Care	14,005	1,301	224	291,489	994,602,000	9,751
7	Alumini Hall	36,319	3,374	162	546,060	1,863,234,000	18,267
8	Facility Services	32,708	3,039	150	455,902	1,555,602,000	15,251
9	Transportation Tech	89,997	8,361	125	1,041,511	3,553,782,000	34,841
11	Engineering Tech	43,823	4,071	191	776,268	2,648,736,000	25,968
12	Library	30,887	2,869	247	710,144	2,423,112,000	23,756
13	Audio Visual	33,560	3,118	281	875,215	2,986,356,000	29,278
14	Math Sceince	41,951	3,897	463	1,805,313	6,159,984,000	60,392
15	Student Health	92,268	8,572	256	2,196,168	7,493,634,000	73,467
16	CFPA	74,396	6,912	192	1,330,070	4,538,388,000	44,494
19	Law Enforcement	35,776	3,324	191	633,259	2,160,768,000	21,184
24	Workforce an Comm. Serv	53,994	5,016	0	0	0	0
Toledo Campus Total		802,702	74,573	177	13,165,586	44,922,840,000	440,420
Of which Buildings with gas		63,756	206				

Figure 2.3 Natural Gas Usage - Toledo Campus

For both electricity and gas, a Specific Energy Index (SEI) was calculated. The SEI is defined as the annual energy use in kWh_e per square meter of building. This is commonly used as a rough indicator of the range of energy performance.

Utility	SEI
Natural Gas	206 kWh _e /m ² *yr
Electricity	224 kWh _e /m ² *yr
Total	426 kWh_e/m²*yr

Figure 2.4 SEIs for Buildings on the Toledo Campus

Taken in isolation, an SEI has limited value, but when used as the basis for comparison of similar buildings operating in similar climates, they can be useful indicators of improvement potential.

2.4. Energy Use – Findlay Campus

Figure 2.4 and 2.5 show the electricity and natural gas use for the major applications on the Findlay Campus for the year 2007 based on the available metering data.

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Bldg No.	Building	Area ft²	Area m²	SEI kWh/m²	Total kWh/a
1	Bright Road	119,407	11,093	236	2,613,000
2	Voorhees House	2,000	186	-	-
3	Activities Center	24,772	2,301	215	495,000
4	Child Care Center	3,377	314	117	36,605
5	Maintenance Building	9,000	836	93	77,552
Findlay Campus Total		158,556	14,730	219	3,222,157

Figure 2.5 Electricity Usage - Findlay Campus

Bldg No.	Building	Area ft²	Area m²	Total kWh/a*m²	Total kWh/a	Total BTU/a	Total ccf/a
1	Bright Road Main	119,407	11,093	264	2,932,917	10,007,526,000	98,113
2	Vorhees' House	2,000	186	288	53,449	182,376,000	1,788
3	Activities Center	24,772	2,301	162	372,410	1,270,716,000	12,458
4	Child Care Center	3,377	314	160	50,101	170,952,000	1,676
5	Maintenance Building	9,000	836	38	31,388	107,100,000	1,050
Findlay Campus Total		158,556	14,730	234	3,440,265	11,738,670,000	115,085

Figure 2.6 Natural Gas Usage - Findlay Campus

The SEIs for Findlay are summarized in Figure 2.7.

Utility	SEI
Natural Gas	234 kWh _e /m ² *yr
Electricity	219 kWh _e /m ² *yr
Total	453 kWh_e/m²*yr

Figure 2.7 SEIs for Buildings on the Findlay Campus

The SEIs for the entire College are summarized in Figure 2.8.

Utility	SEI
Natural Gas	211 kWh _e /m ² *yr
Electricity	227 kWh _e /m ² *yr
Total	438 kWh_e/m²*yr

Figure 2.8 SEIs for Owens Community College Buildings

2.5. Benchmarking Current Energy Use with Best Practices

Owens Community College’s buildings have an overall SEI of 438 kWh_e/m² per year. It has been expressed in metric units rather than the more familiar Btu/square foot to allow comparison with worldwide published data. Figure 2.9 shows SEIs for a range of Austrian academic institutions of varying age and condition. None would be classified as energy efficiency demonstration sites.

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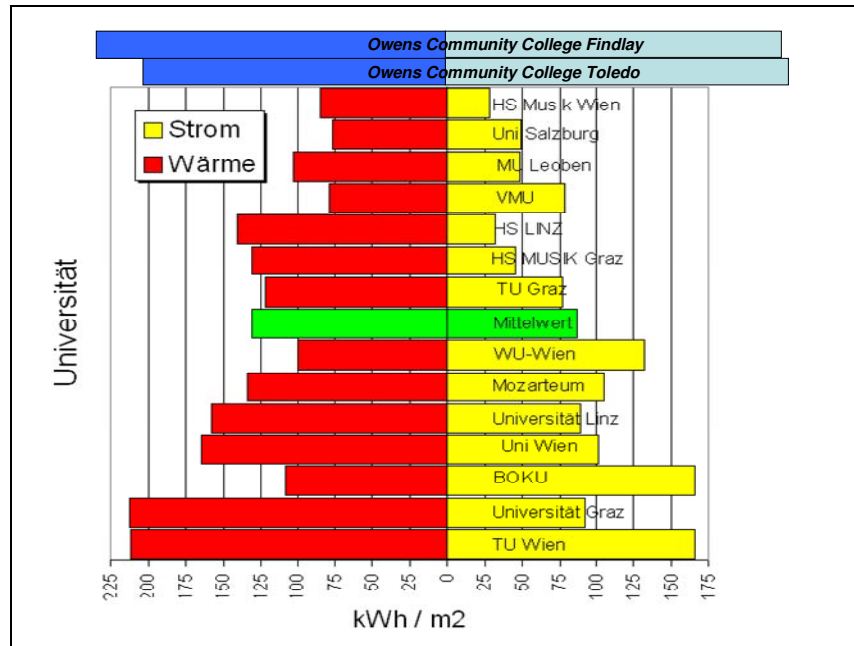


Figure 2.9 Owens Community College Compared with Austrian Colleges

On a worldwide basis, the EU has the highest average building efficiency, and within the EU, Germany, Austria and Scandinavia are generally the most efficient. The climate is somewhat comparable, so comparing with a pool of these institutions, although imperfect, is a useful benchmarking tool. On the predominantly heating side (“Wärme”), OCC has an SEI of 206 kWh_e/m² per year for Toledo and 234 kWh_e/m² per year for Findlay. This is between 60 and 80% higher than the Austrian average (“Mittelwert”) of about 130 kWh_e/m² per year.

The electricity (“Strom”) index is 224 kWh_e/m² per year for Toledo and 219 kWh_e/m² per year for Findlay. These are about 180% higher than the average of the Austrian sample. A significant part of this large difference can be accounted for by different approaches to cooling buildings. If this is eliminated, the difference in overall index shrinks to about 80% higher than the sample average.

Overall, both campuses when combined have a SEI which is more than 100% higher than the comparable sample. It is important to point out that the sample average includes two old, large university campuses in Graz and Vienna. If these were removed from the sample, the sample average would be less, opening an even wider performance gap with OCC.

A further example comes from known data of the headquarters of Owens Corning Inc., in Toledo, Ohio. Constructed in 1997 at levels that exceeded Ohio code, it is a three story office building with extensive glass walls of a comparable area to OCC. It houses about 850 employees in an office environment and includes the corporate headquarters computer center. The facility also has extensive meeting and training rooms. It is used intensively on a 5-day week, with extended days (7am to 7pm) and has significant weekend use. The use of this building is probably more intensive on a full year basis than OCC. The SEI of this building (all energy uses) was about 320 kWh_e/m² per year when initially commissioned (36% less than OCC) and dropped to 275 kWh_e/m² per year after two years of focused management on detailed building management adjustment, employee awareness, and minor, low-cost, energy

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efficiency investments. This latter level is 58% less than OCC. Since then, OC has achieved further reductions. The World Headquarters Building was recently awarded a LEED Silver for Existing Buildings rating.

This benchmarking is presented to give credibility to the detailed energy efficiency modeling that follows. At this level, the benchmarking indicates a significant energy reduction potential for both gas and electricity use at Owens Community College.

2.6. *Modeled Current Energy Demand of Electricity and Gas*

A critical part of the Assessment was to develop an accurate estimate of the energy use for the major end use services. There is a limited amount of metered information available, even at the building level, and none at the end use level. Using computer simulations based on the structure, age, and condition, the current monthly energy end use services models were developed for a selection of the buildings on the campus. The age of the buildings ranges from 1968 to 2003.

The buildings modeled in detail were College Hall, Library, Math Science Building, Bicentennial Hall, Health Sciences Building, Child Care Center, Administration Hall, and Computer Technology.

For each of these buildings the gas and electricity use for cooling, lighting, heating and other plug loads (miscellaneous equipment) was assessed in detail. The following figures document the baseline models.

Electric Consumption (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Cool	450	2283	6623	48343	130219	174495	193784	164829	132489	70149	18999	4508	947171	76
Vent. Fans	29293	24328	18028	16287	16329	14892	14176	13277	14946	14777	13233	24791	214356	17
Pumps & Aux.	12674	10851	11174	10501	10180	9674	10088	9537	9628	9859	9307	12796	126270	10
Misc. Equip.	152389	156663	138520	144833	179866	123596	88094	88050	148908	179866	158447	96902	1656135	132
Area Lights	54007	55903	48812	51277	64296	43182	29626	29608	52747	64296	56371	33227	583353	47
Total	248813	250028	223158	271240	400889	365840	335769	305302	358719	338947	256357	172223	3527285	282
Gas Consumption (kBtu)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI
Space Heat	2355375	1820100	1098478	679382	83096	54661	49228	66080	82129	228180	509239	2012404	9038352	212
Hot Water	117553	125918	110268	113428	131552	79375	47656	45625	87083	111712	105778	68533	1144482	27
Total	2473514	1946637	1209269	793364	215364	134494	97173	111995	169785	340608	615637	2081266	10189103	239
Electric Demand (kW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI
Space Cool	0	107.2	242.1	407.8	630.3	663.7	578.7	522.7	603.6	561.7	258.4	275.2	0.053	
Vent. Fans	69.5	28.6	30.6	39.1	44.3	44.1	28.8	28.6	46.4	44.1	32.7	30.5	0.006	
Pumps & Aux.	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	0.001	
Misc. Equip.	466	463.2	463.9	466	463.2	463.9	208.4	209.3	463.9	466	466	463.9	0.037	
Area Lights	169.1	169.1	169.1	167.7	169.1	169.1	73.3	72.8	169.1	167.7	167.7	169.1	0.014	
Total	723.1	786.6	924.2	1099.2	1325.4	1359.4	907.7	852.1	1301.5	1258.1	943.4	957.3	0.109	
Gas Demand (Btu/h)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI
Space Heat	6641404	6621899.5	6355115	6249963	926490.31	889396.31	936999.63	1125447.13	1238565.5	2284800	4926971	6556757.5	0.156	
Hot Water	320573.09	333354.59	229907.41	106751.18	208323.77	192432.95	19262.19	18858.72	169620.66	33899.11	91050.18	23152.58	0.008	
Total	6962534.5	6955811.5	6586625.5	6359710.5	1136416.88	1083432	956278.44	1144317.38	1409788.88	2320162.5	5021017.5	6579915	0.163	
Blgd Area (m2)	12,500													
Source Load (Energy)														EUI kWh/m2
Space Cooling (kBtu)	428.63	3633.9299	11670.79	137891.844	544327.5	850122.125	938146.375	767235.688	558445.563	250603.516	46046.0703	11444.2793	4119996	97
Space Heating (kBtu)	1834778	1387800	784033	459372	26154	15177	16290	26779	32799	109007	302772	1559156	6554117	154
Domestic Hot Water (kBtu)	70518	75536	66148	68043	78915	47615	28588	27370	52239	67014	63454	41112	686551	16
Source Demand (Power)														Max kW/m2
Space Cooling (kBtu/hr)	132.9	457.5	801.8	2,174.6	3,465.3	3,812.3	3,017.8	2,740.1	3,067.1	3,029.2	1,408.5	1,096.5	0.090	
Space Heating (kBtu/hr)	5,409.6	5,393.4	5,204.7	5,065.9	440.6	436.1	348.9	620.8	823.6	1,623.8	3,833.6	5,325.1	0.127	
Domestic Hot Water (kBtu/hr)	192.3	200.0	137.9	64.0	125.0	115.5	11.6	11.3	101.8	20.3	54.6	13.9	0.005	

Figure 2.10 College Hall - Energy End Use Baseline

Owens Community College Integrated Energy Master Plan

Electric Consumption (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Cool	2207	2060	2394	4272	11005	14079	20630	21108	11289	5197	3014	2403	99659	35	
Vent. Fans	6118	5294	5379	4450	3907	3277	4373	4860	3655	4309	4899	6181	56701	20	
Pumps & Aux.	3181	2860	3031	2617	2307	2039	2392	2508	2179	2617	2838	3171	31742	11	
Misc. Equip.	24191	24080	22572	23608	27704	17306	20473	27704	20545	24493	24291	17713	274682	96	
Area Lights	14672	14617	13681	14311	16818	10464	12392	16818	12446	14853	14744	10708	166526	58	
Total	50371	48912	47057	49258	61742	47165	60262	72998	50115	51469	49786	40176	629309	219	
Gas Consumption (kBtu)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Heat	470032	367211	338605	202334	40100	16073	6328	10208	61614	159380	265080	493837	2430801	248	
Hot Water	5949	6167	5738	5879	6446	3638	4010	5247	3858	4821	5189	4016	60959	6	
Total	475982	373378	344342	208212	46546	19710	10337	15456	65472	164201	270268	497854	2491760	255	
Electric Demand (kW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Cool	2.99	5.85	15.94	42.38	66.37	67.35	83.77	77.45	77.55	34.51	18.07	22.76		0.029	
Vent. Fans	7.69	7.72	7.69	10.11	11.86	11.89	14.46	14.79	14.32	9.18	7.69	7.69		0.005	
Pumps & Aux.	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37		0.002	
Misc. Equip.	75.41	75.41	75.41	75.41	75.41	75.41	75.41	75.41	75.41	75.41	75.41	75.41		0.026	
Area Lights	45.71	45.71	45.71	45.71	45.71	45.71	45.71	45.71	45.71	45.71	45.71	45.71		0.016	
Total	136.17	139.06	149.12	177.98	203.72	204.73	223.72	217.74	217.36	169.18	151.25	155.94		0.078	
Gas Demand (Btu/h)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Heat	1250267	1213198	1045329	1025637	562409	547892	286625	292441	628102	730383	924411	1292260		0.132	
Hot Water	1637	1243	1662	2097	1947	4658	4169	957	1005	1040	1840	1182		0.000	
Total	1251904	1214441	1046991	1027734	564356	552549	290794	293398	629107	731423	926251	1293442		0.132	
Bldg Area (m2)	2,869														
Source Load (Energy)														EUI Kwh/m2	
Space Cooling (kBtu)	124.14													934875	95
Space Heating (kBtu)	332965													1638621	167
Domestic Hot Water (kBtu)	3569													36567	4
Source Demand (Power)														Max kW/m2	
Space Cooling (kBtu/hr)	37.330													0.080	
Space Heating (kBtu/hr)	946.419													0.101	
Domestic Hot Water (kBtu/hr)	0.982													0.000	

Figure 2.11 Library - Energy End Use Baseline

Electric Consumption (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Cool	2759	2481	2851	6000	17882	24289	35404	37700	19498	7277	3328	3100	162569	38	
Vent. Fans	14773	12337	9224	6977	5943	4565	5866	7403	5356	4966	7045	13327	97782	23	
Pumps & Aux.	3968	3466	3484	3411	3363	2824	3239	3684	3086	3052	3082	4039	40698	9	
Misc. Equip.	38962	40294	35239	36973	46358	23896	29704	46358	31341	38962	40647	24072	432804	101	
Area Lights	20374	21076	18425	19333	24249	12484	15525	24249	16384	20374	21258	12575	226305	53	
Total	80836	79653	69223	72694	97795	68058	89737	119393	75664	74632	75359	57114	960158	224	
Gas Consumption (kBtu)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Heat	1311139	1056148	689036	373338	67099	64338	43823	26140	96763	165273	428343	1144772	5466212	373	
Hot Water	28029	29981	26266	26983	31317	15027	17290	25505	17349	22428	25175	16383	281732	19	
Total	1339168	1086128	715302	400322	98416	79365	61113	51645	114112	187701	453518	1161154	5747944	393	
Electric Demand (kW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Cool	4.02	4.02	23.13	66.3	127.71	137.05	160.61	150.41	131.5	56.14	27.39	33.52		0.037	
Vent. Fans	27.31	27.31	11.19	14.24	15.8	15.88	18.41	17.87	19.04	14.34	11.77	11.29		0.006	
Pumps & Aux.	5.81	5.81	5.81	5.81	5.81	5.81	5.81	5.81	5.81	5.81	5.81	5.81		0.001	
Misc. Equip.	126.19	126.19	126.19	126.19	126.19	126.19	126.19	124.26	126.19	124.26	126.19	126.19		0.029	
Area Lights	65.91	65.91	65.91	65.91	65.91	65.91	65.91	64.92	65.91	64.92	65.91	65.91		0.015	
Total	229.24	229.24	232.22	278.45	341.42	350.84	376.93	363.27	348.45	265.48	237.06	242.72		0.088	
Gas Demand (Btu/h)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI Kwh/m2	
Space Heat	2782941	2750362	2676137	2673390	417717	597167	554863	363637	934708	2232948	2512586	2718692		0.190	
Hot Water	71016	82726	57054	56058	51649	47711	4786	41962	4827	43801	47309	6120		0.006	
Total	2853958	2833088	2733192	2729449	469367	644877	559649	405599	939535	2276750	2559896	2724812		0.195	
Bldg Area (m2)	4,290														
Source Load (Energy)														EUI Kwh/m2	
Space Cooling (kBtu)	159.98													1610735	110
Space Heating (kBtu)	1036365													4075429	278
Domestic Hot Water (kBtu)	16814													169006	12
Source Demand (Power)														Max kW/m2	
Space Cooling (kBtu/hr)	48.1													0.102	
Space Heating (kBtu/hr)	2,274.2													0.156	
Domestic Hot Water (kBtu/hr)	42.6													0.003	

Figure 2.12 Math Science - Energy End Use Baseline

Owens Community College Integrated Energy Master Plan

Electric Consumption (kWh)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Space Heat	41194.38	31574.45	26588.03	15812.55	1699.976	700.286	341.896	0.658	3527.328	10126.4	19204.38	41734.53	192504.9	114
Space Cool	888.524	925.046	1034.077	2833.407	8292.297	9119.243	14025.18	16567.8	7925.115	3168.258	1470.361	893.458	67142.77	40
Vent. Fans	1270.624	1213.238	1217.921	1314.784	1630.957	1258.464	1767.883	2182.079	1390.823	1220.198	1179.961	1084.499	16731.43	10
Pumps & Aux.	511.631	501.295	501.295	523.689	568.478	434.111	484.068	587.428	454.783	497.849	487.513	415.162	5967.303	4
Misc. Equip.	12940.87	13340.84	11735.66	12271.13	15350.87	8052.492	9928.253	15350.88	10462.9	12506.26	13017.18	7878.592	142835.9	85
Area Lights	7080.549	7300.827	6420.07	6713.678	8401.481	4401.985	5429.377	8401.48	5722.94	6835.159	7115.11	4302.312	78124.97	46
Hot Water	1546.019	1652.626	1455.778	1494	1731.125	838.765	959.348	1407.562	962.105	1196.174	1339.305	882.386	15465.19	9
Total	65432.59	56508.31	48952.83	40963.23	37675.19	24805.35	32936.01	44497.88	30445.99	35550.29	43813.8	57190.93	518772.3	308
Gas Consumption (kBtu)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electric Demand (kW)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Space Heat	157.717	121.546	99.941	103.235	0	0	0	0	0	54.557	84.057	171.675		0.102
Space Cool	2.727	2.727	2.727	2.727	75.579	73.609	95.646	85.264	83.798	2.727	2.727	5.782		0.057
Vent. Fans	5.555	4.164	4.164	4.182	7.705	6.992	9.425	9.229	9.13	4.164	4.164	6.401		0.006
Pumps & Aux.	1.723	1.723	1.723	1.723	1.723	1.723	1.723	1.723	1.723	1.723	1.723	1.723		0.001
Misc. Equip.	39.1	39.1	39.1	39.1	48.397	48.397	48.397	47.655	48.397	44.708	44.708	2.882		0.029
Area Lights	21.475	21.475	21.475	21.475	26.494	26.494	26.494	26.1	26.494	24.493	24.493	1.575		0.016
Hot Water	4.63	4.803	4.817	4.732	5.218	4.809	4.45	4.226	4.206	3.884	4.192	0.339		0.003
Total	232.927	195.539	173.947	177.174	165.117	162.025	186.136	174.196	173.748	136.256	166.064	190.376		0.138
Gas Demand (Btu/h)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Space Heat	0	0	0	0	0	0	0	0	0	0	0	0		0.000
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0		0.000
Total	0	0	0	0	0	0	0	0	0	0	0	0		0.000
Bldg Area (m2)													Total	EUI Kwh/m2
1,683														
Source Load (Energy)													Total	EUI Kwh/m2
Space Cooling (kBtu)	0	487.91	1334.92	14904.74	54165.07	60400.71	90691.64	109603.4	50334.58	17539.74	5000.79	1351.62	405815	71
Space Heating (kBtu)	140595	107763	90744	53968	5802	2390	1167	2	12039	34561	65544	142439	657014	114
Domestic Hot Water (kBtu)	1546	1653	1456	1494	1731	839	959	1408	962	1196	1339	882	15465	3
Source Demand (Power)													Total	Max kW/m2
Space Cooling (kBtu/hr)	-	63.6	95.8	290.3	457.9	480.2	542.7	503.1	477.4	225.3	193.7	141.7		0.095
Space Heating (kBtu/hr)	603.5	463.5	417.1	433.7	117.1	79.9	59.0	2.2	221.1	261.5	362.6	585.9		0.105
Domestic Hot Water (kW)	4.6	4.8	4.8	4.7	5.2	4.8	4.5	4.2	4.2	3.9	4.2	0.3		0.003

Figure 2.13 Bicentennial Hall - Energy End Use Baseline

Electric Consumption (kWh)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Space Heat	79065.4	59524.9	48842.6	27046.8	1756	43.7	38	387.7	2252.4	15578.1	35620.5	81746.4	351902.4	89
Space Cool	1398.9	1472.1	1637.2	4776.7	14626.7	18619.3	18416.5	16235.4	12535.4	8187.6	2530.3	1526.6	101962.7	26
Vent. Fans	3722.2	3700.4	3614.7	3872	5361.9	4510.6	3959.6	3757.1	4389.4	4683.5	3848	3087.6	48506.9	12
Pumps & Aux.	1321	1303.2	1276.5	1289.8	1503.3	1294.3	1272.1	1321	1245.4	1503.3	1352.1	1098.6	15780.6	4
Misc. Equip.	35288.7	36448.9	31942.2	33406.4	41976	27296.9	17445.8	17444.5	33941.2	41976	36790.8	21946.4	375903.8	95
Area Lights	20660.3	21344.6	18696.2	19550.1	24586	15930.1	10104.2	10104.1	19845.6	24586	21543.2	12835.2	219785.7	56
Hot Water	3906.6	4184.4	3672.5	3764.4	4397.3	2574.3	1448.3	1390.1	2860.6	3729.5	3522.9	2286.8	37737.7	10
Total	145363	127978.4	109682	93706.3	94207.2	70269.3	52684.4	50639.7	77070	100244	105207.8	124527.8	1151580	292
Gas Consumption (kBtu)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electric Demand (kW)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Space Heat	301.721	187.587	87.655	130.558	0	0	0	0	0	112.813	344.546		0.087	
Space Cool	4.294	4.294	4.294	4.294	115.21	133.292	98.761	83.801	143.486	97.194	4.294	9.109		0.036
Vent. Fans	12.882	14.58	12.416	11.825	22.2	30.236	15.379	14.99	30.073	20.663	11.825	14.421		0.008
Pumps & Aux.	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448	4.448		0.001
Misc. Equip.	98.986	119.856	119.856	98.986	122.525	118.046	52.549	52.549	122.525	122.525	119.856	7.297		0.031
Area Lights	58.168	70.216	70.216	58.168	71.763	69.227	30.77	30.77	71.763	71.763	70.216	4.266		0.018
Hot Water	10.808	12.615	12.644	11.039	12.198	11.211	4.093	3.898	9.831	10.273	10.467	0.799		0.003
Total	491.306	413.595	311.529	319.319	348.343	366.46	206.001	190.456	382.125	326.865	333.918	384.886		0.125
Gas Demand (Btu/h)													Total	EUI Kwh/m2
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Space Heat	0	0	0	0	0	0	0	0	0	0	0	0		0.000
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0		0.000
Total	0	0	0	0	0	0	0	0	0	0	0	0		0.000
Bldg Area (m2)													Total	EUI Kwh/m2
3,945														
Source Load (Energy)													Total	EUI Kwh/m2
Space Cooling (kBtu)	0	166.82	431.62	4422.54	17013.43	25457.2	26567.48	23899.2	15896.9	8977.761	1702.39	508.25	125044	9
Space Heating (kBtu)	62332	51386	39588	23728	3473	55	76	102	2010	13484	28323	55738	280295	21
Domestic Hot Water (kBtu)	3907	4184	3673	3764	4397	2574	1448	1390	2861	3730	3523	2287	37738	3
Source Demand (Power)													Total	Max kW/m2
Space Cooling (kBtu/hr)	-	21.5	31.8	83.6	146.8	182.5	148.6	126.9	204.5	127.5	65.3	48.0		0.015
Space Heating (kBtu/hr)	299.5	281.1	123.6	124.3	56.0	8.8	15.0	8.4	35.4	80.6	101.6	196.0		0.022
Domestic Hot Water (kW)	10.8	12.6	12.6	11.0	12.2	11.2	4.1	3.9	9.8	10.3	10.5	0.8		0.003

Figure 2.14 Health Sciences - Energy End Use Baseline

Owens Community College Integrated Energy Master Plan

Electric Consumption (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Cool	337	307	378	1002	2915	3972	6172	6668	3315	1440	445	407	27358	16
Vent. Fans	976	958	751	799	892	828	1139	1273	898	782	672	846	10815	6
Pumps & Aux.	747	675	747	750	763	717	763	763	717	763	701	747	8851	5
Misc. Equip.	5969	6041	5496	5678	6916	4020	4786	6916	4967	5969	6151	4075	66985	39
Area Lights	7119	7335	6459	6751	8439	4440	5469	8439	5761	7119	7411	4478	79222	46
Total	15148	15316	13830	14980	19926	13978	18328	24059	15658	16074	15380	10553	193231	113
Gas Consumption (kBtu)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Heat	189491	160152	119993	76328	12829	8989	4320	0	19447	52205	85419	173355	902530	155
Hot Water	17196	18344	16174	16558	19124	9306	10615	15528	10657	13769	15437	10214	172919	30
Total	206686	178496	136166	92886	31954	18296	14935	15528	30104	65974	100856	183569	1075449	184
Electric Demand (kW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Cool	1.31	1.31	5.81	14.31	36.39	39.81	48.29	42.68	43.9	13.8	6.76	7.59		0.028
Vent. Fans	9.11	9.11	3.22	3.22	5.33	5.25	6.97	6.39	6.55	3.22	3.22	3.22		0.005
Pumps & Aux.	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04		0.001
Misc. Equip.	27.23	27.23	27.23	27.23	26.31	26.31	27.23	27.23	26.31	27.23	27.23	27.23		0.016
Area Lights	27.45	27.45	27.45	27.45	27.45	27.45	27.45	27.45	27.45	27.45	27.45	27.45		0.016
Total	67.14	67.14	65.74	74.24	97.51	100.85	111.98	105.78	106.24	73.73	66.69	67.52		0.066
Gas Demand (Btu/h)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Heat	853156	826539	474833	493280	166913	153996	142032	0	253382	313591	406578	806315		0.146
Hot Water	54103	57848	32661	32095	29632	3444	3312	55287	3350	25148	27136	39370		0.010
Total	907258	884387	507494	525375	196545	157440	145344	55287	256732	338739	433714	845685		0.155
Bldg Area (m2)	1,709													
Source Load (Energy)														EUI kWh/m2
Space Cooling (kBtu)	0	62.17	574.38	8381.449	31329.1	43711.65	66080.75	72869.89	34754.68	13682.56	1895.18	961.68	274303	47
Space Heating (kBtu)	133435	112021	77959	46499	5146	3702	1738	1	10513	27485	51606	118976	589801	101
Domestic Hot Water (kBtu)	10316	11004	9702	9933	11472	5582	6368	9315	6393	8260	9260	6127	103732	18
Source Demand (Power)														Max kW/m2
Space Cooling (kBtu/hr)	-	15.919	71.742	216.699	401.223	451.093	496.437	476.903	454.263	213.696	83.526	109.483		0.085
Space Heating (kBtu/hr)	677.324	657.429	400.110	408.694	108.800	94.952	74.331	0.415	175.893	234.393	333.117	638.516		0.116
Domestic Hot Water (kBtu/hr)	32.461	34.708	19.596	19.257	17.779	2.066	1.987	33.172	2.010	15.088	16.281	23.622		0.006

Figure 2.15 Child Care Center - Energy End Use Baseline

Electric Consumption (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Cool	16.9	39.1	255.6	2748.5	8657.7	13792.4	21056.6	18061	9649.5	4555.5	766.1	335.5	79934.3	33
Vent. Fans	1771.2	1529.8	1572.9	1640.2	1747.2	1848.1	2535.4	2222.6	1703	1644.5	1426.9	1704.2	21345.9	9
Pumps & Aux.	1283	1159.9	1283	1298.5	1316.9	1230.7	1316.9	1316.9	1230.7	1316.9	1196.7	1283	15233.3	6
Misc. Equip.	12681.7	11471	12681.7	13140.7	13189.7	12112.7	13195.7	13189.7	12112.7	13189.7	11592.8	12681.7	151239.8	63
Area Lights	9290	8404.7	9290	9701.9	9712.3	8855	9713.5	9712.3	8855	9712.3	8430.3	9290	110967.3	46
Total	25042.8	22604.5	25083.2	28529.8	34623.7	37838.9	47818.1	44502.5	33550.8	30418.9	23412.9	25294.4	378720.6	157
Gas Consumption (kBtu)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Heat	272617	220699	173101	101572	17907	291	0	0	14001	81988	147889	243326	1273392	154
Hot Water	10065	9445	10457	10668	9908	8351	8457	8055	7362	8413	7935	9419	108536	13
Total	282682	230143	183559	112240	27815	8642	8457	8055	21363	90402	155824	252745	1381928	167
Electric Demand (kW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Cool	16.9	7.7	20.06	44.86	94.96	107.06	136.48	105.02	112.1	74.37	22.67	28.39		0.056
Vent. Fans	7.88	5.65	5.65	6.01	8.63	9.5	11.98	10.66	10.78	7.36	5.65	5.65		0.005
Pumps & Aux.	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38		0.001
Misc. Equip.	31.28	38.07	38.07	38.07	38.07	38.07	38.07	38.07	38.07	38.07	38.07	38.07		0.016
Area Lights	26.1	32.05	32.05	31.94	32.05	31.01	31.01	31.01	31.01	32.05	31.01	32.05		0.013
Total	85.54	86.85	99.21	124.26	177.09	189.02	220.93	188.14	196.38	154.19	101.81	107.54		0.091
Gas Demand (Btu/h)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Heat	928801	840894	772085	759692	275312	168900	0	0	313264	566900	730320	904997		0.112
Hot Water	19750	20480	20531	20163	18657	6115	31649	30051	15120	15791	17031	18471		0.004
Total	948551	861374	792616	779856	293969	175015	31649	30051	328384	582691	747351	923468		0.115
Bldg Area (m2)	2,418													
Source Load (Energy)														EUI kWh/m2
Space Cooling (kBtu)	0	109.57	1024.24	15484.58	54891.94	91398.61	136378.3	118298.5	60138.11	27737.38	3832.35	1930.78	511224	62
Space Heating (kBtu)	186002	148364	109601	57816	6251	48	0	0	5744	43395	91020	163477	811718	98
Domestic Hot Water (kBtu)	6038	5666	6273	6400	5944	5010	5073	4832	4416	5047	4760	5650	65108	8
Source Demand (Power)														Max kW/m2
Space Cooling (kBtu/hr)	-	28.054	126.935	294.448	578.746	623.934	729.036	612.604	629.265	449.406	151.629	193.815		0.089
Space Heating (kBtu/hr)	702.432	627.955	571.029	560.808	181.409	26.907	-	-	210.912	406.976	536.771	682.174		0.085
Domestic Hot Water (kBtu/hr)	11.850	12.288	12.318	12.098	11.194	3.669	18.989	18.030	9.072	9.474	10.218	11.082		0.002

Figure 2.16 Administration Hall - Energy End Use Baseline

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Electric Consumption (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI kWh/m2
Space Heat	2186.58	1736.42	940.12	436.92	71.28	8.92	0	5.63	106.05	322.15	722.36	1705.79	8242.2	47
Space Cool	265.75	273.08	466.82	1032.61	1855.8	2372.65	3018.97	2776.91	1869.05	1203.33	504.88	301.65	15941.49	92
Vent. Fans	1131.11	1038.14	1169.85	1177.59	1177.59	1123.36	1177.59	1216.33	1084.63	1177.59	1076.88	1131.11	13681.79	79
Pumps & Aux.	148.19	136.01	153.27	154.28	154.28	147.18	154.28	159.36	142.1	154.28	141.09	148.19	1792.51	10
Misc. Equip.	2750.63	2499.77	2781.45	2844.32	2856.24	2662.62	2856.24	2885.78	2633.09	2854.96	2557.01	2750.63	32932.72	189
Area Lights	694.19	628.92	696.53	724.41	725.32	664.4	725.32	727.56	662.16	725.22	633.27	694.19	8301.5	48
Hot Water	51.1	47.91	52.94	53.53	49.5	41.91	42.13	40.32	36.9	42.25	40.3	47.81	546.61	3
Total	7227.54	6360.26	6260.97	6423.67	6890.01	7021.05	7974.54	7811.89	6533.96	6479.78	5675.78	6779.37	81438.82	468
Gas Consumption (kBtu)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electric Demand (kW)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI
Space Heat	41.4428	41.2673	34.0486	34.4946	0	0	0	0	0	21.6175	30.1642	40.2534	0.238	
Space Cool	1.5163	1.5163	1.5547	1.5163	13.7746	15.6912	17.9912	15.602	17.0494	1.5163	1.5163	1.5163	0.103	
Vent. Fans	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	3.8737	0.022	
Pumps & Aux.	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.5075	0.003	
Misc. Equip.	6.8151	6.8151	6.8151	6.8151	8.2551	8.2551	8.2551	8.2551	8.2551	6.8151	6.8151	6.8151	0.047	
Area Lights	2.0587	2.0587	2.0587	2.0587	2.5092	2.4281	2.4281	2.5092	2.5092	2.0587	2.0587	2.0587	0.014	
Hot Water	0.1061	0.11	0.11	0.1081	0.1943	0.1315	0.1216	0.157	0.1563	0.0842	0.0913	0.0995	0.001	
Total	56.32	56.1485	48.9682	49.3739	29.1144	30.887	33.1772	30.9044	32.3513	36.4729	45.0267	55.1241	0.324	
Gas Demand (Btu/h)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	EUI
Space Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
Bldg Area (m2)	174													
Source Load (Energy)														EUI kWh/m2
Space Cooling (kBtu)	283.54	503.13	1837.94	6232.91	12009.7	15238.29	18943.06	17615.55	11736.78	7352.25	2292.42	581.75	94627	159
Space Heating (kBtu)	7463	5926	3209	1491	243	30	0	19	362	1099	2465	5822	28129	47
Domestic Hot Water (kBtu)	51	48	53	54	50	42	42	40	37	42	40	48	547	1
Source Demand (Power)														Max kW/m2
Space Cooling (kBtu/hr)	21.8	34.2	35.5	63.9	83.7	90.9	96.9	93.8	95.2	79.7	35.3	36.4	0.164	
Space Heating (kBtu/hr)	141.4	140.8	116.2	117.7	45.8	28.5	-	17.0	59.6	73.8	103.0	137.4	0.239	
Domestic Hot Water (kW)	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.001	

Figure 2.17 Computer Technology - Energy End Use Baseline

The balance of the energy end use baseline was estimated on a prorate basis for the remaining buildings. The modeling was an iterative process to match the actual total metered data with the modeled.

2.7. Energy Demand Targets for New Buildings

Ohio House Bill 251 requires all colleges to establish energy efficiency standards for all new leasing and construction. Over the timeframe of the plan from 2010 to 2030, OCC is not planning any major new construction. Expansion will be within existing facilities or through conversion and rehabilitation of the Penta Facilities.

For the purpose of meeting the requirements of HB 251, the team is recommending that any major new expansion or deep renovation should be specified to use 50% to 60% less energy than today's practice. This would suggest an SEI in the range of 175 to 200 kWh/m²*yr. This is a level that would be typical of new construction in most of the EU today³. In addition, all new construction or deep renovation should, at a minimum, meet the requirements of the US Green Buildings LEED (Leadership in Environmental and Energy Design) Certification.⁴ LEED comes in different rating levels – Certified, Silver, Gold and Platinum. The energy standards outlined in

³ From an energy performance standpoint this would be approximately equivalent EU and German Energy Efficient Buildings standard (EU Energy Efficiency in Buildings Directive and EnEV 2007 - Energie-Einspar-Verordnung).

⁴ See www.usgbc.org.

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Energy Productivity Solutions

3. INTEGRATED ENERGY MASTER CONCEPT – BUILDINGS AND OPERATION

3.1. Overall IEMP Framework

The basic concept of any effective integrated master plan is based on gaining integrating benefits in the reduction of final energy demand combined with restructured and more efficient energy distribution and energy supply. This is a structured approach that follows a prioritized set of assessments:

- Priority 1 Maximize the energy efficiency final demand
- Priority 2 Maximize the use of heat recovery and cogeneration to minimize the waste of existing fuel
- Priority 3 Maximize the use of renewable energy sources where they are economically viable
- Priority 4 Maximize teaming with existing electricity and gas networks to optimize investment for both the College and the utility operator.

This prioritization is often referred to as the “California Loading Order” in the USA or the “Trias Energetica” in the EU. This is the approach used by the Assessment Team.

3.2. Integrated Building Management System (BMS)

The first priority in the future will be to gain control of the entire campus as an integrated energy user. This is a prerequisite for the successful implementation of all scenarios assessed. The OCC campuses already have some elements of building automation which should be incorporated into a comprehensive campus wide approach. The BMS system will allow overall management of the campus facility functions including heating, cooling, lighting, and the management of on-campus heat and electricity generation from either conventional or renewable sources.

As will be outlined later, the basic heating and cooling architecture of the campus will be physically integrated. The BMS also needs to be fully integrated. The current situation is one of multiple control approaches for individual buildings or even pieces of equipment, with no possibility for total facility monitoring or management.

The Assessment is recommending an immediate installation of a fully integrated BMS that has the following capabilities:

- i. It uses an open interconnection protocol such as LONWorks or BACNet which will allow integration of equipment from multiple manufacturers.
- ii. It will have HTML (web based) access capability making remote monitoring and control an option, which could facilitate teaming with other similar establishments in data benchmarking, performance monitoring, and ultimately even some possible remote management options.
- iii. It will have the potential to have wired and wireless linkages without jeopardizing control quality and integrity allowing for ease of extension and future installation flexibility.
- iv. It will have flexible monitoring and control capability to allow flexible zoning of the site to allow for adaptation to changing work and usage patterns and building layout.

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- v. It will have the ability to sub-meter energy supply and energy use, water and waste water usage at as many points as the Facility Management Team deem necessary for effective tracking of the energy and water performance of the campus. This will include tracking energy flows by building and by end use application.
- vi. It will have the potential to prepare cost center summaries for the purposes of internal or external billing, or to support staff/student energy.
- vii. It will have the capability to manage both energy demand and flexible energy supply options. In addition to the ability to manage the traditional electricity, natural gas, boilers and chillers, it should also have the capability to integrate less traditional sources such as bio-mass, cogeneration (CHP), photovoltaic, fuel cells, etc.
- viii. Like all modern BMS systems it will have extensive reporting capability.

The College has a mix of control equipment, so there is no obvious vendor that would be preferred. The three major global vendors (Honeywell, Siemens Building Technologies, and Johnson Controls) all have equipment that could meet the needs of the College. Other smaller vendors exist. By adopting a standard protocol, equipment from different suppliers can be potentially mixed on the campus.

The investment costs for the BMS is in the range of \$750K to \$1M. The team has used a working estimate of \$900K for the BMS combined with about \$100K for some additional metering for gas and electricity.

3.3. Building Operations & Recommendations

One of the basic energy efficiency measures comes from the effective management of the lighting, heating, and air conditioning of buildings. The Assessment for OCC on the Toledo Campus has found that between 15% and 20% energy saving are immediately available through improved lighting and thermostatic control. This alone would nearly meet the requirements of HB 251. In all the scenarios, 15% was used to ensure a conservative approach.

The recommended strategies are pretty basic but should be consistently implemented to optimize efficiency.

- i. Heat and cool areas only when needed according the scheduled timetable – this is commonly called “schedule management”. At OCC this will be particularly advantageous in low usage times such as the summer session where large parts of the campus are very lightly used, and yet fully conditioned.
- ii. Pre-condition areas according to their schedule needs based on anticipated weather conditions through automated integration of weather forecast data into the control strategy.
- iii. Establish a controlled discipline for night and low-occupancy setback of thermostats.
- iv. Switch of all lighting other than statutory safety lighting that is not needed both through schedule management and occupancy detection.
- v. Incorporate daylight adaptation of lighting in selected areas.
- vi. Manage area lighting for real usage patterns.

The BMS described in paragraph 3.2 is the essential prerequisite to capture this efficiency.

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All modern BMS have extensive reporting and graphics capability, making them an ideal tool for creating easy to understand information updates for staff and students to actively sensitize them to the new culture around energy productivity for the College.

3.4. Existing Building Conditions

Since the Findlay Campus is new, the main focus of this Assessment will be on the Toledo Campus. Though many buildings (or parts of buildings) are over 30 years old, they are all in generally good condition. A tour of the Toledo Campus revealed no significant maintenance and repair issues save for the few items listed below.

A review of the construction documents for key buildings on the campus showed them to represent sound design and construction detailing practices prevailing at the time they were built, though as explained below, some of these practices such as single piece masonry window sills exposed to both the indoor and outdoor environments, may be the source for recurring maintenance issues and/or diminish the energy performance of the buildings. Generally speaking, as notes on the specific building element will reveal below, the roof, walls and windows, while in most cases are in fine condition for their age, do not meet contemporary energy code standards and contribute to the somewhat high energy use in the buildings. The condition and performance of the building envelope also contributes significantly to the comfort levels of the interior spaces, and judging from the unusually high plug loads (indicative of the use of space heaters, etc), comfort levels are low during the cold temperature months. The following are general comments on the existing buildings stock:

3.4.1. *Roofs*

Physical inspection of the roofs was beyond the scope of this Assessment. Owens Community College staff report they have an ongoing preventive maintenance program and as part of that program, all the roofs on the Toledo Campus were inspected and found to be in good to excellent condition. Facilities staff reported that some have undergone significant repair or replacement within the last few years. However, insulation levels were kept as originally specified and installed.

An examination of the construction documents revealed most buildings have insulation ranging from R10 to R16, with a few ranging upward to R20 and R25. Roof insulation is a high-impact factor in the energy performance of a given building. Selective re-insulation of roofs will be a recurring recommendation in the rest of this report. Some buildings had poor thermal bridging from the inside to the outside in parts of the roof structure, further diminishing the effectiveness of the roof insulation. Specifically, this was seen most vividly in College Hall.

It is interesting to note that Sweden, the country with arguably the highest level of energy efficiency in institutional buildings, has the world's most demanding roof insulation standard by far.

3.4.2. *Walls*

The campus buildings mostly consisted of masonry walls and they appeared to be in excellent condition. Cracks, spauling and paint bubbling or peeling, typical signs of structural or moisture problems in a wall, were not excessive given the age of the buildings.

There were signs however, that moisture was getting into the wall assemblies in a few of the buildings, due in some cases to deteriorated flashing and sealing, and in other cases due to single piece masonry windows sills extending through the entire wall assembly causing a

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thermal short, in turn causing moisture condensation. In others this moisture infiltration was due to plugged weep holes.

A review of the construction documents of the key buildings on campus showed the wall assemblies to be typical for the type of construction in that there were many transition points (normally at roof/wall intersections and corners) where there was little or no insulation, and this is an area where moisture condensation will likely occur.

3.4.3 Windows

Observation of the buildings on campus revealed that while the inventory of windows were generally in good condition, most of the aluminum framed windows were significant thermal conductors because they do not have a “thermal break” to isolate the indoor surfaces from the outdoor ones. This creates a significant pathway for energy loss.

There are a number of buildings where the window sills extend from the outdoor exposure to the indoor conditioned space, causing moisture condensation in the wall assembly and a very cold indoor surface in the winter. Where the window frame is wood, this condensation has caused the window frame to rot and require replacement. This sill condition was observed in the Engineering Tech Building and College Hall. A detailed review of the construction assemblies should be conducted to determine the extent of this problem.

3.4.4 Air Infiltration

The most observed source for uncontrolled air infiltration was at the door openings to virtually every building. The heavy use of the doors has led them to be chronically out of adjustment so that there are permanent gaps for air to pass between the outdoor and indoor environments.

Vestibules are a good way to mitigate this issue as long as they are minimally conditioned, not set at the interior conditioning. There were a number of heavily used door sets that had no vestibule, which magnifies the energy loss. Other causes of air infiltration are failed or missing seals and caulking at joints between differing materials, control joints, expansion joints and wall and roof penetrations.

Reducing uncontrolled air infiltration, along with thermostatic control and roofing insulation, is a critical factor in reducing the overall energy use of a building.

3.5. Building Recommendations

3.5.1 General

Section 3.4 summarized some of the key observations that were common to many of the buildings on the campus. The approach adopted by the Assessment Team was to do a more detailed cost benefit analysis for a selected number of buildings, and then apply an average assumption to the balance.

For each of the buildings analyzed in detail, an “Efficient Case” scenario was developed. The “Base Case” which represents the business-as-usual reference point has been documented in Chapter 2 of this report.

3.5.2 College Hall

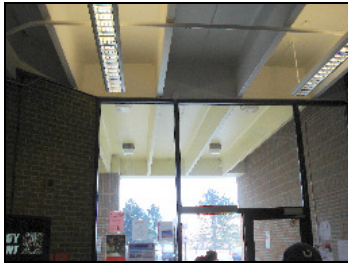
Roof and Wall Structures Recommendations

Much of College Hall is 25 or more years old, built to the energy efficiency standards at that time. As a general rule, after improved building operational management, the most cost

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effective way to improve energy efficiency within a single building is to improve the thermal performance of the envelope, starting with the roof. The firm recommendation is to upgrade the insulation to at least R25.

In addition, there are many areas in College Hall where there are thermal shorts. The most noticeable are the Twin-Ts in the roof and around windows and the window sills themselves. In most of the Twin-Ts, conditions are to create canopy at entry points to the building. Mitigation is possible only by enclosing the Twin-Ts by adding another set of entry doors to create a new vestibule. This has the added benefit of reducing the air infiltration at the entry doors. Where windows are being recommended for replacement, if the window sill is a single element that is exposed to both the exterior and indoor environments without a thermal break, the sill will also need to be replaced. The building should be examined in detail and wherever possible, the thermal shorts at the roof structure should be isolated. This will mitigate moisture condensation collecting in the roof and wall assemblies that could cause mold and possible structural damage, as well as cut the thermal energy performance of the assembly at least in half.



Entry with No Vestibule



Window Sill



Structural Header

Figure 3.1 Examples of Thermal Shorts

Window Recommendations

The windows in College Hall are typical of this building type, as built in the 1970's, '80's & '90's. The glazing is minimal in most areas except the entryways and obvious gathering areas. In some areas, particularly in the older original part of the building, the windows simply need to be replaced. This will also help with air infiltration in those locations.

While shading is desirable from a comfort and productivity perspective, especially on the east and south facing windows, it is generally not cost effective from an energy saving perspective with improved SHGC for window replacement. Shading is most effective if placed on the outside of the window, but there are also benefits to installing shading devices like blinds on the inside of the window, as is currently the case in many classrooms. It should be noted however that inside blinds limit day lighting opportunities. The recommendation is selective replacement of windows, and installation of interior shading.

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Figure 3.2 Small Windows with Inside Vertical Blinds

As the price of energy increases over the years, it might make sense to have a more aggressive re-fenestration strategy, accompanied by exterior shading measures. This cannot be justified in the energy cost scenarios used in the Assessment although some replacement has been recommended and included in the costs associated with this report.

Lighting and Daylight Control

As noted above, using daylighting in the building is limited in most areas due to the small window area (classrooms, labs, etc). The functional requirements of these spaces would not be conducive to daylighting strategies with the existing fenestration. These areas should be made more efficient through the use of occupancy sensors, improved student/staff awareness and, where possible, automated scheduling lighting controls.

The recommendation is to install daylight sensing lighting controls in the central/common areas where glazing levels are higher such as in the atrium, corridors (especially in highly glazed areas off of the interior courtyard), Offices of Enrollment Services, among others.



Figure 3.3 Examples of Areas Suitable for Active Daylighting Control

Air Infiltration Control Recommendations

In most buildings, control and expansion joints are typically prone to failure. These should be inspected as a continuous maintenance items and resealed as necessary. This is clearly recommended as an ongoing low-cost routine maintenance strategy to minimize energy loss.

Many doors were misaligned and had significant air gaps when nominally closed. Due to heavy use, many of the exterior doors need maintenance and adjustment, and/or new weather strips. A systematic program to maintain door closures should be initiated and be part of the ongoing low-cost energy program of the College.

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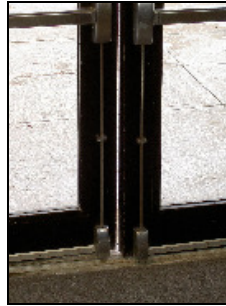


Figure 3.4 Incomplete Door Closure

In addition, there are several high use doors in this building that could benefit from the addition of a vestibule, especially main entrance doors on the east side. The recommendation is to add up to nine (9) vestibules to these high-traffic entries.



Figure 3.5 Incomplete Door Closure

Plug Load

In most buildings, once the modeling was completed, the level of electricity was found to be high for non-lighting and non air-conditioning uses. This is even seen indicatively in the benchmarking example shown in Figure 2.9. In the case of College Hall the miscellaneous electric load is 132 kWh_e/m²*year⁵, a level that is at the high end of most benchmarks. When looked at by month of use, the larger part is in the fall to spring period, probably from both increased use of facilities during the academic year along with the use of individual electric heaters. The recommendation is to carry out a detailed assessment of the profile of this use, and institute appropriate measures to sensitize staff and students to the value of various conservation strategies in addition to implementing the building improvements that would compensate for lack of comfort indicative by the high plug loads.

Energy Efficiency Summary

For the buildings that had the more detailed Assessment, of which College Hall was one, the Team completed a detailed modeling. This modeling is shown in Figure 3.6. The detailed analysis of the modeling is available to the College on request.

⁵ See Figure 2.10 College Hall Baseline

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Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		Total Mbtu
		TDV-Mbtu	EUI TDV-kBtu/sf/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	
Annual Energy USE or DEMAND									
0	Base Design	42,425	326.32	3,148,417	101,891	583,353	908,929	90,384	12,140
1	0+TSStat Management EEM	38,711	297.76	3,038,157	76,039	583,353	798,668	64,526	9,178
2	1+Equipment Power EEM	35,309	271.59	2,583,801	88,537	583,353	715,307	77,016	10,143
3	2+Lighting Power EEM	34,177	262.88	2,440,007	91,942	466,682	688,184	80,419	10,391
4	3+Daylighting EEM	34,114	262.39	2,433,741	91,950	461,927	686,671	80,427	10,386
5	4+Roof Insul EEM	33,337	256.41	2,426,908	84,877	461,927	679,838	73,366	9,657
6	5+Window Glass Type EEM	33,244	255.70	2,425,890	84,051	461,931	678,815	72,541	9,571
7	6+Reduce Infiltration EEM	32,589	250.67	2,422,737	77,832	461,931	675,663	66,328	8,939
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)									
1	0+TSStat Management EEM	3,714	28.57 (9%)	110,260 (4%)	25,852 (25%)	0 (0%)	110,262 (12%)	25,858 (29%)	2,962 (24%)
2	1+Equipment Power EEM	3,402	26.17 (8%)	454,356 (14%)	12,498 (-12%)	0 (0%)	83,360 (9%)	-12,491 (-14%)	-965 (-8%)
3	2+Lighting Power EEM	1,132	8.71 (3%)	143,795 (5%)	-3,405 (-3%)	116,671 (20%)	27,123 (3%)	-3,403 (-4%)	-248 (-2%)
4	3+Daylighting EEM	63	0.49 (0%)	6,266 (0%)	-8 (-0%)	4,755 (1%)	1,513 (0%)	-8 (-0%)	4 (0%)
5	4+Roof Insul EEM	777	5.98 (2%)	6,833 (0%)	7,073 (7%)	0 (0%)	6,833 (1%)	7,060 (8%)	729 (6%)
6	5+Window Glass Type EEM	93	0.72 (0%)	1,018 (0%)	826 (1%)	-4 (-0%)	1,023 (0%)	826 (1%)	86 (1%)
7	6+Reduce Infiltration EEM	654	5.03 (2%)	3,153 (0%)	6,219 (6%)	0 (0%)	3,152 (0%)	6,213 (7%)	632 (5%)
Cumulative SAVINGS (values (and % savings) are relative to the Base Case, negative entries indicate increased use)									
1	0+TSStat Management EEM	3,714	28.57 (9%)	110,260 (4%)	25,852 (25%)	0 (0%)	110,262 (12%)	25,858 (29%)	2,962 (24%)
2	1+Equipment Power EEM	7,116	54.74 (17%)	564,616 (18%)	13,354 (13%)	0 (0%)	193,622 (21%)	13,367 (15%)	1,998 (16%)
3	2+Lighting Power EEM	8,248	63.44 (19%)	708,410 (23%)	9,949 (10%)	116,671 (20%)	220,745 (24%)	9,964 (11%)	1,750 (14%)
4	3+Daylighting EEM	8,312	63.93 (20%)	714,676 (23%)	9,941 (10%)	121,426 (21%)	222,258 (24%)	9,957 (11%)	1,754 (14%)
5	4+Roof Insul EEM	9,089	69.91 (21%)	721,509 (23%)	17,014 (17%)	121,426 (21%)	229,091 (25%)	17,017 (19%)	2,484 (20%)
6	5+Window Glass Type EEM	9,182	70.62 (22%)	722,527 (23%)	17,840 (18%)	121,422 (21%)	230,115 (25%)	17,843 (20%)	2,570 (21%)
7	6+Reduce Infiltration EEM	9,836	75.66 (23%)	725,680 (23%)	24,059 (24%)	121,422 (21%)	233,266 (26%)	24,056 (27%)	3,202 (26%)

Figure 3.6 College Hall – Impact of Energy Efficiency Measures

The top line shows the base case, and the subsequent seven lines show the incremental efficiency impact of each set of measures. In sequence they are:

- Active management of heating and cooling
- Reducing plug loads
- Reducing lighting demand through upgraded fixtures
- Reducing lighting demand through daylighting
- Roof insulation
- Selective window replacements and upgrades
- Reduced infiltration

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The second block in the table shows the energy savings for each measure taken in isolation, and the last block shows the same data cumulatively. The format is identical for all the following buildings, so this explanation will not be repeated.

Combined, the recommendations for College Hall result in an overall energy efficiency gain of 23%. In all cases, the Assessment Team has used conservative values for all the modeling assumptions, and there is a high degree of confidence that this gain could be significantly higher once the recommendations are fully implemented.

3.5.3 Library

Roofing and Wall/Window Recommendations

This is new building and there are no specific building envelope recommendations. However, given that the horizon of the plan is 20 years, these decisions should be revisited at least once every five years taking into account prevailing pricing and climate change regulations. Specifically, upgrading roofing insulation to Swedish levels could be a future option. This has not been budgeted in the investment model.

Lighting and Daylight Control Recommendations

Significant lighting efficiency potential exists. The recommendation is to implement lighting control in the central/common areas where glazing is higher and the opportunity exists for benefit. Daylighting control should be implemented in the reading areas.



Figure 3.7 Library – Areas Conducive to Daylighting Management

In the pictures there are areas with adequate natural daylight, and yet all of the artificial lighting is still operating.

Any areas that are not conducive to daylight control such as stacks and offices should have occupancy sensors installed.

Air Infiltration Control Recommendations

Tighten up air leaks in the building shell by caulking and sealing and by making sure the windows and doors are properly adjusted, especially vestibule doors and doors leading to mechanical rooms. Since this is a relatively new building at only 12 years old, significant upgrades are not anticipated.

Energy Efficiency Summary

Figure 3.8 summarizes the impact of the recommendations on the Library.

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Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		Total Mbtu
		TDV-Mbtu	EUI TDV-MBtu/sf/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	
Annual Energy USE or DEMAND									
0	Base Design	8,935	296.44	629,310	24,918	166,526	188,102	24,308	3,073
1	0+TStat Management EEM	8,124	269.54	607,333	19,060	166,526	166,125	18,450	2,412
2	1+Equipment Power EEM	7,213	239.31	522,544	18,631	166,526	148,613	18,021	2,309
3	2+Lighting Power EEM	6,827	226.50	481,344	18,986	132,825	141,114	18,376	2,319
4	3+Daylighting EEM	6,266	207.89	431,129	18,518	96,707	127,016	17,908	2,224
5	4+Roof Insul EEM R-14 to R-25	6,266	207.89	431,129	18,518	96,707	127,016	17,908	2,224
6	5+Reduce Air Infiltration Perimeter	6,035	200.23	429,612	16,366	96,707	125,499	15,756	2,004
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)									
1	0+TStat Management EEM	811	26.90 (9%)	21,977 (3%)	5,858 (24%)	0 (0%)	21,977 (12%)	5,858 (24%)	661 (22%)
2	1+Equipment Power EEM	911	30.23 (10%)	84,789 (13%)	429 (2%)	0 (0%)	17,512 (9%)	429 (2%)	103 (3%)
3	2+Lighting Power EEM	386	12.82 (4%)	41,200 (7%)	-356 (-1%)	33,701 (20%)	7,499 (4%)	-356 (-1%)	-10 (-0%)
4	3+Daylighting EEM	561	18.61 (6%)	50,216 (8%)	468 (2%)	36,117 (22%)	14,098 (7%)	468 (2%)	95 (3%)
5	4+Roof Insul EEM R-14 to R-25	0	0.00 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
6	5+Reduce Air Infiltration Perimeter	231	7.66 (3%)	1,517 (0%)	2,152 (9%)	0 (0%)	1,517 (1%)	2,152 (9%)	220 (7%)
Cumulative SAVINGS (values (and % savings) are relative to the Base Case, negative entries indicate increased use)									
1	0+TStat Management EEM	811	26.90 (9%)	21,977 (3%)	5,858 (24%)	0 (0%)	21,977 (12%)	5,858 (24%)	661 (22%)
2	1+Equipment Power EEM	1,722	57.13 (19%)	106,766 (17%)	6,287 (25%)	0 (0%)	39,488 (21%)	6,287 (26%)	763 (25%)
3	2+Lighting Power EEM	2,108	69.94 (24%)	147,965 (24%)	5,931 (24%)	33,701 (20%)	46,987 (25%)	5,932 (24%)	754 (25%)
4	3+Daylighting EEM	2,669	88.55 (30%)	198,181 (31%)	6,399 (26%)	69,818 (42%)	61,086 (32%)	6,400 (26%)	848 (28%)
5	4+Roof Insul EEM R-14 to R-25	2,669	88.55 (30%)	198,181 (31%)	6,399 (26%)	69,818 (42%)	61,086 (32%)	6,400 (26%)	848 (28%)
6	5+Reduce Air Infiltration Perimeter	2,900	96.21 (32%)	199,698 (32%)	8,552 (34%)	69,818 (42%)	62,603 (33%)	8,552 (35%)	1,069 (35%)

Figure 3.8 Library – Impact of Energy Efficiency Measures

Despite its newness, the estimate is for a 32% overall reduction in energy use with some relatively modest measures.

3.5.4 Math Science

This building has a high SEI of 617 kWh_e/m²*yr relative to the campus average, with most of the deviation coming from the heating demand.⁶ There are multiple impacts causing this.

⁶ See Figure 2.12 Math Science Baseline

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Roofing Recommendations

The Math Science Building should be considered a high priority candidate for upgrading the roof insulation to at least R25. This will be the high-yield measure to reduce the heating and hence the natural gas demand. There is a significant need to improve the envelope performance of the building, and the roof is the best opportunity.

Window/Wall Recommendations

Given the very small amount of glazing on this building, we are not recommending window upgrades.



Figure 3.9 Math Science –Areas with Minimal Windows

Lighting/Daylighting Recommendations

In this building, due to the large amount of air that is being used for the hoods, initially reducing the lighting load will cause an increase in the heating load. When the hood makeup air is controlled the energy provided by the lights will not be necessary and the overall control will be beneficial. This is a good example of the value of an integrated solution.



Figure 3.10 Math Science – Areas Conducive to Daylighting Management

Installing daylighting controls is an opportunity in the corridor that interconnects the buildings and is recommended.

Air Infiltration Control Recommendations

With few door and window openings in the building, infiltration is not as critical a problem as in other buildings on campus. We recommend a regimen of caulking and sealing of joints and around any openings or penetrations in the walls or roof.

Hood Ventilation Makeup Air Recommendations

In this building the makeup air for the hoods is a large component of the overall load. Providing proper management for the hoods when they are operating, when they are left open, etc. can lead to large energy savings. Fume hoods are notorious for high energy use through unmanaged operation.

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Figure 3.11 Math Science – Fume Hood Fully Open and Operating

The Team is recommending implementing a management program for hood operation. In addition to encouraging good operating habits, this should involve a solution that provides either non-conditioned makeup air, or heat recovered makeup air instead of using the conditioned air in the building.

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Energy Efficiency Summary

Figure 3.12 summarizes the impact of the recommendations on the Math Science Building.

Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		Total Mbtu
		TDV-Mbtu	EUI TDV-kBtu/sf/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	
Annual Energy USE or DEMAND									
0	Base Design	15,579	337.41	960,159	57,479	226,305	301,049	54,662	6,494
1	0+TStat Management EEM	13,548	293.43	912,581	42,044	226,305	253,470	39,226	4,788
2	1+Equipment Power EEM	12,770	276.57	768,829	48,976	226,305	230,117	46,155	5,401
3	2+Lighting Power EEM	12,169	263.55	712,521	48,731	181,043	219,070	45,910	5,339
4	3+Daylighting EEM	12,020	260.32	701,747	48,344	173,200	216,140	45,523	5,290
5	4+Roof Insul EEM R-19 to R-31	11,888	257.48	699,719	47,240	173,200	214,111	44,421	5,173
6	5+Reduce Infiltration EEM	11,566	250.49	698,556	44,132	173,200	212,950	41,314	4,858
7	6+Vent & Economizer EEM	10,431	225.91	684,151	34,259	173,200	198,544	31,443	3,822
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)									
1	0+TStat Management EEM	2,031	43.98 (13%)	47,579 (5%)	15,435 (27%)	0 (0%)	47,579 (16%)	15,437 (28%)	1,706 (26%)
2	1+Equipment Power EEM	779	16.86 (5%)	143,751 (15%)	6,932 (-12%)	0 (0%)	23,353 (8%)	-6,930 (-13%)	-613 (-9%)
3	2+Lighting Power EEM	601	13.02 (4%)	56,309 (6%)	245 (0%)	45,262 (20%)	11,047 (4%)	245 (0%)	62 (1%)
4	3+Daylighting EEM	149	3.23 (1%)	10,774 (1%)	387 (1%)	7,843 (3%)	2,930 (1%)	387 (1%)	49 (1%)
5	4+Roof Insul EEM R-19 to R-31	131	2.84 (1%)	2,028 (0%)	1,104 (2%)	0 (0%)	2,028 (1%)	1,102 (2%)	117 (2%)
6	5+Reduce Infiltration EEM	323	6.99 (2%)	1,163 (0%)	3,109 (5%)	0 (0%)	1,161 (0%)	3,106 (6%)	315 (5%)
7	6+Vent & Economizer EEM	1,135	24.58 (7%)	14,406 (2%)	9,873 (17%)	0 (0%)	14,406 (5%)	9,871 (18%)	1,036 (16%)
Cumulative SAVINGS (values (and % savings) are relative to the Base Case, negative entries indicate increased use)									
1	0+TStat Management EEM	2,031	43.98 (13%)	47,579 (5%)	15,435 (27%)	0 (0%)	47,579 (16%)	15,437 (28%)	1,706 (26%)
2	1+Equipment Power EEM	2,809	60.84 (18%)	191,330 (20%)	8,503 (15%)	0 (0%)	70,932 (24%)	8,507 (16%)	1,093 (17%)
3	2+Lighting Power EEM	3,410	73.86 (22%)	247,639 (26%)	8,748 (15%)	45,262 (20%)	81,979 (27%)	8,752 (16%)	1,155 (18%)
4	3+Daylighting EEM	3,559	77.09 (23%)	258,412 (27%)	9,136 (16%)	53,105 (23%)	84,909 (28%)	9,139 (17%)	1,204 (19%)
5	4+Roof Insul EEM R-19 to R-31	3,691	79.93 (24%)	260,440 (27%)	10,239 (18%)	53,105 (23%)	86,938 (29%)	10,241 (19%)	1,321 (20%)
6	5+Reduce Infiltration EEM	4,013	86.92 (26%)	261,603 (27%)	13,348 (23%)	53,105 (23%)	88,099 (29%)	13,348 (24%)	1,635 (25%)
7	6+Vent & Economizer EEM	5,148	111.50 (33%)	276,009 (29%)	23,221 (40%)	53,105 (23%)	102,505 (34%)	23,219 (42%)	2,672 (41%)

Figure 3.12 Math Science – Energy Efficiency Measure Impacts

The combination of efficiency measures yields a 33% energy use reduction.

3.4.5 Bicentennial Hall

Roof Recommendations

The roof insulation system is under the roof deck and can therefore be increased cost effectively to a higher R-value. Given that this is not continuous insulation like a built up roof, a higher insulation R-value is recommended. The current level in the ASHRAE standard is R-38, and if more than R-38 can be installed cost effectively that would be recommended.

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Window/Wall Recommendations

While the window area is small for this building, they are coupled with spandrel panels similar to those in the Health Sciences Building. Since there is little or no insulation behind these spandrel panels, there is a significant thermal breach in the wall/window assembly, which could result in moisture condensation and possible mold, thermal and structural damage. Replacing these window assemblies is recommended.

Air Infiltration Control Recommendations

With few door and window openings in the building, infiltration is not as critical a problem as in other buildings on Campus. Tighten up air leaks in the building shell by caulking and sealing and by making sure the windows and doors are properly adjusted, especially vestibule doors and doors leading to mechanical rooms. Since this is a relatively old building at 30 years plus, a complete regimen of caulking and sealing of joints and around any openings or penetrations in the walls or roof is recommended.

Lighting/Daylighting Control Recommendations

Recommendation is to implement lighting control in the central/common areas where glazing is higher and the opportunity exists for benefit. Areas that are not daylight controlled like offices and meeting rooms, etc. will benefit from occupancy sensors.

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Energy Efficiency Summary

Figure 3.13 summarizes the impact of the recommendations on Bicentennial Hall.

Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		Peak		
		TDV-MBtu	EUI TDV-kBtu/sf/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	Total MBtu	Elect kW	Cooling Tons
Annual Energy USE or DEMAND											
0	Base Design	5,143	285.27	502,252	--	78,125	265,829	--	907	216	45
1	0+Roof Insul EEM R-12 to R-24	5,083	281.96	496,427	--	78,125	260,006	--	887	207	44
2	1+Ext Wall Insul EEM R-6 to R-12	4,914	272.57	479,898	--	78,125	243,479	--	831	197	44
3	2+Window Glass Type EEM	4,746	263.26	463,506	--	78,125	227,090	--	775	191	44
4	3+Lighting Power EEM	4,517	250.59	441,192	--	53,535	229,362	--	783	188	42
5	4+Daylighting EEM	4,373	242.58	427,097	--	39,774	229,026	--	782	187	40
6	5+TSStat Management EEM	4,176	231.77	408,073	--	39,774	209,978	--	717	239	40
7	6+Whole Build EEM	3,948	219.03	385,630	--	39,774	187,547	--	640	218	39
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)											
1	0+Roof Insul EEM R-12 to R-24	60	3.31 (1%)	5,825 (1%)	--	0 (0%)	5,823 (2%)	--	20 (2%)	9 (4%)	0 (1%)
2	1+Ext Wall Insul EEM R-6 to R-12	169	9.39 (3%)	16,529 (3%)	--	0 (0%)	16,526 (6%)	--	56 (6%)	9 (4%)	0 (1%)
3	2+Window Glass Type EEM	168	9.31 (3%)	16,391 (3%)	--	0 (0%)	16,389 (6%)	--	56 (6%)	7 (3%)	0 (0%)
4	3+Lighting Power EEM	228	12.67 (4%)	22,314 (4%)	--	24,590 (31%)	-2,272 (-1%)	--	-8 (-1%)	2 (1%)	2 (5%)
5	4+Daylighting EEM	144	8.01 (3%)	14,095 (3%)	--	13,760 (18%)	337 (0%)	--	1 (0%)	1 (0%)	2 (4%)
6	5+TSStat Management EEM	195	10.81 (4%)	19,024 (4%)	--	0 (0%)	19,048 (7%)	--	65 (7%)	-51 (-24%)	0 (0%)
7	6+Whole Build EEM	230	12.75 (4%)	22,443 (4%)	--	0 (0%)	22,430 (8%)	--	77 (8%)	21 (10%)	1 (3%)
Cumulative SAVINGS (values and % savings) are relative to the Base Case, negative entries indicate increased use)											
1	0+Roof Insul EEM R-12 to R-24	60	3.31 (1%)	5,825 (1%)	--	0 (0%)	5,823 (2%)	--	20 (2%)	9 (4%)	0 (1%)
2	1+Ext Wall Insul EEM R-6 to R-12	229	12.70 (4%)	22,354 (4%)	--	0 (0%)	22,350 (8%)	--	76 (8%)	19 (9%)	1 (1%)
3	2+Window Glass Type EEM	397	22.01 (8%)	38,745 (8%)	--	0 (0%)	38,739 (15%)	--	132 (15%)	26 (12%)	1 (1%)
4	3+Lighting Power EEM	625	34.68 (12%)	61,059 (12%)	--	24,590 (31%)	36,467 (14%)	--	124 (14%)	28 (13%)	3 (6%)
5	4+Daylighting EEM	770	42.69 (15%)	75,155 (15%)	--	38,351 (49%)	36,603 (14%)	--	126 (14%)	29 (13%)	5 (10%)
6	5+TSStat Management EEM	964	53.49 (19%)	94,179 (19%)	--	38,351 (49%)	55,851 (21%)	--	191 (21%)	-23 (-10%)	5 (10%)
7	6+Whole Build EEM	1,194	66.24 (23%)	116,622 (23%)	--	38,351 (49%)	78,282 (29%)	--	267 (29%)	-2 (-1%)	6 (13%)

Figure 3.13 Bicentennial Hall – Energy Efficiency Measure Impacts

The combination of efficiency measures yields a 23% energy use reduction.

3.4.6 Health Sciences Building

Roof Recommendations

The roof insulation system is under the roof deck and can therefore be increased cost effectively to a higher R-value. Given that this is not continuous insulation like a built up roof, a higher insulation R-value is recommended. The current level in the ASHRAE standard is R-38, and if more than R-38 can be installed cost effectively that would be recommended.

Lighting/Daylighting Recommendations

In the pictures below you can see that the window area is small, but even when the program space is not being utilized the lights are fully illuminated. Like all buildings, this is a significant management opportunity for energy performance improvement.

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Figure 3.14 Limited Daylighting Opportunities



Figure 3.15 Management Opportunity – Fully Lit Unused Space

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Energy Efficiency Summary

Figure 3.16 summarizes the impact of the recommendations on the Health Sciences Building.

Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		Total Mbtu
		TDV-Mbtu	EUI TDV-kBtu/sf/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	
Annual Energy USE or DEMAND									
0	Base Design	11,791	277.71	1,151,580	--	219,786	518,153	--	1,768
1	0+TSStat Management EEM	11,259	265.17	1,099,598	--	219,786	466,112	--	1,591
2	1+ Equipment Power EEM	10,385	244.60	1,014,298	--	219,786	462,840	--	1,580
3	2+Lighting Power EEM	9,983	235.13	975,031	--	175,829	467,519	--	1,596
4	3+Daylighting EEM	9,815	231.16	958,552	--	153,696	473,169	--	1,615
5	4+Roof Insul EEM	9,739	229.37	951,156	--	153,696	465,773	--	1,590
6	5+Window Glass Type EEM	9,604	226.19	937,945	--	154,636	451,611	--	1,541
7	6+Reduced Infiltration EEM	9,118	214.75	890,530	--	154,636	404,217	--	1,380
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)									
1	0+TSStat Management EEM	532	12.54 (5%)	51,982 (5%)	--	0 (0%)	52,041 (10%)	--	178 (10%)
2	1+ Equipment Power EEM	873	20.57 (7%)	85,301 (7%)	--	0 (0%)	3,272 (1%)	--	11 (1%)
3	2+Lighting Power EEM	402	9.47 (3%)	39,267 (3%)	--	43,956 (20%)	-4,679 (-1%)	--	-16 (-1%)
4	3+Daylighting EEM	169	3.97 (1%)	16,479 (1%)	--	22,133 (10%)	-5,650 (-1%)	--	-19 (-1%)
5	4+Roof Insul EEM	76	1.78 (1%)	7,396 (1%)	--	0 (0%)	7,396 (1%)	--	25 (1%)
6	5+Window Glass Type EEM	135	3.19 (1%)	13,210 (1%)	--	-939 (-0%)	14,162 (3%)	--	48 (3%)
7	6+Reduced Infiltration EEM	485	11.43 (4%)	47,415 (4%)	--	0 (0%)	47,394 (9%)	--	162 (9%)
Cumulative SAVINGS (values (and % savings) are relative to the Base Case, negative entries indicate increased use)									
1	0+TSStat Management EEM	532	12.54 (5%)	51,982 (5%)	--	0 (0%)	52,041 (10%)	--	178 (10%)
2	1+ Equipment Power EEM	1,406	33.11 (12%)	137,283 (12%)	--	0 (0%)	55,313 (11%)	--	189 (11%)
3	2+Lighting Power EEM	1,808	42.58 (15%)	176,550 (15%)	--	43,956 (20%)	50,634 (10%)	--	173 (10%)
4	3+Daylighting EEM	1,976	46.55 (17%)	193,029 (17%)	--	66,089 (30%)	44,983 (9%)	--	154 (9%)
5	4+Roof Insul EEM	2,052	48.33 (17%)	200,425 (17%)	--	66,089 (30%)	52,380 (10%)	--	179 (10%)
6	5+Window Glass Type EEM	2,187	51.52 (19%)	213,635 (19%)	--	65,150 (30%)	66,542 (13%)	--	227 (13%)
7	6+Reduced Infiltration EEM	2,673	62.95 (23%)	261,050 (23%)	--	65,150 (30%)	113,936 (22%)	--	389 (22%)

Figure 3.16 Health Sciences Building – Energy Efficiency Measure Impacts

The combination of modest efficiency measures yields a 23% energy use reduction.

3.4.7 Child Care Center

Air Management

The kitchens in the child care center need to have the makeup air for the exhaust hoods from a makeup heat recovery unit to keep from using conditioned air as makeup. This is very highly recommended.



Figure 3.17 Child Care Center – Managing Makeup Air in Kitchen

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Lighting/Daylighting Recommendations

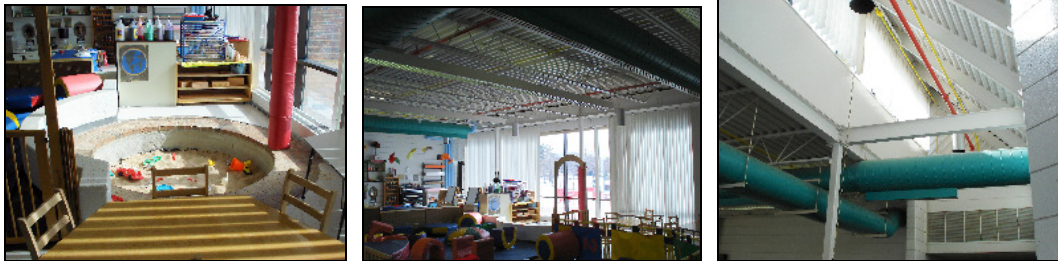


Figure 3.18 Child Care Center – Daylighting Opportunities Abound

The recommendation is to have a systematic approach to installing daylighting control.

Energy Efficiency Summary

Figure 3.19 summarizes the impact of the recommendations on the Child Care Center.

Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		Total Mbtu
		TDV-Mbtu	EUI TDV-kBtu/\$/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	
Annual Energy USE or DEMAND									
0	Base Design	3,054	166.23	193,231	10,754	79,222	47,025	9,025	1,063
1	0+TStat Management EEM	2,896	157.66	193,240	9,179	79,222	47,033	7,447	905
2	1+Equipment Power EEM	2,770	150.75	178,291	9,441	79,222	45,355	7,709	926
3	2+Lighting Power EEM	2,618	142.52	160,470	9,754	63,377	43,378	8,021	950
4	3+Daylighting EEM	2,462	134.00	142,337	10,044	48,177	40,445	8,311	969
5	4+Roof Insul EEM	2,443	132.99	142,212	9,871	48,177	40,320	8,139	951
6	5+Reduced Infiltration EEM	2,351	127.97	142,172	8,955	48,177	40,280	7,224	860
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)									
1	0+TStat Management EEM	157	8.57 (5%)	-8 (-0%)	1,575 (15%)	0 (0%)	-8 (-0%)	1,578 (17%)	158 (15%)
2	1+Equipment Power EEM	127	6.90 (4%)	14,949 (8%)	-262 (-2%)	0 (0%)	1,679 (4%)	-262 (-3%)	-20 (-2%)
3	2+Lighting Power EEM	151	8.23 (5%)	17,821 (9%)	-313 (-3%)	15,844 (20%)	1,977 (4%)	-312 (-3%)	-25 (-2%)
4	3+Daylighting EEM	157	8.53 (5%)	18,133 (9%)	-290 (-3%)	15,200 (19%)	2,933 (6%)	-290 (-3%)	-19 (-2%)
5	4+Roof Insul EEM	19	1.01 (1%)	125 (0%)	173 (2%)	0 (0%)	125 (0%)	172 (2%)	18 (2%)
6	5+Reduced Infiltration EEM	92	5.01 (3%)	40 (0%)	917 (9%)	0 (0%)	40 (0%)	915 (10%)	92 (9%)
Cumulative SAVINGS (values (and % savings) are relative to the Base Case, negative entries indicate increased use)									
1	0+TStat Management EEM	157	8.57 (5%)	-8 (-0%)	1,575 (15%)	0 (0%)	-8 (-0%)	1,578 (17%)	158 (15%)
2	1+Equipment Power EEM	284	15.47 (9%)	14,941 (8%)	1,313 (12%)	0 (0%)	1,670 (4%)	1,317 (15%)	137 (13%)
3	2+Lighting Power EEM	435	23.70 (14%)	32,761 (17%)	1,000 (9%)	15,844 (20%)	3,647 (8%)	1,004 (11%)	113 (11%)
4	3+Daylighting EEM	592	32.23 (19%)	50,894 (26%)	710 (7%)	31,044 (39%)	6,580 (14%)	714 (8%)	94 (9%)
5	4+Roof Insul EEM	611	33.24 (20%)	51,019 (26%)	883 (8%)	31,044 (39%)	6,705 (14%)	887 (10%)	112 (10%)
6	5+Reduced Infiltration EEM	703	38.25 (23%)	51,059 (26%)	1,800 (17%)	31,044 (39%)	6,745 (14%)	1,802 (20%)	203 (19%)

Figure 3.19 Child Care Center – Energy Efficiency Measure Impacts

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The combination of modest efficiency measures yields a significant 19% energy use reduction.

3.4.8 Administration Building

Lighting/Daylighting Recommendations

Daylighting in the offices will be difficult due to the small amount of exterior glazing. The interior atrium is well lit with the translucent skylights and is an opportunity for daylighting.



Figure 3.20 Administration – Limited Exterior Glazing



Figure 3.21 Administration – Daylighting Control Opportunities

Air Infiltration Control Recommendations

There are areas around doors that need to be better maintained to reduce air infiltration. This building would also be a good candidate for adding an entry vestibule.



Figure 3.22 Administration – Candidate for Vestibule

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Energy Efficiency Summary

Figure 3.23 summarizes the impact of the recommendations on the Administration Building.

Annual Energy and Demand		Ann. TDV Energy		Annual Site Energy		Lighting	HVAC Energy		
		TDV-Mbtu	EUI TDV-kBtu/sf/yr	Elect kWh	Nat Gas Therms	Electric kWh	Electric kWh	Nat Gas Therms	Total Mbtu
Annual Energy USE or DEMAND									
0	Base Design	4,932	189.76	34,674.8	13,819	110,967	84,540	12,734	1,562
1	0+TStat Management EEM	4,821	185.47	34,700.8	12,677	110,967	84,800	11,591	1,448
2	1+Equipment Power EEM	4,478	172.26	30,722.4	13,319	110,967	79,843	12,232	1,496
3	2+Lighting Power EEM	4,269	164.25	28,256.8	13,760	89,422	76,733	12,673	1,529
4	3+Daylighting EEM	3,913	150.54	24,454.5	14,089	57,943	70,189	13,002	1,540
5	4+Roof Insul EEM	3,847	148.03	24,415.7	13,476	57,943	69,801	12,389	1,477
6	5+Whole Build EEM	3,672	141.27	24,382.3	11,754	57,943	69,466	10,668	1,304
Incremental SAVINGS (values are relative to previous measure (% savings are relative to base case use), negative entries indicate increased use)									
1	0+TStat Management EEM	112	4.29 (2%)	-260 (-0%)	1,142 (8%)	0 (0%)	-260 (-0%)	1,143 (9%)	113 (7%)
2	1+Equipment Power EEM	343	13.20 (7%)	39,784 (11%)	-642 (-5%)	0 (0%)	4,957 (6%)	-641 (-5%)	-47 (-3%)
3	2+Lighting Power EEM	208	8.01 (4%)	24,656 (7%)	-441 (-3%)	21,545 (19%)	3,110 (4%)	-441 (-3%)	-34 (-2%)
4	3+Daylighting EEM	356	13.71 (7%)	38,023 (11%)	-329 (-2%)	31,479 (28%)	6,544 (8%)	-329 (-3%)	-11 (-1%)
5	4+Roof Insul EEM	65	2.51 (1%)	388 (0%)	614 (4%)	0 (0%)	388 (0%)	614 (5%)	63 (4%)
6	5+Whole Build EEM	176	6.76 (4%)	334 (0%)	1,722 (12%)	0 (0%)	334 (0%)	1,721 (14%)	173 (11%)
Cumulative SAVINGS (values (and % savings) are relative to the Base Case, negative entries indicate increased use)									
1	0+TStat Management EEM	112	4.29 (2%)	-260 (-0%)	1,142 (8%)	0 (0%)	-260 (-0%)	1,143 (9%)	113 (7%)
2	1+Equipment Power EEM	455	17.50 (9%)	39,524 (11%)	501 (4%)	0 (0%)	4,697 (6%)	502 (4%)	66 (4%)
3	2+Lighting Power EEM	663	25.51 (13%)	64,180 (19%)	59 (0%)	21,545 (19%)	7,807 (9%)	61 (0%)	33 (2%)
4	3+Daylighting EEM	1,019	39.22 (21%)	102,203 (29%)	-270 (-2%)	53,024 (48%)	14,351 (17%)	-268 (-2%)	22 (1%)
5	4+Roof Insul EEM	1,085	41.73 (22%)	102,591 (30%)	344 (2%)	53,024 (48%)	14,739 (17%)	345 (3%)	85 (5%)
6	5+Whole Build EEM	1,260	48.49 (26%)	102,925 (30%)	2,065 (15%)	53,024 (48%)	15,073 (18%)	2,066 (16%)	258 (17%)

Figure 3.23 Administration – Energy Efficiency Measure Impacts

The combination of modest efficiency measures yields a 26% energy use reduction.

3.4.9 Engineering Tech

This is the first of the remaining buildings that were not extensively modeled so the recommendations are typical indicators rather than analyzed options.

Recommendations

The recommendations are a similar set of actions to those identified in other buildings and are illustrated by way of the following photographs:

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Figure 3.24 Engineering Tech – Air Infiltration Through Entryways

There are areas around exterior doors that need to be better maintained to reduce air infiltration.



Figure 3.25 Engineering Tech – Unnecessary Vestibule Conditioning

The building has vestibules that are conditioned, resulting in unnecessary energy waste.



Figure 3.26 Engineering Tech – Inefficient Vending Machines

These should be replaced with vending machines that have earned the ENERGY STAR rating which are 50% more energy-efficient than standard machine models.



Figure 3.27 Engineering Tech – Moisture Damage on Windows and Sills Not Thermally Broken

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Many windows in this building showed rot and deterioration from moisture damage, as well as windows sill that are not thermally broken. A selective replacement plan is recommended.

3.4.10 Transportation Tech

Recommendations

As a comment, the exhaust capture air handling strategy for the vehicles has been well done.



Figure 3.28 Transportation Tech – Inefficient Uncontrolled Lighting

The lighting needs to be replaced with efficient luminaires fitted with scheduling and occupancy control. This building could be a candidate for selective daylighting strategies sometime in the future.

3.4.11 Student Health and Services

Recommendations



Figure 3.29 Student Health – Significant Lighting Opportunity

The recommendation is to replace lighting with efficient luminaires with daylighting, scheduling and occupancy control.

This facility is also one where the Team estimate a substantial savings will come from effective scheduling management for heating and cooling.

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3.4.12 Fine and Performing Arts Center

Recommendations



Figure 3.30 Arts Center – Large Complex Building Needs Effective Management

This is a complex building with many varied applications and usage. The immediate recommendation is to get the building under effective scheduling and occupancy control which is embedded in the BMS recommendation for the entire campus.



Figure 3.31 Arts Center – Unused Fully Lit and Conditioned Spaces

There are large loads located in this building and they need to be shut down or set back when not in use. As an example, the auditorium was fully conditioned on a cold winter day and there was no use planned for at least 24 hours. In many cases lighting needs to be replaced with efficient units with effective scheduling and occupancy control.

3.4.13 Facilities Building

Recommendations



Figure 3.32 Facilities – Single Glazed Windows

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The recommendation is to replace single pane windows with commercial grade double glazed units.



Figure 3.33 Facilities – Excessive Infiltration

The next obvious recommendation is to seal and repair exterior openings to reduce energy loss through excessive air infiltration.

3.4.14 Findlay Campus

Recommendations

Overall the Findlay Campus has new buildings and no deep retrofits are recommended for the site.



Figure 3.34 Findlay Campus – General Views of Buildings

The most important recommendation for this campus is to install a program focused on developing a continuous improvement culture as it relates to energy. This should be a teamed program between the staff, faculty and facilities. Combined with improved scheduling and weather forecasting control, it is not uncommon to see energy use drop by between 15% and 25% with no major investments.

Even with new buildings there is still the need for lighting controls and air infiltration options where vigilance is necessary. For the main buildings there are some large glazed entrances which could potentially be candidates for vestibules.

In the modeling, a modest budget has been allocated for continuous improvement measures, mainly associated with managing air infiltration. In addition, upgraded insulation of the roofs of the Child Care Center and the Maintenance Buildings is recommended and the costs for this have been included in the budgets.

What is very noticeable is that the SEI for Findlay is as high as the Toledo Campus, which was not expected given the age of the buildings. This strongly indicates that the operating practices on the Findlay Campus would respond well to a wide-ranging program of operational

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improvements. The recommendation is to institute a program involving staff, students and faculty to change the energy culture of the campus.

3.6. Toledo Campus Efficiency Summary

Figure 3.35 summarizes the percentage efficiencies that can be conservatively achieved for the buildings that were modeled in reasonable detail.

Building	Elec (kWh)	Nat Gas (kBtu)	Elec kWh	Nat Gas kWhe	Total (kWhe)	Elec % Reduce	Gas % Reduce	Total % Reduce
OCC College Hall - Base	3,148,418	10,189,103	3,148,418	2,986,120	6,134,538			
OCC Admin Hall - Base	346,747	1,381,928	346,747	405,002	751,749			
OCC HealthSciences - Base	1,151,580	0	1,151,580	0	1,151,580			
OCC ChildCareCenter - Base	193,231	1,075,449	193,231	315,182	508,413			
OCC Library - Base	629,309	2,491,760	629,309	730,260	1,359,569			
OCC Bicentennial Hall - Base	502,252	0	502,252	0	502,252			
OCC MathScience - Base	960,158	5,747,944	960,158	1,684,550	2,644,708			
Total - Base Case	6,931,695	20,886,184	6,931,695	6,121,114	13,052,809			
<i>Total Campus - Base Case</i>	<i>17,091,146</i>	<i>48,184,800</i>	<i>17,091,146</i>	<i>14,121,572</i>	<i>31,212,718</i>			
Modelled % of total	41%	43%	41%	43%	42%			
OCC College Hall - Efficient	2,424,325	7,850,602	2,424,325	2,300,776	4,725,101	23%	23%	23%
OCC Admin Hall - Efficient	243,280	1,176,928	243,280	344,922	588,202	30%	15%	22%
OCC HealthSciences - Efficient	885,264	0	885,264	0	885,264	23%	0%	23%
OCC ChildCareCenter - Efficient	140,345	904,902	140,345	265,200	405,545	27%	16%	20%
OCC Library - Efficient	429,692	1,652,835	429,692	484,396	914,088	32%	34%	33%
OCC Bicentennial Hall - Efficient	385,630	0	385,630	0	385,630	23%	0%	23%
OCC MathScience - Efficient	684,440	3,448,445	684,440	1,010,636	1,695,076	29%	40%	36%
Total - Efficient Case	5,192,976	15,033,712	5,192,976	4,405,930	9,598,906	25%	28%	26%

Figure 3.35 Toledo Campus – Summary Energy Efficiency Measures

The buildings modeled in detail constitute 42% of the total campus energy use, and included a range of buildings by both type and age. The efficiency gains achieved range from 20% to 36% with an average of 26%. For the balance of the buildings, standard factors based on these models were assumed.

Figure 3.36 gives a summary of the contribution of major measures to the overall efficiency gains.

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Building	Incremental Savings			Cumulative Savings		
	Elec %	Gas %	Total %	Elec %	Gas %	Total %
OCC College Hall_EfficientCase						
BMS	21%	15%	16%	21%	15%	16%
Light	3%	-4%	-2%	24%	11%	14%
Envelope	1%	16%	12%	26%	27%	26%
OCC Admin Hall_EfficientCase						
BMS	6%	4%	4%	6%	4%	4%
Light	12%	-6%	-3%	17%	-2%	1%
Envelope	0%	19%	15%	18%	16%	17%
OCC HealthSciences_EfficientCase						
BMS	11%	0%	11%	11%	0%	11%
Light	-2%	0%	-2%	9%	0%	9%
Envelope	13%	0%	13%	22%	0%	22%
OCC ChildCareCenter_EfficientCase						
BMS	4%	15%	13%	4%	15%	13%
Light	10%	-6%	-4%	14%	8%	9%
Envelope	0%	12%	11%	14%	20%	19%
OCC Library_EfficientCase						
BMS	21%	26%	25%	21%	26%	25%
Light	11%	1%	3%	32%	26%	28%
Envelope	1%	9%	7%	33%	35%	35%
OCC MathScience_EfficientCase						
BMS	24%	15%	17%	24%	16%	17%
Light	5%	1%	2%	28%	17%	19%
Envelope	1%	8%	7%	29%	24%	25%
Hood Exhaust	5%	18%	16%	34%	42%	41%

Figure 3.36 Toledo Campus – Contribution of Efficiency Measures by Type

3.7. Efficiency Investments Summary

The Team made a detailed cost assessment of the recommended efficiency measures. The back-up detail is available on request. All costs are based on current market estimates of materials and labor sourced from Owens Corning’s extensive data base and experience of current US practice.

Bldg #	Building	Year Built	Area ft ²	Area m ²	Roof ¹ \$/ft ² \$8.51	Window ² \$/ft ² \$2.10	Seal ³ \$/ft ² \$1.15	Light ⁴ \$/ft ² \$2.00	Daylighting \$/ft ² \$2.50
1	College Hall	1972, 83, 93	134,551	12,500	858,772	282,557	154,734	201,827	33,638
2	Computer Tech	1973	1,872	174	15,931	3,931	2,153	3,744	468
3	Administration Hall	1983	26,025	2,418	110,736	0	29,929	39,038	6,506
4	Health Technologies Hall	1974	42,457	3,944	90,327	89,160	48,826	84,914	10,614
5	Bicentennial Hall	1976	18,113	1,683	154,142	38,037	20,830	36,226	4,528
6	Child Care	1983	14,005	1,301	119,183	0	16,106	14,005	3,501
7	Alumini Hall ⁵	1974	36,319	3,374	0	0	0	0	0
8	Facility Services	1968	32,708	3,039	55,669	68,687	37,614	32,708	8,177
9	Transportation Tech	1978	89,997	8,361	153,175	188,994	103,497	89,997	22,499
11	Engineering Tech	1988	43,823	4,071	372,934	92,028	50,396	43,823	10,956
12	Library	1996	30,887	2,869	0	0	17,760	30,887	7,722
13	Audio Visual	1996	33,560	3,118	0	0	19,297	33,560	8,390
14	Math Science	1997	41,951	3,897	178,502	0	24,122	41,951	10,488
15	Student Health	2000	92,268	8,572	0	0	53,054	92,268	23,067
16	CFPA	2003	74,396	6,912	0	0	42,778	0	18,599
19	Law Enforcement	1994	35,776	3,324	0	0	20,571	35,776	8,944
24	Workforce & Comm. Serv	1974	53,994	5,016	459,489	113,387	62,093	107,988	13,499
Toledo Campus Total			802,702	74,573	\$ 2,109,369	\$ 763,394	\$ 641,666	\$ 780,723	\$ 178,097
Total Cost		\$ 4,473,249							
Cost/ft²		5.57							

Figure 3.37 Toledo Campus – Summary of Energy Efficiency Investments

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The investments are factored for each building depending on the applicable square footage that the measure applies to. The notes are as follows:

Note 1 Roofing includes direct adhered membrane roofing, R25 rigid insulation, and equipment, vent and parapet extensions

Note 2 Windows includes window and masonry demolition, sill replacement, flashing, window & window wall replacement.

Note 3 Air infiltration includes vestibules at outside door sets, caulking and sealing.

Note 4 Light includes partial implementation of lighting replacement program to more efficient fixtures/lamps.

Note 5 No investments are made in the Alumni Building as this will likely be demolished

In addition the \$4.47 Million investments to the building, there is the initial \$1 Million investment for the Campus Building Management System and supplementary metering. Thus the total investments for energy demand reduction and demand management is \$5.47 Million.

As would be expected, the investments for the Findlay Campus are less.

Bldg #	Building	Year Built	Area ft ²	Area m ²	Roof \$/ft ² \$8.51	Window \$/ft ² \$2.10	Seal \$/ft ² \$1.15	Light \$/ft ² \$2.00	Daylighting \$/ft ² \$2.50
1	Bright Road Main	2004	119,407	11,093	0	0	68,659	0	29,852
2	Vorhees' House		2,000	186	0	0	1,150	0	500
3	Activities Center	2006	24,772	2,301	0	0	14,244	0	6,193
4	Child Care Center	2005	3,377	314	5,748	0	1,942	0	844
5	Maintenance Building	2007	9,000	836	15,318	0	5,175	0	2,250
Findlay Campus Total			158,556	14,730	\$ 21,066	\$ -	\$ 91,170	\$ -	\$ 39,639
Total Cost		\$ 151,874							
Cost/ft2		0.96							

Figure 3.38 Findlay Campus – Summary of Energy Efficiency Investments

The total recommended energy efficiency, control, and metering investments for both campuses of Owens Community College are \$5.62 Million.

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4. INTEGRATED ENERGY MASTER CONCEPT – ENERGY SUPPLY AND DISTRIBUTION

4.1. General

In Chapter 3 the pathway to at least a 30% energy reduction was identified. Technically this has an immediate impact on a number of factors.

Boilers, furnaces, and air conditioners will be oversized for the new demand. This may allow the least efficient units to be eliminated. With or without the efficiency gains, these systems are generally oversized anyway to meet the peak demand of each buildings and to have some safety reserve. This results in boilers and conditioners running far below their rated values for most of the time, which is a recipe for inefficient operation.

If there is no restructuring of the overall campus heating supply, and to a lesser extent cooling supply, efficient demand may perversely push plants to operate even less efficiently. This aspect forms a major part of the recommended heating supply solutions that will be described.

In a world of rapidly escalating energy prices, a 30% reduction in energy demand must not be confused or equated with a 30% reduction in energy cost. It is highly likely that the 30% reduction will be eaten up totally within a few years as world energy prices continue to move upwards. The factors driving price will be covered later in more detail, but they relate directly to the primary fuels used to make electricity and the price of natural gas. Both the coal used in Ohio to make electricity, and natural gas have seen 100 to 200% increases in just the last few years. The proposed solution looks at technical approaches to reduce the impact of these primary fuel price increases.

A further factor driving possible cost will be the greenhouse gas content of various energy forms as legislation comes into force to curb the US's greenhouse gas emissions. Again this will be discussed later in more detail. The proposed technical solution aims to aggressively reduce the greenhouse gas emissions caused by the College, thereby mitigating some of these potential impacts.

4.2. Climatic Factors

In any energy assessment, climate is a key consideration.

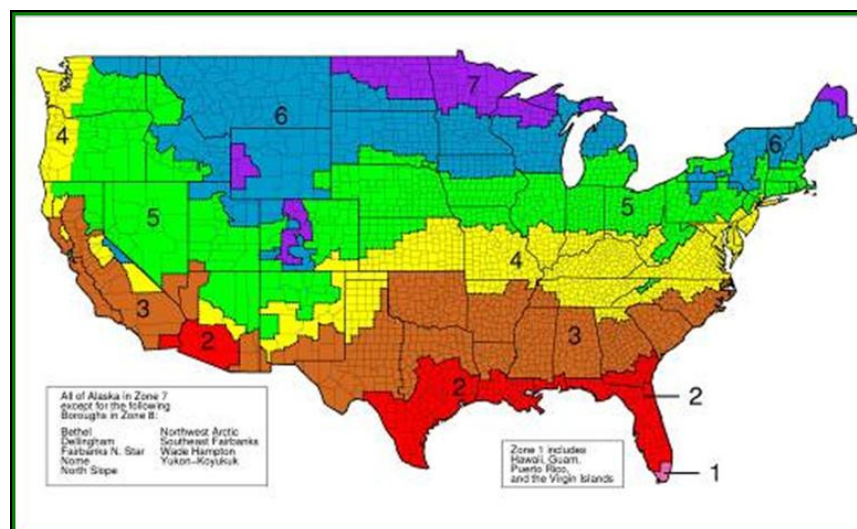


Figure 4.1 Climate Zones as Used by ASHRAE

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The climate in Toledo is Climate Zone 5⁷ as used by ASHRAE. This is a northern continental climate, where space heating is the major energy requirement. Climatic indicators⁸ used for assessing the overall demand for energy services are summarized in the following tables.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-9.7	-8.8	-3.5	2.1	8.7	14.1	16.3	14.7	11.0	4.5	-0.4	-6.3	3.5
°F	14.5	16.2	25.7	35.8	47.7	57.4	61.3	58.5	51.8	40.1	31.3	20.7	38.3

Figure 4.2 Average Minimum Temperatures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-0.5	1.2	7.8	15.1	21.8	27.1	29.2	27.7	24.3	17.5	9.7	2.3	15.3
°F	31.1	34.2	46.0	59.2	71.2	80.8	84.6	81.9	75.7	63.5	49.5	36.1	59.5

Figure 4.3 Average Maximum Temperatures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	728	618	501	291	119	10	0	6	54	231	410	628	3601
°F	1310	1112	902	524	214	18	0	11	97	416	738	1130	6482

Figure 4.4 Heating Degree Days

Heating Degree Days are defined as the cumulative number of degrees in month/year when average temperature falls below 18.3°C/65°F

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	0	0	0	0	26	82	137	97	36	6	0	0	385
°F	0	0	0	0	47	148	247	175	65	11	0	0	693

Figure 4.5 Cooling Degree Days

Cooling Degree Days are defined as the cumulative number of degrees in month/year when average temperature is above 8.3°C/65°F.

As would be expected being located further to the south, Findlay has somewhat less Heating Degree Days and somewhat more Cooling Degree Days. In Fahrenheit, these are respectively 5460 HDD and 951 CDD.

⁷ See <http://resourcecenter.pnl.gov/cocoon/morf/ResourceCenter/graphic/973>

⁸ Data derived from [NCDC TD 9641 Clim 81 1961-1990 Normals](http://www.worldclimate.com), 30 years between 1961 and 1990 – www.worldclimate.com

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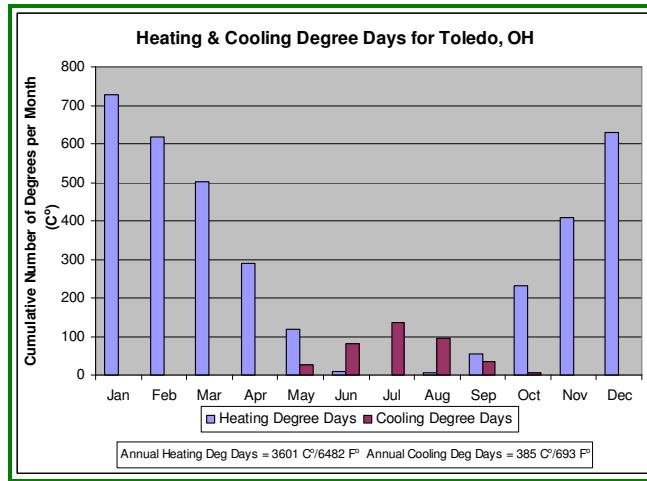


Figure 4.6 Heating/Cooling Degree Days by Month

Figure 4.6 summarizes the heating and cooling degree days over a typical year in Toledo, OH. The distinct difference between the need for heating and the need for cooling is evident when viewed this way. This indicates potential efficiency gains that can be made by optimizing the different demands of heating and cooling.

The climate has a huge impact on the focus of any supply assessment. Toledo is an environment that is overwhelmingly driven by the need for heating, and this is reflected in the assessment of various supply solutions.

4.3. Development of Supply Options

In this chapter a small number of supply options will be described, designed and calculated. The focus is on the heating supply of the Toledo Campus. All supply options are based on the heat demand after realizations of energy saving measures by optimization of building operation and efficiency.

All of the options are some form of interlinked system where heat can be sourced in one location and used in another. This approach ensures that heat supply equipment such as Combined Heat and Power (CHP) engines and biomass boilers will not be oversized and at risk of economic inefficiency. Immediate supply is guaranteed by (existing) gas boilers, but as the demand drops and the benefits of interlinked demand lower further the peak demand, these will be stepwise decommissioned or upgraded.

For the optimization of the heat supply of the Toledo Campus the following options will be investigated in further detail:

- Partial Centralization of Heating Supply
- Interconnected Islands
- Full Campus Heating Network

At the end of this chapter there will be a short discussion of supply options for Findlay.

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4.4. Eliminated Supply Options

A variety of potential supply options were considered and eliminated for different reasons. These eliminations are summarized here for record. Given this is a 20 year plan, these and maybe others, should be regularly revisited for potential viability in the future.

4.4.1 Wind Power Generation

This is eliminated because of poor wind quality in the Toledo and Findlay area. The economic returns will be low. Even if the price of electricity increases dramatically, wind power production should be concentrated in regions with a significantly higher average wind speed.

Only if wind power were to be included for educational or promotional reasons should a small scale plant be implemented. It would be eligible for incentives under the Ohio Senate Bill XXX.

4.4.2 Solar Photovoltaic

As with wind power, solar photovoltaic is not economically feasible because of poor sun quality and the current cost of installations. The generation of solar electricity is around 5 to 10 times more expensive than present power plants. In respect to energy savings and carbon dioxide reduction solar photovoltaic should be concentrated in regions with higher sunshine duration and intensity.

However, given the Toledo area's interest in Solar PV from the University of Toledo, various start-up companies and First Solar, the Campus may want to include some pilot installations for educational purposes.

4.4.3 Ground Effect Geothermal

This is rarely viable economically on an existing site due to the amount of construction work needed to create a low-temperature geo-thermal array with sufficient capacity to be of interest to the campus. In addition, the circulation of the geothermal exchange would continue to be done with electricity that has very high indirect greenhouse gas content, so it could be in conflict with the IEMP goal to substantially reduce the greenhouse gases caused by the site.

If at some stage in the future a major part of the campus is being cleared for reconstruction, such as remodeling car parks, this option could be explored. For heating, the solution being proposed could be compatible with a geothermal source for at least a part of its needs.

4.4.4 Non-Traditional Heating Supply – Findlay

A variety of non-traditional supply options for Findlay, including CHP and Biomass sources were analyzed. None were economically viable even under fairly aggressive assumptions. The analysis is available on request, and could be remodeled with different assumptions.

4.4.5 District Cooling and Absorption Cooling

Contrary to what a lot of people think, the absolute energy requirement for cooling in a climate like Toledo is relatively small when viewed as total energy delivered in any one year. This is presented graphically in Figure 4.6.

As with heating, if buildings can be connected into a single cooling network, it is possible to share chillers between buildings, remove the least efficient ones, and substitute some of the base load cooling with absorption chillers. Absorption chillers create cooling energy from a heat input. Absorption chillers are technically less efficient than an electric chiller, so the economics

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generally only work if there a readily available source of low cost heat, typically from an existing power plant or industrial source.

The combination of a relatively low cooling requirement in total, the cost of developing a cooling network, and the likely market prices between gas and electricity for the foreseeable future makes this totally unattractive economically. For Owens Community College a district cooling approach will have a negative IRR.

4.5. Heating Options Considered

4.5.1 Biomass Commentary

Biomass boilers will be among the options to consider. The most critical aspect of making this choice is the confidence that adequate and reliable fuel supplies are available. This is still far from certain in most of the USA.

During a recent assessment near Cleveland, the team was made aware of a small logging company, apparently with sufficient wood chip potential to be a reliable source of biomass.



Figure 4.7 Locally Available Biomass Fuel

The heating value of wood chips is about 2 to 3 MWh_{th} per short ton. Preliminary discussions with the company gave an indicative price of \$18 /ton, or \$6 to \$9 per MWh_{th}, making this a very cheap potential primary fuel. From an environmental standpoint, biomass is considered to be carbon-dioxide neutral since the CO₂ yielded in combustion is compensated by the CO₂ absorbed during growth. The economics, volumes available and energy quality of the wood needs further evaluation in a subsequent stage of the IEMP.

4.5.2 Partial Centralization of Heating Supply

The first option evaluated was the partial centralization of the heating distribution. This consisted of two small networks linking neighboring buildings. This will minimize the length of district heating pipes⁹ needed. For all the options the network will be a closed pressurized heating

⁹ For all the heating networks, standard district heating pipes are used with high-density polyurethane insulation and plastic sheathing. This is widely available in standardized sizes from multiple suppliers.

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system. The system consists of two parallel pipes for supply and return. The pipes can be laid in existing conduits where available or shallow buried directly in the ground.

The partial centralization is designed for the Westside and the Eastside of the campus.

4.5.2.1 Island 1 – Westside of Campus

The following buildings will be integrated to form Island 1:

- College Hall (1)
- Administration Hall (3)
- Children Care (6)
- Health Technologies Hall (4)
- Bicentennial Hall (5)

To complete this network, Health Technologies and Bicentennial Hall must be converted from the current electric heating to a hot water system. Figure 4.8 shows a possible district heating layout. Points 1 to 3 are network nodes where pipe diameters change.

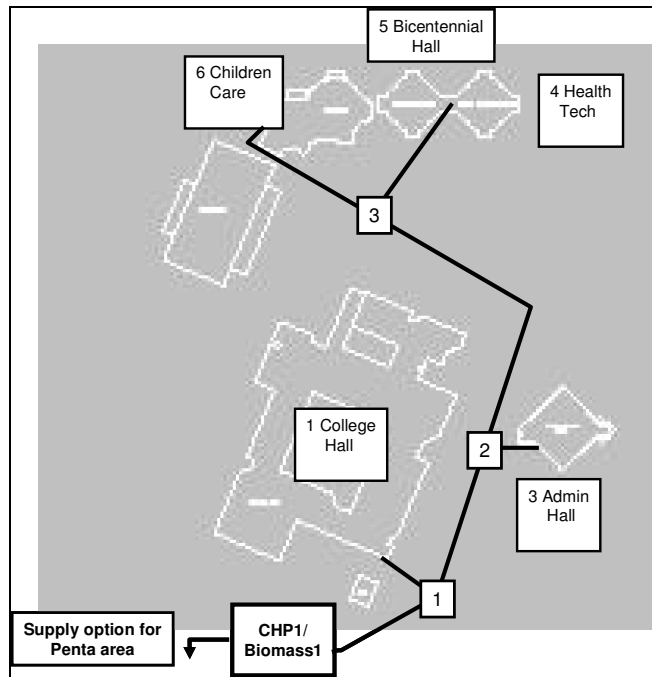


Figure 4.8 Westside Campus – Suggested District Heat Layout

The investment for the distribution consists of the investment for the piping (including pipe and excavation) and the substation (heat exchanger) for each building. The substation connects the building heating and domestic hot water system to the district heating system via heat exchanger. The pipes sizes are selected based on the demands of a peak load day, when the difference between the supply temperature and the return temperature would be 30°C (86°F). Figure 4.9 shows the estimated distribution investment for the Westside Campus.

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Island 1	Temperature difference between Supply and return	30 Kelvin		Dimension	Spec. Invest	Invest DH net	Substation	Total Invest
		Capacity						
		kW	m	mm	\$/m	\$	\$	\$
CHP 1	node 1	1290	145	100	300	43,500		43,500
node 1	1 College Hall	680	45	80	255	11,500	7,600	19,100
node 1	node 2	610	100	80	255	25,500		25,500
node 2	3 Admin Hall	150	30	40	202.5	6,100	4,000	10,100
node 2	node 3	460	210	80	255	53,600		53,600
node 3	4 & 5 Health Tech/Bicentennial hall	360	60	65	240	14,400	6,100	20,500
node 3	6 Children Care	100	95	40	202.5	19,200	3,800	23,000
			685		Subtotal	173,800	21,500	
				Engineering,..	15%			29,300
				Total				224,600

Figure 4.9 Westside Campus –District Heat Network Investments

Heat generation plant could be in a separate building as shown in Figure 4.8. The suggested location recognizes possible need to supply the Penta area in future. Another alternative is to locate the plant in an existing building. This will be a decision for the engineering phase. There are a number of options for the supply of heat, which incidentally are generic to all the options.

Heat Generation with CHP

As a first option for the heat generation, the operation of engines fired with natural gas is considered to both improve fuel efficiency and reduce greenhouse gas.

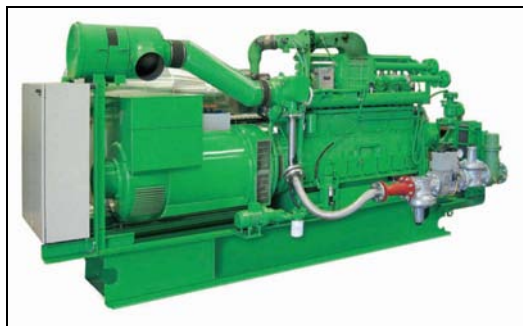


Figure 4.10 Example of Natural Gas Fired CHP

For the Westside, two small engines are recommended with the following specifications:

CHP Module	
Electrical power	2 x 70 kW
Thermal power	2 x 115 kW
Electrical efficiency	34 %
Principle	Lambda-1-engine with 3-way-Katalysator

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The CHP engines would provide the base load heating and domestic hot water. One engine will run about 7,000 hours a year, and the other about 5,000 hours. The remaining peak and fill requirements will come from existing boilers. In the final implementation this heat could be generated in the newer boilers of College Hall and the new condensing boilers in Administration Hall. In a transition period probably the boilers of Children Care will be needed.

Figure 4.11 shows the annual heating demand curve for Buildings 1, 3, 4, 5 and 6 after the efficiency measures outline in Chapter 3 have been implemented. The heat from the CHP engines provides the bulk of the base load, with the peaking boilers filling in the “white spaces”.

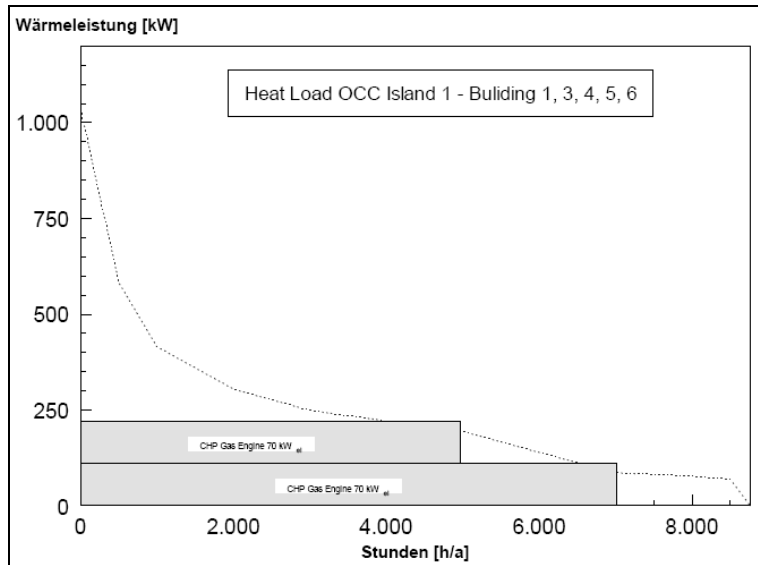


Figure 4.11 Westside Campus - Load Curve and Operating Approach for Island 1

The electricity generated by the CHP engine will be sold to the grid under the regulations of the Public Utilities Commission of Ohio (PUCO)¹⁰. Currently, the electricity will be valued at the avoided cost of generation, effectively a wholesale rate about half the normal tariff. Under new energy legislation recently passed in Ohio, Senate Bill 221, small scale cogeneration may qualify for so-called net metering, and is effectively a 1:1 deduction from the College’s electrical utility bill. In the modeling for this entire Assessment, the more conservative approach of using the generation rate has been adopted.

A major advantage of CHP is that it is a very powerful approach to reducing greenhouse gases caused by the College. Investments for the CHP installation with peripheral controls and a simple building will be about \$266,000.

¹⁰ See <http://www.puco.ohio.gov/>

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Heat Generation with Biomass

An alternative for heat generation that was considered is a biomass fired boiler, which has the advantage of using a renewable fuel and being considered zero greenhouse emissions.



Figure 4.12: Austrian Biomass Boiler for Wood Chips

The boiler will deliver the base load as shown in Figure 4.13 and will operate pretty much continuously throughout the year. The peak and fill loads (white areas under the load curve) will be generated by existing boilers.

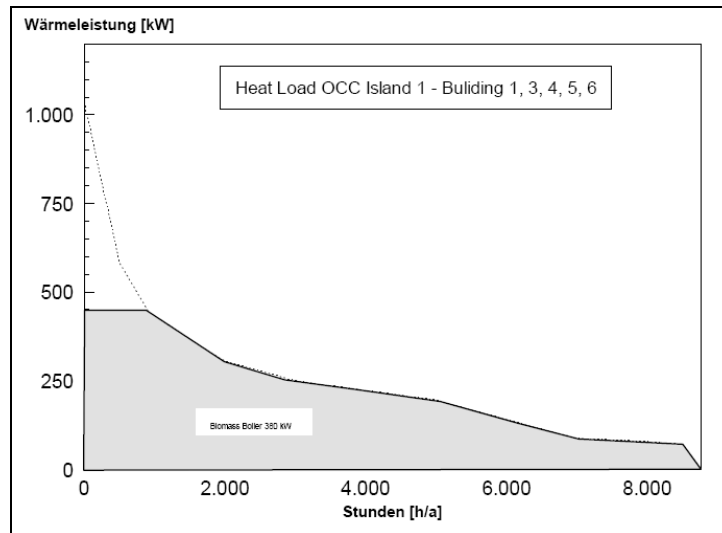


Figure 4.13 Load Curve for Island 1 Biomass, Westside Campus

The biomass boiler will have the following specifications:

Biomass boiler	
Thermal power	380 kW
Fuel power	475 kW
Fuel efficiency	80 %

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The investment for the boiler, all peripheral equipment including the building and the storage for the wood chips will be about \$342,000.

4.5.2.2 Island 2 – Eastside of Campus

The following buildings will be integrated to form island 2:

- Library (12)
- Audio Visual Classroom Center (13)
- Math / Science Center (14)
- Student Health & Activities Center (15)
- Center for Fine & Performing Arts (16)

The elements are basically the same as for Island 1, other than the capacity needed. Most of the narrative and description for Island 1 is applicable.

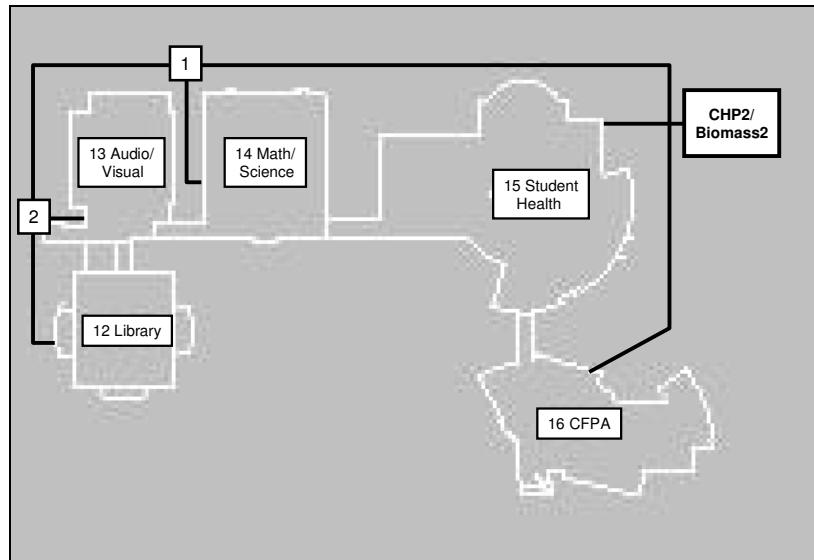


Figure 4.14 Eastside Campus – Suggested District Heat Layout

The investments for the network, including engineering and substations are summarized in Figure 4.15.

Island 2	Temperature difference between Supply and return			30	Kelvin			
	Capacity	Dimension	Spec. Invest					
	kW	m	mm	\$/m	\$	\$	\$	\$
CHP 2	16 CFPA	470	170	80	255	43,400	6,900	50,300
CHP 2	15 Student Health	780	35	80	255	8,900	8,000	16,900
CHP 2	node 1	1020	275	100	300	82,500		82,500
node 1	14 Math/Science	510	65	80	255	16,600	7,000	23,600
node 1	node 2	510	240	80	255	61,200		61,200
node 2	13 Audio/Visual	260	20	50	217.5	4,400	5,100	9,500
node 2	12 Librabry	250	70	50	217.5	15,200	5,100	20,300
	Total		875		Subtotal	232,200	32,100	
				Engineering,..	15%			39,600
				Total				303,900

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Figure 4.15 Eastside Campus –District Heat Network Investments

A separate building for the heat generation plan is suggested. A good place could be near the existing chiller of buildings Student Health & Activities Center (15) and Center for Fine & Performing Arts (16). The final siting will be done in the detailed engineering phase.

Heat Generation with CHP

As for Island 1, gas fired CHP is the first alternative evaluated.

The engines are working in the base load as visible in figure 4.16. The peak and fill loads (white areas under the load curve) will be generated by existing boilers. This heat could come from the boilers of Student Health & Activities Center (15) and Center for Fine & Performing Arts (16). In a transition period probably one of the boilers of the Library (12), Audio Visual Classroom Center (13) and Math/Science Center (14) will be needed. After the first period these boilers should be conserved and used as a backup even for other buildings.

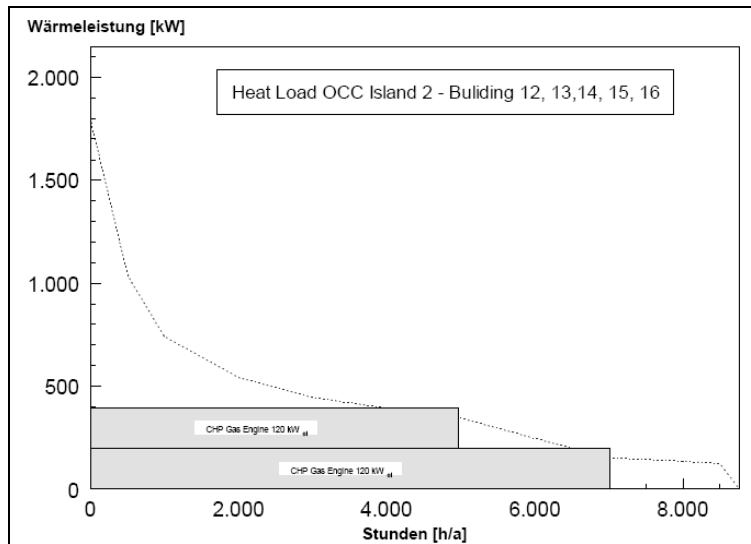


Figure 4.16: Eastside Campus - Load Curve and Operating Approach for Island 2

The gas engines will have the following specifications:

CHP Modules	
Electrical power	2 x 120 kW
Thermal power	2 x 200 kW
Electrical efficiency	34 %
Principle	Lambda-1-engine with 3-way-Katalysator

The investment for the engine with generator, all peripheral equipment including the building will be around \$ 400,000.

Heat Generation with Biomass

As before, the boiler will deliver base load as shown in Figure 4.17. The peak and fill loads (white areas under the load curve) will be generated by existing boilers. The capacity of the

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boilers of Student Health & Activities Center (15) and Center for Fine & Performing Arts (16) should be enough to meet the heat demand of the island supply even in the starting period.

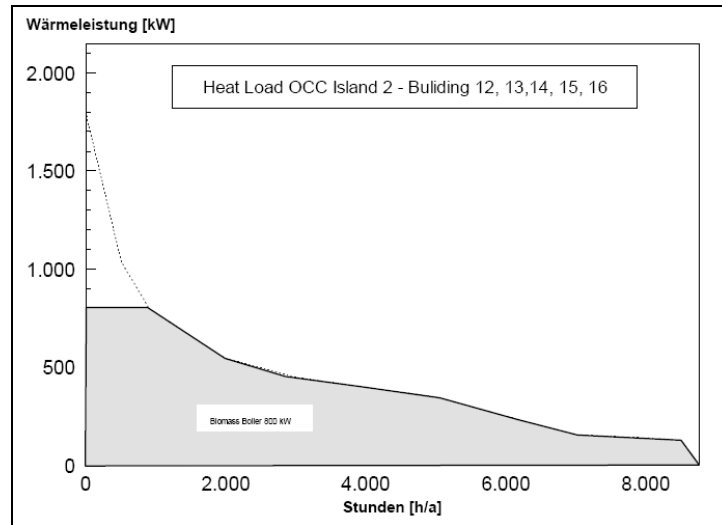


Figure 4.17 Load Curve for Island 2 Biomass, Eastside Campus

This will be a larger biomass unit than the Westside and have the following specifications:

Biomass boiler	
Thermal power	800 kW
Fuel power	975 kW
Fuel efficiency	82 %

The investment for the boiler, all peripheral equipment including the building and the storage for the wood chips will be about \$640,000.

4.5.2.3 Islands 1 and 2 – Interconnection Scenario

In this option the buildings from both Island 1 and 2 are interconnected. The generation plant should be placed between the islands. A good place would be between Oregon Road and Facility Services (8) both for ease of energy supply and as a potential educational artifact.

Figure 4.18 shows a possible layout for the district heating network. Again, the points 1 to 7 indicate nodes with change of pipe diameters.

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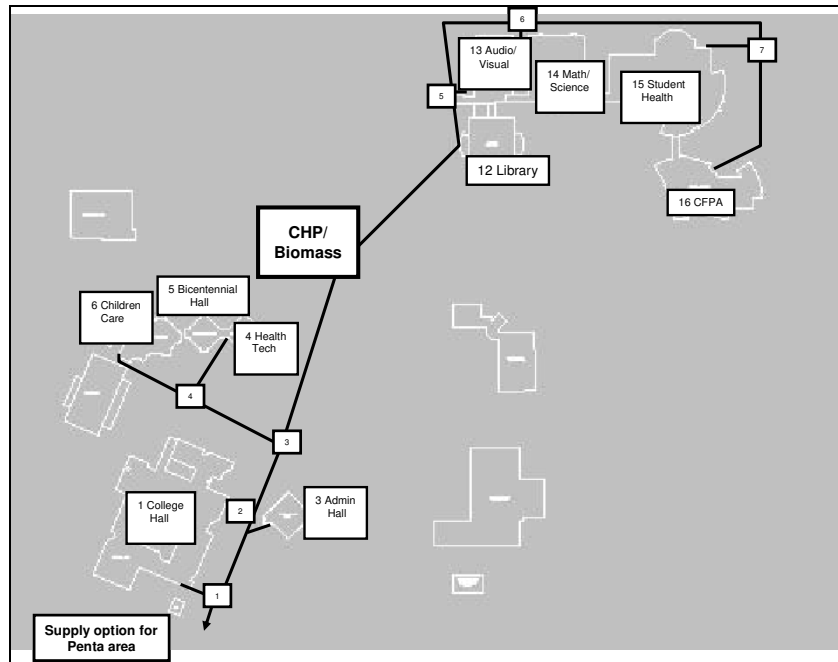


Figure 4.18 West and East Campus – Suggested District Heat Layout

Interconnected Islands								
Temperature difference between Supply and return						30	Kelvin	
		Capacity		Dimension	Spec. Invest	Invest DH net	Substation	Total Invest
		kW	m	mm	\$/m	\$	\$	\$
CHP/Biomass	node 3	1290	240	125	345	82,800		82,800
node 3	node 4	460	135	80	255	34,400		34,400
node 4	4 & 5 Health Tech/Bicentennial hall	360	60	65	240	14,400	6,100	20,500
node 4	6 Children Care	100	95	40	202.5	19,200	3,800	23,000
node 3	node 2	830	75	125	345	25,900		25,900
node 2	3 Admin Hall	150	30	40	202.5	6,100	4,000	10,100
node 2	node 1	680	100	100	300	30,000		30,000
node 1	1 College Hall	680	45	80	255	11,500	7,600	19,100
						0		0
CHP/Biomass	12 Librabry	2290	180	125	345	62,100	5,100	67,200
11 Librabry	node 5	2040	70	125	345	24,200		24,200
node 5	13 Audio/Visual	260	20	50	217.5	4,400	5,100	9,500
node 5	node 6	1780	140	125	345	48,300		48,300
node 6	14 Math/Science	510	65	80	255	16,600	7,000	23,600
node 6	node 7	1270	240	125	345	82,800		82,800
node 7	15 Student Health	780	35	80	255	8,900	8,000	16,900
node 7	16 CFPA	470	170	80	255	43,400	6,900	50,300
			1700		Subtotal	515,000	53,600	
				Engineering,..	15%			85,300
				Total				653,900

Figure 4.19: West and East Campus –District Heat Network Investments

For possible future supply of the Penta area, the pipe between the location of generation and node 1 (near College Hall supply point) should be built with a bigger diameter (DN 150). This is

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not yet respected in the calculation, but is within the tolerance of the overall estimates. Similarly, the building should have sufficient space to either add another CHP unit, or the biomass boiler should be larger if the need to supply of Penta becomes clear.

Heat Generation with CHP

Again, the first option for the heat generation is gas-fired CHP. The peak and fill loads (white areas under the load curve in figure 4.20) will be generated by existing boilers. In the final development this heat could be generated in the newer boilers of College Hall (3), the boilers Student Health & Activities Center (15) and Center for Fine & Performing Arts (16). In a transition period probably one of the boilers of the Library (12), Audio Visual Classroom Center (13) and Math/Science Center (14) will be needed. After the first period these boilers should be conserved and used as a backup even for other buildings.

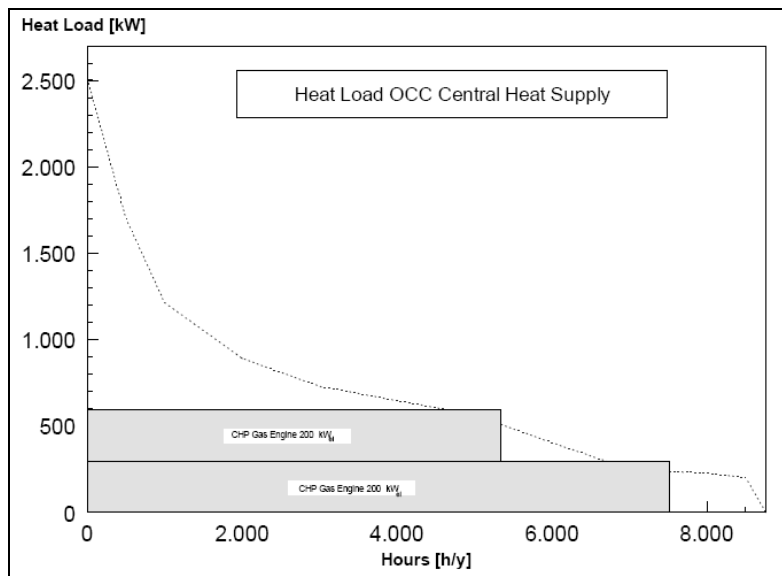


Figure 4.20 West and: East Campus - Load Curve and CHP Operating Approach

The engines are again one size larger, but we are beginning to see the advantage of the coincidence factors. As more buildings are connected, the lower the absolute peak capacity needed from all heat becomes. This is simply a result of the fact that not all buildings will have peak demand simultaneously, and the more buildings that are connected the less likely this is to be the case, allowing for further downsizing of plant.

CHP Modules	
Electrical power	2 x 200 kW
Thermal power	2 x 300 kW
Electrical efficiency	36 %
Principle	Lambda-1-engine with 3-way-Katalysator

The investment for the engines with generator, all peripheral equipment including the building will be around \$ 580,000.

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Heat Generation with Biomass

The boiler will work in the base load, and the peak and fill loads (white areas under the load curve in Figure 4.21) will be generated by existing boilers. The capacity of the newer boilers of College Hall (3) and the boilers of Student Health & Activities Center (15) or Center for Fine & Performing Arts (16) should be enough to meet the heat demand of the island supply even in the starting period.

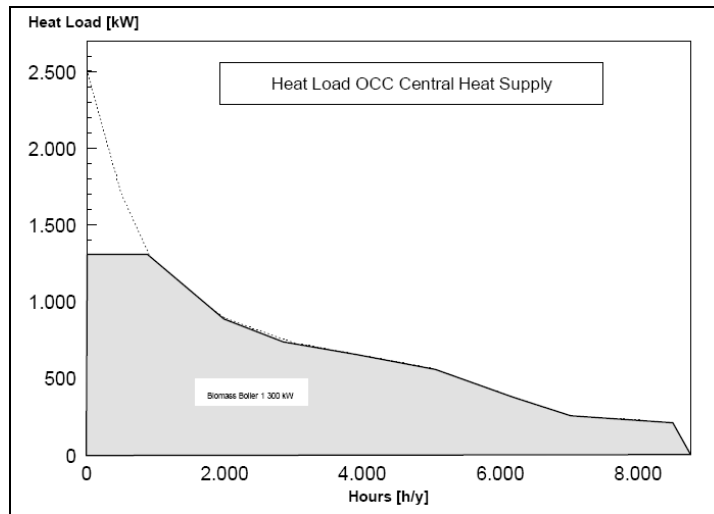


Figure 4.21 Load Curve for Biomass West and East Campus

The possible biomass boiler will have the following specifications:

Biomass boiler	
Thermal power	1,300 kW
Fuel power	1,565 kW
Fuel efficiency	83 %

The investment for the boiler, all peripheral equipment including the building and the storage for the wood chips will be around \$1,000,000.

4.5.3 Full Campus Heating Network

This completes the heat network to cover the entire campus by adding the following buildings:

- Transportation Technology
- Engineering Technology

All significant buildings other are integrated in this central heating solution.

Figure 4.22 shows a possible layout of the district heating pipes. Points 1 to 9 indicate nodes of the networks with pipe diameter changes.

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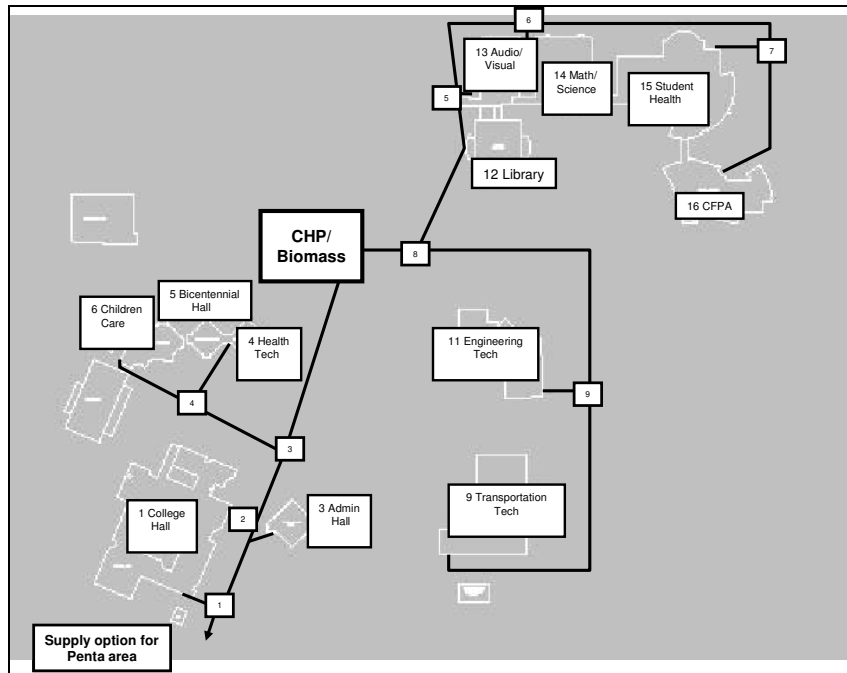


Figure 4.22 Toledo Campus – Suggested District Heat Layout

Central Supply 2								
Temperature difference between Supply and return				30	Kelvin			
		Capacity kW	Dimension m	Dimension mm	Spec. Invest \$/m	Invest DH net \$	Substation \$	Total Invest \$
CHP	node 3	1290	240	125	345	82,800		82,800
node 3	node 4	460	135	80	255	34,400		34,400
node 4	4 & 5 Health Tech/Bicentennial hall	360	60	65	240	14,400	6,100	20,500
node 4	6 Children Care	100	95	40	202.5	19,200	3,800	23,000
node 3	node 2	830	75	125	345	25,900		25,900
node 2	3 Admin Hall	150	30	40	202.5	6,100	4,000	10,100
node 2	node 1	680	100	100	300	30,000		30,000
node 1	1 College Hall	680	45	80	255	11,500	7,600	19,100
CHP	node 8	2860	40	150	390	15,600		15,600
node 8	12 Librabry	2290	150	125	345	51,800	5,100	56,900
11 Librabry	node 5	2040	70	125	345	24,200		24,200
node 5	13 Audio/Visual	260	20	50	217.5	4,400	5,100	9,500
node 5	node 6	1780	140	125	345	48,300		48,300
node 6	14 Math/Science	510	65	80	255	16,600	7,000	23,600
node 6	node 7	1270	240	125	345	82,800		82,800
node 7	15 Student Health	780	35	80	255	8,900	8,000	16,900
node 7	16 CFPA	470	170	80	255	43,400	6,900	50,300
								0
CHP	node 9	570	450	80	255	114,800		114,800
node 9	9 Transp. Tech	220	40	50	217.5	8,700	4600	13,300
node 9	11 Engineering Tech	320	200	65	240	48,000	5700	53,700
					Subtotal	691,800	63,900	
			2400					
Network Heatlosses				Engineering...	15%			113,400
Specific		45 W/m		Total				869,100
Total per year		946,080 kWh/y						

Figure 4.23 Toledo Campus –District Heat Network Investments

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Heat Generation with CHP

The engines deliver the base load with peak and fill loads (white areas under the load curve in Figure 4.24) will be generated by existing boilers. In the final development this heat could be generated in the newer boilers of College Hall (3), the boilers Student Health & Activities Center (15) and Center for Fine & Performing Arts (16). In a transition period probably one of the boilers of the Library (12), Audio Visual Classroom Center (13) and Math/Science Center (14) will be needed.

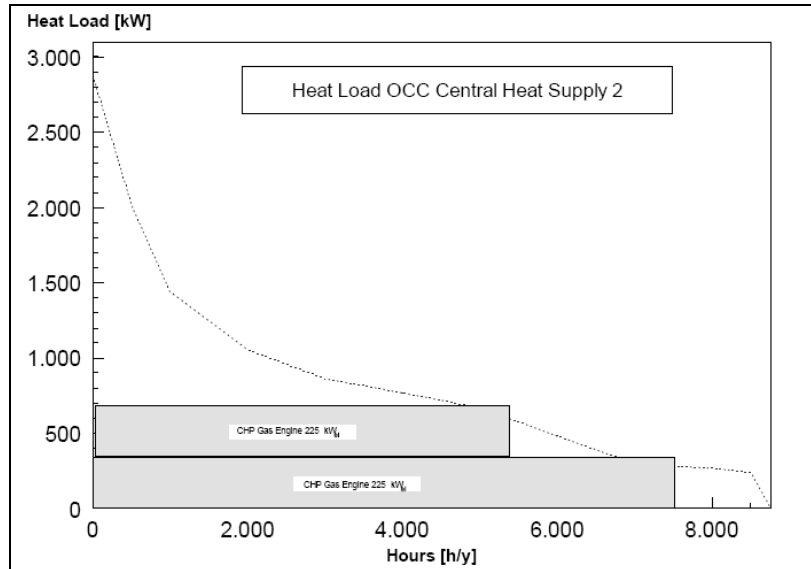


Figure 4.24 Toledo Campus - Load Curve and CHP Operating Approach

The gas engines will have the following specifications:

CHP Modules	
Electrical power	2 x 225 kW
Thermal power	2 x 340 kW
Electrical efficiency	36 %
Principle	Lambda-1-engine with 3-way-Katalysator

The investment for the engine with generator, all peripheral equipment including the building will be around \$ 630,000.

Heat Generation with Biomass

The boiler will deliver the base load, and the peak and weak loads (white areas under the load curve in figure 4.25) will be generated by existing boilers. The capacity of the newer boilers of College Hall (3) and the boilers of Student Health & Activities Center (15) or Center for Fine & Performing Arts (16) should be enough to meet the heat demand of the island supply even in the starting period.

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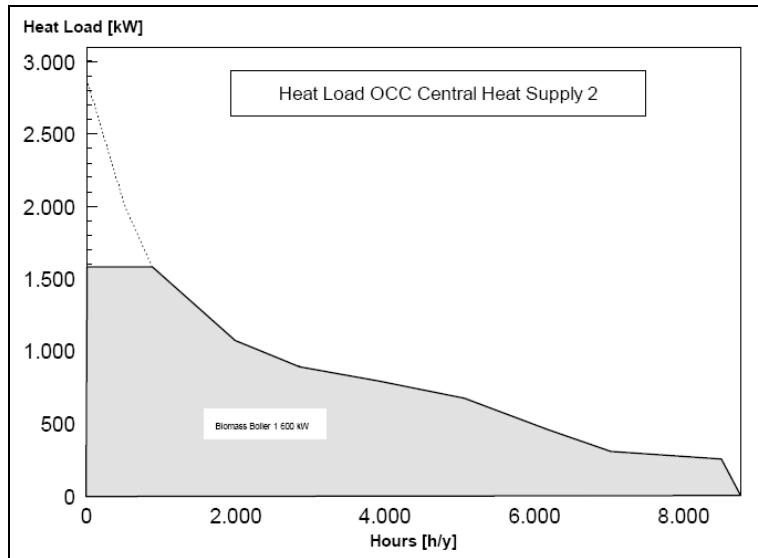


Figure 4.25 Load Curve for Biomass Toledo Campus

The possible biomass boiler will have the following specifications:

Biomass boiler	
Thermal power	1,600 kW
Fuel power	1,930 kW
Fuel efficiency	83 %

The investment for the boiler, all peripheral equipment including the building and the storage for the wood chips will be around \$1,280,000 \$.

4.5.4 Heating Supply Options for Findlay

For the Findlay Campus, it is possible to conceive the same approach as in Toledo. In Findlay there are two big buildings (Bright Road Main and Activities Center) which are relatively close together. A heating network would only be to connect the two boiler rooms. However under rigorous analysis, none of the combination of heating network, boilers, CHP or biomass, gave acceptable results. The reasons for this are:

- Lower overall heat load than in Toledo
- Fewer heating degree days
- Lower energy prices than in Toledo

The least unattractive candidate was to use two 60kW micro-turbines combined with the existing boilers on a small network. Under the present assumptions this is an Internal Rate of Return well below 15% and was rejected on that basis.

So for Findlay the effort for energy saving and carbon dioxide reduction should be concentrated on the optimization of building operation, set points and scheduling as outlined in Chapter 3.

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This recommendation should be revisited at least every two to three years, since retrofitting this solution if the market conditions change would be relatively simple.

4.6 Cooling Recommendations

As indicated earlier, the campus cooling demand does not make district cooling viable. The overall campus cooling requirement will drop as a result of more extensive building management strategies and as a result of improved efficiencies.

A significant improvement in the efficiency of the current cooling approach could be achieved by replacing existing rooftop units with modern chillers with a higher COP. However, this would require extensive changes to the supply structure inside the buildings and is really only viable for new construction. The recommendation is to manage the existing cooling architecture to incrementally improve the efficiency through selective replacement and optimization. No significant cooling investments have been included in the Assessment.

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5. INTEGRATED ENERGY MASTER CONCEPT – FINANCIAL ASSESSMENT

5.1. Methodology and Assumption

5.1.1 Integration

The various elements covered in some detail in Chapter 2, 3, and 4 are combined into a series of integrated energy solutions covering energy efficiency, energy distribution and alternative energy sourcing. A total of nine scenarios were assessed for the Toledo Campus:

1. "Business as usual"
2. Optimization through Building Management System
3. Combination of Control and Building Efficiency
4. Partial centralization in 2 islands with CHP
5. Partial centralization in 2 islands with Biomass Heating
6. Interconnected Islands with CHP
7. Interconnected Islands with Biomass Heating
8. Full campus heating network with CHP
9. Full campus network with Biomass

These are compared to a base-case scenario, where the efficiency of the system remains essentially constant. Each is treated as a comprehensive investment package, and assessed on three key criteria:

- Energy Efficiency
- Greenhouse Gas Reduction
- Internal Rate of Return

5.1.2 Energy Price Assumptions

Forecasting energy prices in 2008 is hardly an exact science given the volatility of the world's energy markets. The assumptions used in the Assessment are very conservative in terms of anticipated energy cost increases to ensure all the IRR calculations can be viewed as a safe minimum.

Commodity	2007 Base	Increase	Comments
Electricity - Toledo	\$105 / MWh	5% pa	Higher increase likely – enhances IRR
Electricity – Findlay	\$76 / MWh	5% pa	----"----
CHP sales to Grid	\$60 / MWh	5% pa	Net metering likely – enhances IRR
Gas – Toledo	\$45 / MWh _e	5% pa	Higher increase likely – enhances IRR
Gas – Findlay	\$ 38 / MWh _e	5% pa	----"----
Gas for CHP – Toledo	\$42.75 / MWh _e	5% pa	Higher increase - erodes IRR
Gas for CHP – Findlay	\$36.10 / MWh _e	5% pa	----"----
Biomass – wood chips	\$10 / MWh _e	13% pa	Concern over reliability of supply

5.1.3 Greenhouse Gas Assumptions

A key target of the IEMP, beyond meeting the requirements of HB 251, is to reduce greenhouse gas emissions caused by the College. The following assumptions were used to establish the GHG balances.

Owens Community College Integrated Energy Master Plan		
Item	Assumption	Comments
Grid Electricity	970 kg CO ₂ / MWh	Among highest in USA
Natural gas	201 kg CO ₂ / MWh _e	
Biomass	0 kg CO ₂ / MWh _e	UNFCCC recognize biomass as net zero

• *Other Assumptions*

Item	Assumption	Comments
Discount Rate	5.25%	Conservative for a public institution
Other costs	2% / year	Mainly labor – mostly affects first 5 years

5.2. Summary of Investments and Measures

The detailed breakdown of the investments for each scenario is described in Chapters 3 and 4. Figure 5.1 summarizes the investment profiles for each scenario in \$1,000's

#	Scenario	BMS	Meters	Efficiency	DH Net	CHP	Biomass	Totals
1	Status quo							
2	Gain Control	900	100					1,000
3	Add Efficiency	900	100	4,400				5,400
4	2 islands CHP	900	100	4,400	528	662		6,590
5	2 island bio	900	100	4,400	528		982	6,912
6	Link islands CHP	900	100	4,400	647	576		6,623
7	Link islands bio	900	100	4,400	653		1040	7,094
8	Campus CHP	900	100	4,400	862	630		6,893
9	Campus Bio	900	100	4,400	869		1280	7,549

Figure 5.1: Investments Overview for Different Scenarios

5.3. Financial and Risk Analysis

Rather than look at each of these in detail, Figure 5.2 is a summary of Net Present Value (NPV), Internal Rate of Return (IRR) and Greenhouse Gas (CO₂) balance of each scenario.

#	Scenario	Invest \$M	NPV \$M	IRR %	CO ₂ MT	CO ₂ % reduce	CO ₂ 5yr \$K
1	Status quo				19,400		\$0
2	Gain Control	\$1.00	\$7.73	33%	16,900	13%	\$0
3	Add Efficiency	\$5.40	\$8.00	18%	13,500	30%	\$0
4	2 islands CHP	\$6.59	\$8.19	16%	11,600	40%	\$0
5	2 island bio	\$6.91	\$8.70	17%	11,800	39%	\$0
6	Link islands CHP	\$6.62	\$8.32	16%	11,600	40%	\$0
7	Link islands bio	\$7.09	\$8.75	16%	11,700	40%	\$0
8	Campus CHP	\$6.89	\$8.15	15%	11,300	42%	\$0
9	Campus Bio	\$7.55	\$8.66	15%	11,300	42%	\$0

Figure 5.2: Financial Summary – Conservative Assumptions

Under the assumptions used, it is clear that implementing scenario 3 is pretty much a prerequisite not only to meet both the statutory requirements of HB 251, but also to deliver a reasonable reduction in greenhouse gas creation, and to mitigate a part of the future energy price risks.

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Clearly, implementing a campus wide heating concept creates significant further reductions in greenhouse gases, and somewhat enhances the Net Present Value. So, the question is how to look at the value of an integrated approach in today's world. The assumptions may not take into account a number of changing realities in the energy world, associated with both climate change and global demand and uncertainty.

There is a high probability that the US, along with other countries, will adopt legislation to cap greenhouse emissions and ultimately reduce them. The recently drafted Senate Bill sponsored by Senator Lieberman and Senator Warner (S2191) called for a 70% reduction in greenhouse gas emissions by 2050. The EU is targeting even more aggressive levels from 2012 onwards. The likely impact will be to create a global greenhouse gas emissions market, similar to that which is already in sway in the EU and elsewhere. Today, a metric ton of carbon dioxide reduction is trading in Europe at the equivalent of \$40. Against that, how realistic is the assumption of zero that was used in the above models?

Greenhouse gas reduction programs, whether implemented through carbon taxes or through emissions trading, will have the tendency to push up the price of high carbon electricity. Owens Community College uses some of the highest carbon content electricity on the planet from the Ohio grid. In the face of this scenario, and the vast quantities of coal that China is beginning to buy around the world, it is reasonable to see a scenario where electricity prices will increase much faster than 5% per year.

Additionally, as the pressure is on to reduce carbon in power generation and industrial processes; there will be a growing attractiveness of natural gas as one of the lowest carbon traditional fuels. We are already seeing this effect in parts of Europe and a few states in the USA. This shifting demand, combined with the pressure on import facilities for natural gas can only tend to accelerate gas price increases.

Readily available direct burn biomass (woodchip) fuels will become more attractive as they are legislatively considered zero carbon under all jurisdictions, and their price is likely to rise quickly to a level approaching 60 to 80% of the equivalent energy price for gas. This has already happened in Europe where direct burn biomass is much more widely deployed.

Other legislation, such as the recent energy bill passed in Ohio (SB 221) recognizes the value of CHP in significantly reducing greenhouse gases and using fuel more effectively, and is giving it similar incentives as renewable energy, including sub-metering where the electricity produced trades onto the grid effectively at retail value.

Taking all these together, it is reasonable to consider an alternative set of assumptions:

- Grid electricity increases in price by 8% per year not 5% where the source is high carbon as in Ohio
- Natural gas increase in price by 7% per year not 5%
- Greenhouse gas reductions are valued at \$20 per metric ton in 2010 and increase in value at 12% per year after that
- Small scale CHP is granted the incentive of net-metering
- Biomass becomes a fuel of choice due to its zero CO₂ rating and costs \$20/MWh not \$10/MWh in 2009 and subsequently increases in price by 10% per year

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This risk adjusted set of assumptions yields the results summarized in Figure 5.3.

#	Scenario	Invest \$M	NPV \$M	IRR %	CO ₂ MT	CO ₂ % reduce	CO ₂ 5yr \$K
1	Status quo				19,400		\$0
2	Gain Control	\$1.00	\$13.63	41%	16,900	13%	\$559
3	Add Efficiency	\$5.40	\$17.94	25%	13,500	30%	\$1,312
4	2 islands CHP	\$6.59	\$23.72	26%	11,600	40%	\$1,746
5	2 island bio	\$6.91	\$20.65	24%	11,800	39%	\$1,702
6	Link islands CHP	\$6.62	\$24.11	26%	11,600	40%	\$1,746
7	Link islands bio	\$7.09	\$20.78	23%	11,700	40%	\$1,724
8	Campus CHP	\$6.89	\$24.66	26%	11,300	42%	\$1,814
9	Campus Bio	\$7.55	\$20.75	22%	11,300	42%	\$1,814

Figure 5.3: Financial Summary – Climate Risk Assumptions

The 5-year value of the emissions credits is simply an indicator of the potential asset value of the greenhouse gas reduction if this were a project that could register and bank its emissions reductions, and sell them as offsets¹¹.

Under this perfectly believable set of assumptions the picture looks very different. In Figures 5.4, 5.5, and 5.6 the cash flows for the conservative and climate scenarios are compared for Scenario 3, Scenario 8, and Scenario 9.

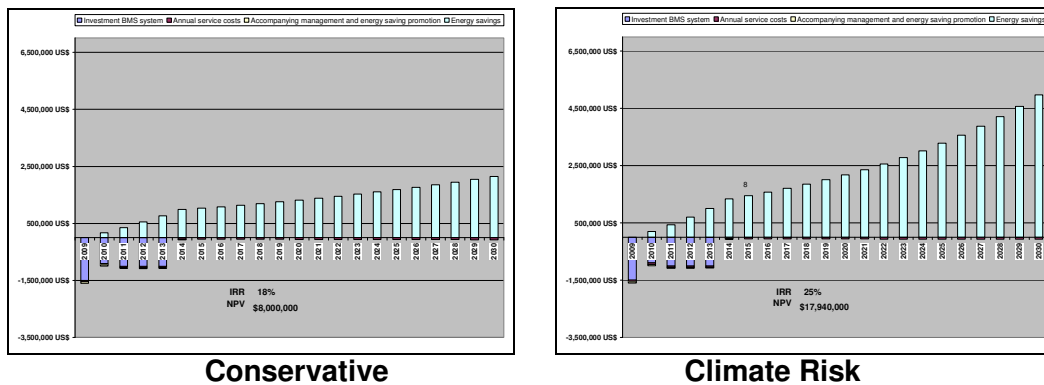


Figure 5.4: Cash Flows Scenario 3 – Control plus Building Improvements

¹¹ This has no current meaning in the USA. If the solution were a Clean Development Mechanism project in a relevant country under the Kyoto Protocol, this would be an approximation to the maximum value of the emissions credits. How this will play out in possible future US legislation is unknown. S2191 did allow for international trading of US credits so at least the door is open in discussions.

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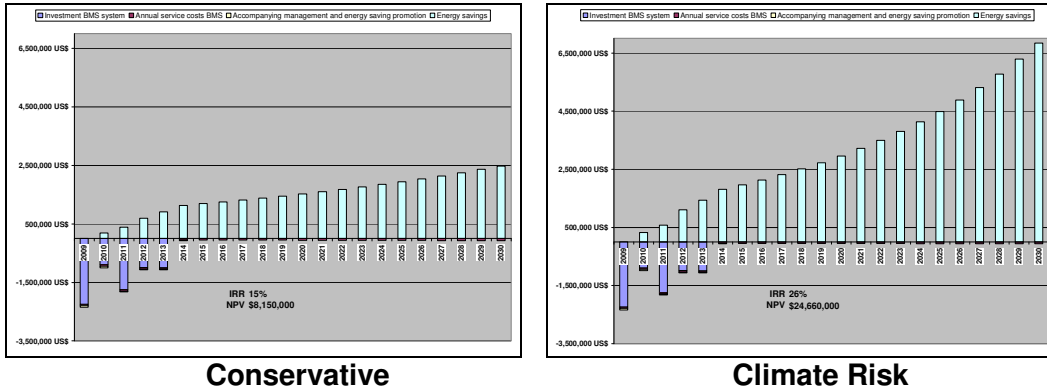


Figure 5.5: Cash Flows Scenario 8 – Campus Heat Network and CHP

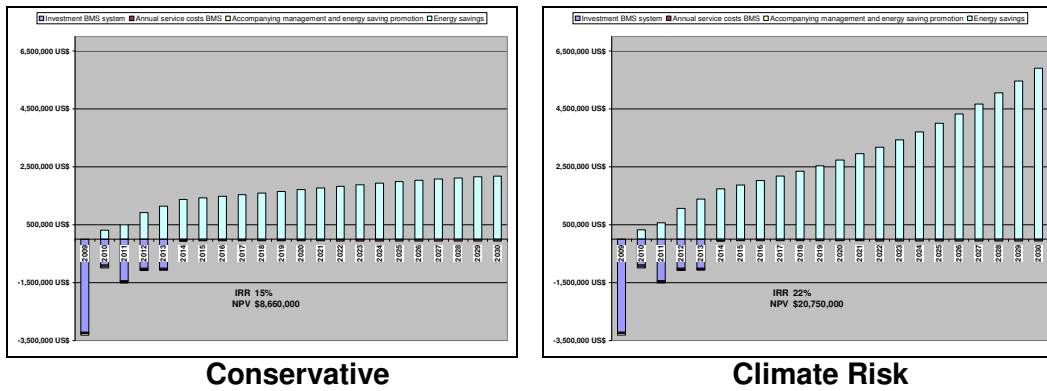


Figure 5.6: Cash Flows Scenario 9 – Campus Heat Network and Biomass

Looking at these two scenarios in the context of 2008, something approaching the Climate Risk version must be seen as more probable. There is marginal difference between the biomass and the CHP scenarios, with a slight bias in favor of CHP for the Climate Risk Scenario. There is still uncertainty as to the quality and availability of the biomass fuel in the area, so the current recommendation is to implement a CHP solution.

The overall benefits of gaining complete control of the campus heating system by completing the district heating network justifies the additional \$215K investment to complete the heating network. The NPV and IRR are about the same, but the greenhouse gas performance is improved.

The total recommended investment package for metering, control, efficiency upgrades, district heating and local combine heat and power is \$6.9M covering the configuration outlined in Option 8.

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5.4. Registration of Greenhouse Gas Emissions

The overall greenhouse reduction will be about 11,000 Metric Tons. If this is to have any future value, OCC will need to register its climate performance with an independent climate registry. In the USA, the only one that has international credibility and the support of a significant number of State Legislatures is The Climate Registry¹². The energy usage information the College has going back to 2004 is adequate to use that year as a baseline. This would also be appropriate given this is also the reference year for HB 251. Once the base line is registered, the emissions data is updated annually.

The Climate Registry was formed in 2007, and is supported by most US states, including Ohio, and a number of Canadian Provinces. Information on how to become a member and what is needed for registration is provided on the web site referenced below.

Irrespective of whether OCC ever captures any financial value, the educational and societal values of regularly reporting will enhance the overall credibility of the College's energy program.

5.5. Public Interest Support Programs

There are a number of programs that could potentially defray some of the investment for parts of the recommended solutions:

5.5.1 CHP and Solar PV

In the Assessment, CHP is a clear recommendation. Solar PV is not recommended on economic grounds, but could still, be valuable on educational and other grounds. For this reason, solar PV support is also referred to.

Under the Advanced Energy Act, Ohio can grant up to \$100,000 for the implementation of Distributed Energy solutions such as reciprocating engine CHP and Solar PV. These grants are on a "first come, first served" basis. It is not entirely clear whether the grant program is still funded, but given the growing focus of the current Governor, this is likely to be funded going forward. The contact for this is:

Preston Boone

Ohio Department of Development

Energy Office

77 South High Street, 26th Floor

PO Box 1001

Columbus, OH 43216-1001

Fax: (614) 466-1864

E-Mail: elf@odod.state.oh.us

Web site: <http://www.odod.state.oh.us/cdd/oe/>

¹² See <http://www.theclimateregistry.org/> for full background.

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There is also an “Advanced Energy Fund” that supports various grants and loans for both CHP and solar PV. This is a revolving facility that is topped up with the systems benefit charge collected by the utilities. The contact for this is:

Judy Pacifico

Ohio Department of Development
Office of Energy Efficiency
77 South High Street, 26th Floor
PO Box 1001
Columbus, OH 43216-1001

Phone: (614) 387-2732

Phone 2: (800) 848-1300

E-Mail: jpacifico@odod.state.oh.us

Web site: <http://www.odod.state.oh.us/cdd/oeef/>

5.5.2 Building Efficiency and Lighting

There are no immediately available State incentives for the types of retrofits recommended in the Assessment for institutional customers. However, given the focus of the current Governor on energy productivity, it will be worthwhile to maintain a constant watch on this.

What Federal incentives are available are in the form of tax incentives which have no value for a tax-free institution.

5.5.3 Ohio Governor’s Advanced Energy Strategy

Governor Strickland is clearly making a major commitment to enhancing the energy performance of Ohio, both to ensure long term competitiveness and to attract alternative energy investors. In discussions with the Governor’s Energy Advisor¹³, there could be some form of support for academic institutions that far exceed the requirements of HB 251, and could strategically support the State’s Advanced Energy Strategy. A case can be made that the recommendations of this Assessment do both. The Team is recommending making a customized submission to the Governor’s office for support. The recommendation would be to request support for the resources to develop new academic criteria, to ensure the installations meet their educational function, and to support the culture change elements.

5.6. Building Management System

The BMS outlined in Section 3 will be an invaluable tool in managing the energy performance of the Toledo Campus. In addition, it will be an invaluable tool to integrate academic schedules with building management.

The BMS can also be programmed to simultaneously track the greenhouse gas performance at the same time as the energy performance, and this should be set up as the standard approach.

¹³ Peter Garforth – Mark Shanahan discussions – April 2008

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A modern BMS has extensive reporting and presentation capability. One of the key elements in a successful integrated energy productivity program is creating systematic, long-term change in the energy awareness of the entire population of the Campus. Creatively used, the BMS reporting function combined with various information dissemination approaches can be a key element in raising and maintaining this energy awareness.

5.7. Educational Implications

5.7.1 Campus Energy Culture

As indicated in a number of places, a successful energy productivity program that will deliver the sustained energy efficiency results outlined in this Assessment, requires a deep change in Campus culture around energy.

The analogy with safety is valuable. Safe institutions are created through clear leadership from the highest level, constantly monitored and communicated, with every unsafe incident or accident rigorously analyzed and corrective action taken, all of this supported by constant and creative communication.

If the same principles are applied to energy efficiency, programs can far exceed all expectations. The leadership of the Campus starting with the Board of Trustees and the President, must clearly and regularly communicate that energy waste is unacceptable. This must not only come through their words, but also through their personal actions, and through the time and trouble they will spend with energy efficiency related activities and recognitions.

Owens Community College is blessed with an excellent Facilities Management Team. In future, they should become allied with students and faculty into a broader multidisciplinary site energy and climate team.

There are many sources of ideas for raising energy awareness, rewarding energy efficient behavior, and challenging wasteful behavior. A good example is the Green Campus Program from the Alliance to Save Energy¹⁴ which is designed to team Student Energy Champions, Faculty and Facility Staff. The orientation of this program to date has been focused on California, but the team is looking to expand into other states. Their website has some useful tips and guidelines. Similar resources are available from the EPA Energy Star Program.¹⁵

The method of regular communication and the degree to which this is done, is really only limited by the imagination of the Site Energy Team. However, one word of caution is in order. All too often energy efficiency programs are devalued by an excess of enthusiastic communication unsupported by hard performance data. The Assessment Team is strongly recommending ensuring communication is built on the basis of actual performance and progress against set goals.

¹⁴ See <http://www.ase.org/section/program/greencampus> for further background.

¹⁵ See http://www.energystar.gov/index.cfm?c=business.bus_index

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On this latter point, the European Union is now requiring Energy Performance Certificates¹⁶ to be prominently displayed in all public buildings with an area of 1,000 square meters (100,000 square feet) or more.

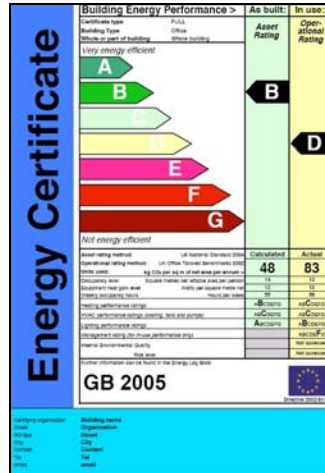


Figure 5.7: Example of EU Energy Performance Label

This might be an idea to be adopted at Owens Community College, accompanied by a suitable explanation for the College population. It should be supported by a suitable communication on the progress of that building and the campus as a whole in improving energy efficiency.

5.7.2 Curriculum

It is clear that the USA and Canada will need to seriously address their overall use of energy in a systematic and widespread way over many decades. This in turn will create enormous demand for a wide range of qualified energy professionals. The reality is that only a small fraction of the skills needed is currently available. This will put substantial pressure on the educational institutions and associated apprenticeship and management training programs.

Implementing an Integrated Energy Approach creates a natural teaching environment for Associate degrees focusing on energy related topics. The Team is recommending that the College form a small team that regularly reviews opportunities to extend the curriculum to include new Associate Degree Minors or Majors. The team should be multi-disciplinary and comprise the faculty, potential employers, sustainability expertise and local government. There is a clear market need for expertise in the following areas:

- a. Facility management focused on efficient use of resources and sustainability
- b. Integrated energy master planning for industrial, commercial, and community environments
- c. Rational energy decision making in Local and State Government

¹⁶ See <http://www.eplabel.org/> for further background

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- d. Energy efficient design and construction
- e. Planning, implementing and integrating renewable energy systems
- f. Designing energy strategies with climate change mitigation in mind
- g. Energy – Financial and other business implications
- h. Teaching sustainability principles and practice

Given the importance of successful energy management to the overall State of Ohio economy, it is worthwhile exploring state level support to design and trial these courses.

The whole area of sustainability, energy and other resource management is becoming increasingly needed by various organizations. Owens Community College should also scope an expanded curriculum of short courses in the same general subject areas as above. In addition, the College should seriously consider aligning with existing structured programs and organizations to become a regional center to increase capacity building in the market. Typical examples would be:

- a. EPA Energy Star (Commercial, Residential, Industrial) programs
- b. Association of Energy Engineers - Certification for Energy Technicians, Energy Manager, Business Energy Managers, Renewable Energy Engineers etc.
- c. NACUBO/CACUBO – Multiple aspects (planning, implementation, management, teaching etc)

All installations should be configured with teaching requirements in mind, including ensuring small seminar areas are available, technical design is such that explanation is convenient, and wherever possible, have attractive aesthetics to dispel myths about being ugly to be sustainable. Obvious items to consider are such things as readability of gages, seating arrangements, graphic displays and explanations and accessibility.

5.7.3 Public Outreach

The College can be an example for small and medium sized campuses around the USA and Canada. The Team is recommending a proactive approach to sharing the College's experiences in implementing the plan. This could include extensive use of web-based information, presentation of papers, reference and keynote visits etc. This aspect could also be combined with educational programs as targeted student or faculty projects, to develop materials, prepare data, and create sharing tools.

In a similar way, the College should consider its resources in this area as a teaching tool for local schools and other community groups. Again, these can be organized by student volunteers supported by staff, or be assigned as community projects as a part of a formal curriculum.

5.8. Commentary on Water Use on the Campus

Water use was not included in the scope of the Assessment, but this section addresses a few water related aspects in a general way.

Energy efficiency and water use are very closely related aspects of sustainability. Energy is typically 30 to 50% of all the cost of creating potable water. Reducing unnecessary water usage is a form of energy saving, albeit indirectly.

Given the likely scenarios over energy costs and climate penalties, the cost of potable water is likely to rise substantially in the coming years. The firm recommendation is to establish a potable water conservation strategy within the next 12 to 18 months. This would include:

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- Minimizing the use of potable water for primary applications including personal hygiene, laundry and cooking.
- Exploring the possibilities of converting toilet facilities to waterless or grey water approaches from potable water use.
- Exploring the possibility of converting selected laundry and landscape use of potable water to grey water or rainwater harvesting approaches.

In addition, storm water run-off is increasing becoming a concern, as large areas of hardscape deliver large quantities of polluted rainwater to the sewer system. In the short term, the Toledo campus has limited opportunities to change this. However, over time, car park areas will be remodeled or re-designed. As this happens, the opportunity to rethink the hardscape to include more absorptive surfaces should be taken.



Figure 5.8: Example of Greening Car Park Surface (IKEA Brussels)

The examples shown above allows for significant storm water absorption and greening of the car park surface. This also has the added advantage of reducing the heat island effect. This in turn reduces the external heat load on exterior walls of adjacent buildings in the summer, and reducing the cooling load.

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6. MOVING FORWARD - INTEGRATED ENERGY MASTER PLAN (IEMP)

6.1. IEMP Investment Summary

The overall recommendation is to implement Option 8 in its entirety comprising the following elements:

- Campus-wide Building Management System
- Additional metering
- District heating network connecting all major buildings
- Existing boilers supplemented by gas fired CHP

The estimate of the total investments and their timing is as follows:

Item	Total	2009	2010	2011	2012	2013
BMS	\$ 900,000	\$900,000				
Metering	\$100,000	\$100,000				
Building Upgrades	\$4,400,000	\$500,000	\$900,000	\$1,000,000	\$1,000,000	\$1,000,000
DH Network	\$869,100	\$434,550		\$434,550		
CHP	\$630,000	\$315,000		\$315,000		
Totals	\$6,899,100	\$2,249,550	\$900,000	\$1,749,550	\$1,000,000	\$1,000,000

Figure 6.1: Recommended Investments and Timing

These investments include estimates for the final engineering design and procurement support. They are clearly subject to final validation before they can be formally considered "Investment Grade".

6.2. Investment Financing Options

• Option 1 Performance Contracting

Under the auspices of Ohio House Bill 7¹⁷, State Institutions such as Owens Community College may enter into contracts to finance energy efficiency measures through so-called "Energy Performance Contracts". These are a form of vendor financing. The qualified vendor designs, installs and guarantees a set of energy efficiency measures, and is repaid on a schedule based on the estimated energy cost savings. Depending on the precise form of any agreement, the effective cost of capital is almost certain to be higher than the College could obtain in its own right. Also, HB 7 has some constraints on the financing term that can be applied to the CHP part of the investments, though these are unlikely to be major constraints for the proposed solution.

¹⁷ See http://www.odod.state.oh.us/cms/uploadedfiles/CDD/OEE/HB_7.pdf for summary

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• Option 2 Self Funding

Owens Community College has the opportunity to borrow money at preferential rates due to its status as a State educational institution. Currently, the college is debt free, and as a rule chooses to operate with a low, or no, debt strategy. However, given the nature of the recommended energy solution in that it is both a current cost saving measure and a future energy cost risk mitigation strategy, the Board of Trustees would probably be well advised to seek long-term, low interest financing through some form of long term bond. Since some budget is already allocated for energy related capital improvements, the total new financing needed may be less than the \$6.9M of the total solution.

On balance, the Performance Contracting approach has most value when there is a situation where there is no realistic possibility of the College raising its own capital. As this is not the case, the firm recommendation is for OCC to borrow the capital required on its own account.

In either case, the funding should be set up to encompass the fully integrated solution and not attempt to “cherry pick” parts of the solution. This is often attempted, and universally ends with limited benefits.

6.3. Organizational Recommendations

Owens Community College has a well-qualified, highly motivated Facility Management Team that is highly capable of managing the ongoing energy systems, including the CHP units. Clearly some familiarization training will be needed during the commissioning phases. No fundamental change of organizational structure or skills is recommended.

To manage the culture change and to gain the engagement of the students and faculty, we are recommending forming a College Energy Team representing all three key elements of the College Population. This team should meet regularly, be accountable for the overall energy and climate productivity of the campus, and be the forum for ongoing continuous improvement. The Team should be sponsored by a senior member of the College Management, including ideally the College President.

6.4. Next Steps

The recommended next steps are relatively clear:

• Board of Trustees Review

The Board of Trustees should formally review and approve or adjust the Assessment recommendations, subject to final validation of the investment requirements. This approval should also agree the capital financing approach to be adopted for the implementation of the solution.

• Validate Investment Requirements and Procurement Level Design

The investments recommended in the Feasibility Assessment require a final validation phase associated with the completion of a procurement level design of the various elements of the solution. The high-priority tasks include:

- Develop the detailed layout of the district heating, CHP and other heat supply equipment.
- Prioritizing the building efficiency measures, including the conversion of electrically heated buildings to hydronic.

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- Finalizing the BMS and metering requirements.

Both MVV and Owens Corning are logical resources to assist in the completion of this phase.

Once all investments have been validated, the Board of Trustees would then release the recommended solution for implementation.

- **Select Contractors and Implement Solution**

Based on the procurement level designs, suitable local contractors should be selected by Owens Community College to implement the solution, under the guidance of the Facility Staff and the expert advisors from MVV and Owens Corning if appropriate.

From a timing point of view, these decisions should be completed within the six months to meet the overall timeline of the recommended solution.

- **Finalize Design and Start Construction**

Construction grade designs should be completed and construction should be started by January 2009.

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Appendix 1 – Feasibility Assessment Team

Name	Organization	Position	Contact	Team Role
Tom Horrall	Owens CC	Director-Capital Planning	thomas_horrall@owens.edu +1 (567) 661-7489 +1 (419) 205-7496 (Cell) +1 (567) 661-7681 (Fax)	College Team Leader – overall point of contact
John Aleksander	Owens CC	Director Buildings & Grounds	John_aleksander@owens.edu +1 (567) 661-7577 +1 (419) 260-2037 (Cell)	Facilities (shared)
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David Basich	Owens CC	VP Operations	David_basich@owens.edu +1 (567) 661-7833	Business, Financial, Energy Supply Contracts, Procurement policies
Brian Paskvan	Owens CC	VP Administration	Brian_paskvan@owens.edu +1 (567) 661-7742	Business, Financial, Energy Supply Contracts
Peter Garforth	Garforth International LLC	Principal	garforthp@cs.com +1 (419) 578-9613 +1 (419) 320-0664 (Cell)	Team Leader and integrated energy management expertise
Richard Liesen	Owens Corning Inc	Buildings Specialist	Richard.J.Liesen@owenscorning.com +1 (740) 321-5257 +1 (740) 644-0924 (Cell)	Buildings energy demand, construction codes and efficient construction options
Bob Dehne	Owens Corning Inc	Architect	Bob.Dehne@owenscorning.com +1 (419) 248-8943 +1 (419) 351-3507 (Cell)	Buildings energy demand, construction codes and efficient construction options
Stefan Blüm	MVV Energie AG	Head Department Energy & Technology	s.bluem@mvv-consulting.com +49 62 14 32 987 – 51 +49 17 33 88 3278 (Cell)	Multi-utility, energy supply, distribution and fuel options
Gerd Fleischhammer	MVV Energie AG	Senior Consultant	gerdfh@web.de +49 6224 170 264 +49 170 6777 636 (Cell)	Multi-utility, energy supply, distribution and fuel options – Campus and community expertise
Trent Smith	First Energy	Regional President	smitht@firstenergycorp.com +1 (419) 249-6057 +1 (419) 351-8342 (Cell)	Local utility regulatory and technical frameworks and potential joint operational structure
David Cottrell & Roy Allen	Ohio Schools Council	Contract management	roy.vanallen@owens.edu david.cottrell@inoca.org	Natural gas cooperative supply agreement

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ATTACHMENT 17
POITENTIAL ENERGY CONTROL MEASURES

17.1 Potential Energy Conservation Measures (ECMs)

The Owner retained Garforth International llc (Garforth) to prepare a Feasibility Assessment Integrated Energy Master Plan. A copy of the Garforth Report is included in Attachment No. 16. The Garforth Report is provided for informational purposes only. The Owner makes no representations as to the accuracy of the Garforth Report. The bidder is encouraged to closely review the Garforth Report.

Below is a description of potential ECMs. These descriptions are provided for informational purposes. Some of these ECMs may overlap with the Garforth Report. The installation costs and potential energy cost savings associated with these ECMs have not been estimated and it is at the discretion and experience of the Bidder to determine which ECMs are to be included in their RFP Proposal. It is not the intent of the list provided to limit the consideration of alternative ECMs or to in any way restrict the creativity of the Bidder in developing energy savings solutions based on their expertise and independent evaluation of the campus facilities.

In addition to cost savings ECMs, the Owner is willing to consider the use of alternative and/or renewable energy sources where the Bidder considers them to be economically viable as part of the Project. These may include, but are not limited to, geothermal, wind, solar or biomass energy sources.

In anticipation of a centralized hot water plant, the Owner has included the installation of underground hot water piping in a recent project. Approximately 1,500 feet of hot water return and supply piping is being installed. The majority of the piping is 6" in size with a portion being 4" in size. Design information on the underground hot water piping system being installed is provided in Attachment No. 18. Attachment No. 18 is provided for informational purposes and is not meant in any way to limit the design of a centralized hot water heating system and/or cogeneration system.

17.2 General Comments on ECMs

Electric

- Lighting retrofits - Lighting throughout the facility is largely fluorescent. However, there are significant areas where incandescent and HID lighting are in place. Where lighting is fluorescent, areas are primarily T8 32 watt lamps, but there are many instances of T12 lamps still in existence in some fixtures, and in certain cases, mixed with T8s in fixtures. In general, lighting levels in stairwells, corridors, toilet rooms, offices and classrooms spaces is in excess of levels required by standards and can be reduced. After any area lighting retrofit, the space is to be illuminated to at least the standards established by the Illumination Engineering Society of North America for the type of space in question. Where fixture, lamp and/or ballast replacement is presented as an ECM, the Bidder shall assume responsibility for any costs associated with all removal, packaging and environmentally compliant disposal of any removed items. All new lamps installed are to be compliant with Federal TCLP requirements for hazardous waste determination.

- Unless otherwise noted all classroom areas are to be assumed to be occupied and in use for an average of 40 hours per week.

- Lighting controls - In general, all spaces with the exception of exit and egress paths and stairways can be on motion detectors, if considered economically viable by the Bidder. In addition, where viable depending on circuiting, the corridor lighting levels can be reduced during "partially occupied" periods and further reduced during unoccupied periods. There are areas where daylighting / dimming controls may be viable in conjunction with time of day scheduling.
- Displays / Signs unoccupied control - There are limited interior display screens that currently operate continuously. Controls that disable these displays during unoccupied periods can be considered.
- Vending and game machine unoccupied controls - Snack vending machines currently operate continuously and are scattered throughout the Site. Where machines are not refrigerated and do not contain perishable items, controls that disable the lights in the machines, during unoccupied periods can be considered.
- Exterior lighting - The Owner will consider scheduled operation and control of exterior lighting systems, as deemed viable by the Bidder for incorporation in the Project. The following parameters are to apply to this ECM, if proposed:
 - All exterior lighting controls and timers should be tied to the BAS if possible to allow for easy schedule modifications for special events.
 - Parking lots can be considered closed between 11:00 pm and 6:00 am.
 - The Handicapped parking lot will need lighted at all times, when natural light is insufficient,
 - Road and driveway lighting is to be on whenever natural light is insufficient.
 - Building exterior lighting is to remain on as per the current operation.
 - Sidewalks, walkways and exterior courtyard lighting can be scheduled off between the hours of 11:00 pm and 6:00 am.
- Co-Generation - The Bidder may propose a co-generation project as an ECM, if they deem a co-generation project economically viable. Note that, in accordance with O.R.C. Sections 3345.64 and 3345.65, co-generation projects must demonstrate a simple payback period of 5 years or less to be considered.

HVAC

- Campus Loop for heating water – Many of the buildings are provided heating hot water with hot water boiler systems in each building. If applicable, a campus loop system could be extended to the Buildings.
- Campus Wide BAS upgrade / replacement - The Findlay campus uses Automated Logic Controls (ALC) for building automation. Many of the Toledo campus buildings also have controls made by ALC. The Owner prefers to continue to use ALC controls and to expand the ALC controls to all buildings. This system is lightly utilized from an energy management perspective. It is a primary goal of this Project to expand/upgrade the building management system with a system that can be more fully utilized, remotely monitored and adjusted and can incorporate the control strategies necessary for optimizing energy consumption of the HVAC and electrical systems throughout the campus. The system proposed shall have the capability to perform all control functions necessary to support the energy savings projected in the Bidders ECMs. In the future, it may be desired to expand the building automation system installed in this Project, to support security and safety functions. The building automation system proposed in the Bidder's RFP Proposal should have the following features / capabilities:
 - BacNet, open protocol, compatible
 - Web access enabled for remote access for monitoring and control

- Graphical user interface for systems operations and monitoring. Expandable in the future to floor plan level graphics for zone monitoring and control.
- Includes necessary software to establish trends and reports of desired systems operations and control points
- Access via the Owner network available. It may be desired to provide additional monitoring locations at other campus locations from the "head end".
- System should incorporate the latest software version of the control system provider and the RFP Proposal is to include all software licenses and fees necessary to maintain the system and receive upgrades as they are developed.
- System scheduling and unoccupied set back/up -- The majority of the Site HVAC systems are operated continuously, or have limited "off periods" during holiday times. There are not routine unoccupied schedules or unoccupied temperature adjustments for the system resulting in normal occupied temperatures being maintained virtually all of the time. The incorporation of unoccupied schedules and unoccupied temperature setpoint adjustments Merits evaluation for incorporation in the RFP Proposal.

17.3 Specific ECMs

The following is a list of some of the HVAC equipment in various buildings and potential ECMs for the Bidders consideration.

College Hall

- **Existing ALC system controls a portion of the building including:**
 - Hot water system
 - Chilled water system
 - MZU 1 and MZU 2 which serve terminal units for the second floor classrooms and computer labs
 - Room 200 computer lab
 - AHU 1 lecture hall
 - Classrooms 98 – 116 Unit Ventilators
 - Roof Top Unit (RTU) 6
 - Addition Air Handling Unit (AHU)
 - Addition hot water system
 - Power metering for the 2000 amp, 1200 amp and 400 amp switchgear
- **Potential ECMs**
 - Building automation for the rest of the building including Variable Air Volume (VAV) boxes, unit ventilators and air handlers using advanced energy saving strategies
 - New condensing boilers for the basement boiler room as well as the addition boiler room
 - Occupancy based HVAC and lighting control

Administration Hall

- **Existing ALC system controls only a small portion of the building including:**
 - Hot water system
 - Miscellaneous standalone VAV boxes that replaced competitor's obsolete devices
 - Power metering
- **Potential ECMs:**

- Automation for the remaining equipment in the building including VAV boxes and the RTU, using advanced energy saving strategies

Childcare

- **Existing ALC system controls only a small portion of the building including:**
 - Hot water system
 - Power Metering
- **Potential ECMs**
- Automation for the remaining equipment in the building including VAV boxes and the RTU using advanced energy saving strategies

Bicentennial Hall

- **Existing ALC system only provides power metering for this building**
- **Note this building is an all electric building for HVAC.**
- **Potential ECMs**
- Automation of all mechanical equipment using advanced energy management strategies

Health Technology

- **Existing ALC system only provides power metering for this building**
- **Note this building is an all electric building for HVAC.**
- Potential ECMs
- Automation of all mechanical equipment using advanced energy management strategies
- Occupancy based HVAC and lighting control

Facility Services

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- Automation of all mechanical equipment using advanced energy management strategies

Alumni Hall

- **No ALC product is located in this building. Power metering is accomplished through College Hall.**
- **Potential ECMs**
- Automation of all mechanical equipment using advanced energy management strategies

Engineering Technology

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- Automation of all mechanical equipment using advanced energy management strategies
- New condensing boilers
- Occupancy based HVAC and lighting control

Center for Fine and Performing Arts (CFPA)

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- New condensing boilers
- Replacement of existing automation system with ALC system so the following can be done:

- Zone level precision scheduling
- Trim and respond strategy for resetting AHU discharge air temperature based upon zone heat/cool requests
- Trim and respond strategy for resetting hot water setpoint based upon zone heat/cool requests
- Duct static pressure reset based upon vav box damper position to reduce air moving costs
- Demand ventilation based upon CO2
- Occupancy based HVAC and lighting control

Transportation Technology

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- Automation of all mechanical equipment using advanced energy management strategies
- New condensing boilers
- Demand ventilation based upon indoor air quality sensors
- Occupancy based HVAC and lighting control

Library

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- New condensing boilers
- Replacement of existing automation system with ALC system so the following can be done:
 - Zone level precision scheduling
 - Trim and respond strategy for resetting AHU discharge air temperature based upon zone heat/cool requests
 - Trim and respond strategy for resetting hot water setpoint based upon zone heat/cool requests
 - Duct static pressure reset based upon vav box damper position to reduce air moving costs
 - Demand ventilation based upon CO2
 - Occupancy based HVAC and lighting control

Law Enforcement

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- New condensing boilers
- Automation of all mechanical equipment using advanced energy management strategy
- Occupancy based HVAC and lighting control

Math / Science

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
- New condensing boilers
- Replacement of existing automation system with ALC system so the following can be done:
 - Zone level precision scheduling
 - Trim and respond strategy for resetting AHU discharge air temperature based upon zone heat/cool requests

- Trim and respond strategy for resetting hot water setpoint based upon zone heat/cool requests
- Duct static pressure reset based upon vav box damper position to reduce air moving costs
- Demand ventilation based upon CO2
- Occupancy based HVAC and lighting control

AVCC

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
 - New condensing boilers
 - Replacement of existing automation system with ALC system so the following can be done:
 - Zone level precision scheduling
 - Trim and respond strategy for resetting AHU discharge air temperature based upon zone heat/cool requests
 - Trim and respond strategy for resetting hot water setpoint based upon zone heat/cool requests
 - Duct static pressure reset based upon vav box damper position to reduce air moving costs
 - Demand ventilation based upon CO2
 - Occupancy based HVAC and lighting control

Student Health and Activity Center (SHAC)

- **Existing ALC system only provides power metering for this building**
- **Potential ECMs**
 - New condensing boilers
 - Replacement of existing automation system with ALC system so the following can be done:
 - Zone level precision scheduling
 - Trim and respond strategy for resetting AHU discharge air temperature based upon zone heat/cool requests
 - Trim and respond strategy for resetting hot water setpoint based upon zone heat/cool requests
 - Duct static pressure reset based upon vav box damper position to reduce air moving costs
 - Demand ventilation based upon CO2
 - Occupancy based scheduling of HVAC and lighting
 - SHAC and CFPA
 - A potential ECM is a centralized chilled water plant to serve both SHAC and CFPA

Findlay Campus

Education Center

- **Existing ALC system provides direct control over entire building with rooftop unit exceptions noted under recommendations below**
- **Potential ECMs**
 - New condensing boilers
 - Implement duct static pressure reset based upon vav box damper position to reduce air moving costs
 - Occupancy based HVAC and lighting controls
 - Take direct control over the Trane Intellipak rooftop units

- ALC product is integrated with these units but the control strategy is set by the Trane controls and is not very flexible
- The management of outside air and building pressure by these units is not very good and results in very high outside air volumes and high energy costs or a highly negative building pressure and high infiltration
- Recommend removing all Trane controls and directly controlling the units with ALC product using custom programming to optimize performance and efficiency

17.2 College Desired Lighting and Environmental Conditions

Lighting:

Occupied - After Lighting modifications are completed, all areas of the Site are to have illumination levels consistent with those designated by the Illumination Engineering Society of North America (IESNA). In many areas, this will result in post modification lighting levels that are below those currently in place. Representative before and after lighting levels of areas are to be measured and reported as a component of the installation of proposed lighting retrofits.

Offices and classrooms are to have manual lighting controls provided so that the lighting can be turned on or off as necessary for the activity in the space. The addition of occupancy based lighting controls in areas where they do not exist is encouraged to reduce the amount of time that lights are on and unnecessary.

Where not otherwise specifically noted, classroom areas are to be considered to be occupied and in use an average of 40 hours per week.

Un-Occupied - When areas are unoccupied it is appropriate for the lights to be off, with the exception of required egress and exit lighting.

Partially Occupied - in general, housekeeping services are provided in all areas as a third shift operation. Where practical, based on circuiting and associated cost to revise, the illumination levels in corridors during these periods could be reduced from the occupied levels and still provide adequate illumination for cleaning services. Individual spaces will need local controls to enable the lighting to be on during the cleaning period.

HVAC:

Occupied - in general the occupied setpoints for spaces should be 70 degrees for heating and 74 degrees for cooling after any control modifications. Ventilation rates during occupied periods are to be consistent with the standards of the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), where demand ventilation controls are proposed, CO₂ monitoring is to be provided at the return air main to the associated unit and in locations identified as probable spot load areas for the associated unit, if any.

Un-Occupied - During unoccupied periods the temperatures are to be maintained between a low heating setpoint of 65 degrees and a high cooling setpoint of 85 degrees. During unoccupied periods, ventilation is not required to be provided and the units can be off unless the temperature drifts out of the unoccupied range. Unoccupied temperature sensors are to be provided in representative spaces for each unit to maintain the specified conditions.

Partially Occupied - In general, housekeeping services are provided in all areas as a third shift operation. During these periods the range as specified for unoccupied controls is appropriate and the use of HVAC override controls, except through the BAS scheduler

is discouraged.

17.3 College Calendar and Operating Schedule

If selected, the Bidder submitting this RFP Proposal is expected to install the energy conservation measures with the Minimum disruption possible to the Owner's operations. The primary use of the Site is educational in nature and disruptions such as noise, dirt, service outages and out of range environmental conditions are disruptive to the Owner's use of the Site. The following is intended as a guide to the Bidder for use in developing their RFP Proposal.

The College calendar for Spring 2009 through Spring 2010 is provided in Attachment 2.

During periods when classes are in session, it should be assumed that all Work will be performed during third shift periods (11:00 pm thru 7:00 am) including any set-up and clean-up time required. Work that can be confined to non-public areas of the Site (e.g. - mechanical and electrical rooms) including the associated noise, dirt and debris can be scheduled during normal hours with the Owner.

During periods when classes are not in session, typically Saturday afternoons through Monday 7:00 am and breaks as noted in the Academic Calendar, Work can be scheduled with the Owner. In addition, there is typically a light class schedule on Friday afternoons and evenings and some areas will be available for scheduling with the Owner during these periods, depending on the disruption anticipated and the area desired.

Work that requires the disabling of heating and or cooling to areas of the Site is to be scheduled to occur during the opposite season, whenever possible, so as to not impact the ability to properly maintain environmental conditions. When not possible, temporary services required are to be provided by the Contractor.

Work that will cause "service outages" (electrical, HVAC, lighting, etc.) to areas of the Site is to be scheduled with the Owner and will be based on the duration of the outage and the anticipated impact on the Owner's operations.

ATTACHMENT 18
UNDERGROUND HOT WATER PIPING SYSTEM DESIGN INFORMATION

In anticipation of a centralized hot water plant, the Owner has included the installation of underground hot water piping in a recent project. Approximately 1,500 feet of hot water return and supply is being installed. The majority of the piping is 6" in size with a portion being 4" in size. Design information on the underground hot water piping system being installed is provided herein. This attachment is provided for informational purposes and is not meant in any way to limit the design of a centralized hot water heating system and/or cogeneration system.

SECTION 232113 – UNDERGROUND HYDRONIC PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Requirements of the contract documents, including Division 1 specifications, apply to work of this section.
- B. Provide in full compliance with ODOT standards and specifications for site clearing, earth moving, dewatering, excavation support and protection.

1.2 SUMMARY OF WORK

- A. This Section includes pipe and fitting materials, joining methods, valves, and specialties for the following:
 - 1. Pre-insulated underground hot water piping.
- B. Pre-insulated piping systems shall be completely sealed and waterproof, and they shall be capable of allowing sufficient movement for thermal expansion and contraction. Each assembly shall be factory-designed for the specific service medium, temperature, and pressure. Expansion loops, expansion joints, anchors, and guides shall be furnished and installed to provide a trouble-free system and avoid stress on any equipment.
- C. This Contract shall be responsible for excavation of single trench for the pre-insulated hot water piping and communication and electrical conduits. Coordinate with Electrical Contract installation of communication and electrical conduit.

1.3 PERFORMANCE REQUIREMENTS

- A. Hydronic piping components and installation shall be capable of withstanding the following minimum working pressure and temperature:
 - 1. Hot-Water Heating Piping: 100 psig at 40-200 deg F.

1.4 SUBMITTALS

- A. Product Data: For each type of the following:
 - 1. Pipe and fittings.
 - 2. Valves. Include flow and pressure drop curves based on manufacturer's testing for calibrated-orifice balancing valves and automatic flow-control valves.
 - 3. Hydronic specialties.
- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for materials, products, and installation.
- B. The manufacturer is required to provide a field representative (paid for by the Contractor) to be present during the initial installation period to train the contractor on unloading and handling and installation of the insulated piping. Training shall address bedding preparation, insulation of joints and backfilling of piping. The manufacturer's representative shall make a minimum of five observations during the installation and shall submit a written report through the Contractor to the Engineer describing his observations including that he has inspected the piping at the job site for damage to the insulation and jacket, recommendations for correction to any improperly installed piping and the progress of the installation.
- C. On completion of the installation, the Contractor shall deliver to the Owner a certificate from the manufacturer that the installation is in compliance with all installation recommendations and warranty requirements of the manufacturer.
- D. Welders employed by the Contractor shall have passed a qualification test in accordance with the current edition of ANSI B31.1 Section IX, ASME Boiler and pressure vessel code. Welders shall be certified for the type of pipe material specified and position of welds required during fabrication of the piping. Submit the welding certificates and pictorial identification of each welder to the Engineer for review prior to commencing piping fabrication.
- E. All welds shall be identified by the welder's mark and a sequence number. The Contractor shall employ a Certified Welding Inspector (CWI), certified as Level 2 minimum in the NDE methods utilized, independent of the contractor fabricating or installing the piping, to visually examine all welds in accordance with inspection and examination requirements of ANSI B 31.9. Any welds failing the visual inspection shall be ground out, re-welded and radiographed at the expense of the Contractor. The CWI shall submit a written report of his examination of each weld to the Engineer.
- F. Additionally, 10% of all fitting, flange and joint welds, shop or field, minimum of 10 welds, randomly selected by the Engineer, shall be radiographed at the expense of the contractor. The certified welding inspector shall examine the films and provide a written report to the Engineer. All welds not meeting the requirements of ANSI B 31.1 latest edition will be ground out, re-welded and re-radiographed at the expense of the Contractor. If any two of the randomly selected radiographed welds fail, all welds in the piping will be radiographed and repaired at the expense of the contractor.

1.6 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research utility records, and verify existing utility locations. Verify that water service piping may be installed in compliance with the original design and referenced standards. Contact all local utility companies and have location of all underground utilities marked on grade.

1.7 RECORD DOCUMENTS

- A. The data submitted with the shop drawings shall certify that all materials used are meeting the indicated standards and conductivity (k)-factors, and that the proposed sealing method will assure a watertight system.

- B. Record as-built drawings of all buried and concealed piping, indicating exact locations, sizes, pipe materials, and service media. These documents exclude commodities by others except at locations where the specified piping procured and installed under the scope of this specification crosses under or over other pipes or types of utility commodities.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Products shall be delivered in original, unbroken packages, containers, or bundles bearing the name of the manufacture.
- B. Products shall be carefully stored in a manner that will prevent damage and in an area that is protected from the elements.
- C. End caps weather supplied by the piping manufacturer or fabricated by the contractor are to be placed at the ends of the piping sections to keep debris and reptiles from entering inside the pipe while it is placed in storage.
- D. Prefabricated sections of the pre-insulated pipe are to be handled per the manufacturer's recommendations or instructions.

1.9 WARRANTY

- A. Manufacturer's warranty form in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Underground Pre-Insulated Piping:
 - a. Perma-Pipe, Poly-Therm
 - b. Thermacor Process, Inc.
 - c. Rovanco Piping Systems
 - 2. Underground Warning Tape:
 - a. Allen Systems, Inc.
 - b. Reef Industries, Inc
 - c. Brady (W.H.) Co.
 - d. Seton Name Plate Co.
 - 3. High Performance Butterfly Valves:
 - a. DeZurik
 - b. Conbraco Industries, Inc.; Apollo Div.
 - c. Bray International, Inc.
 - d. Milwaukee Valve
 - e. Crane
 - f. Watts

4. Quarter Turn Resilient Sealed Ball Valves:
 - a. Conbraco Industries, Inc.; Apollo Div.
 - b. NIBCO, INC.
 - c. Milwaukee Valve
 - d. Crane
 - e. Watts
 - f. KF Industries

5. Pre-cast Manholes
 - a. Mack Industries Inc.
 - b. Lindsay Concrete Products Co.
 - c. Norwalk Concrete
 - d. K&L Concrete

2.2 STEEL PIPE, FITTINGS, VALVES, AND ACCESSORIES

- A. Service Pipe:
 1. Service Pipe shall be standard weight ASTM A53A or A53B, ERW carbon steel. All joints shall be butt-welded for 2-1/2" and larger, and socket or butt-welded for 2" and smaller. Where possible, straight sections shall be supplied in 40-foot lengths with piping exposed at each end for field joint fabrication.

- B. Accessories:
 1. Elbows, tees, reducers, anchors, field joints, and end seals shall be designed and factory fabricated to prevent the ingress of moisture into the system.

- C. Service Pipe Insulation:
 1. Provide 1-1/2-inch thick, service pipe insulation. Insulation shall be polyurethane foam with 2.0 Lbs./Ft.³ minimum density, 90% minimum closed cell content and initial thermal conductivity of 0.16 Btu in./Hr. Ft.² deg F. The insulation shall be spray applied or if foam injected, completely fill the annular space between the service pipe and jacket and shall be bonded to both. To ensure no voids are present, all insulation shall be visually checked prior to application of the protective jacket or infrared inspection of the entire length 24 hours after foaming is complete. Testing reports must be supplied with the shipment of materials. Systems using open cell insulation or a non-bonded design shall not be allowed.

- D. Insulation Jacket:
 1. All straight sections of the insulated piping system shall be filament wound, polyester resin/fiberglass reinforcement composite directly applied on the insulating foam. The manufacture shall have the option to filament wind fiberglass directly onto the polyurethane foam or inject foam into a fiberglass outer casing. Fiberglass outer casing allowed shall be A.O. Smith Red Thread or Ameron Bondstrand 3000. No PVC's or HDPE jackets will be permitted. Thermoplastic casing material that are not rated for temperatures above 140 degrees F will not be allowed. The minimum thickness for FRP jacket shall be 0.055 inches. All fittings of the insulated piping system shall be prefabricated to minimize field joints and jacketed in a chopped spray-up, polyester resin/fiberglass reinforcement composite, directly applied onto the insulating foam to a thickness related to the filament-wound jacket thickness.

- E. Manual Air Vent Valves:
 1. Located at system highest point.

2. Vent valves shall be 1" treaded bronze one piece body ball valves with reinforced TFE seats and seals and bronze trim equal to Nibco T-560-BR-R-20.
- F. Manual Drain Valves:
1. Located at system lowest point.
 2. Drain valves shall be 1" treaded bronze one piece body ball valves with reinforced TFE seats and seals and bronze trim equal to Nibco T-560-BR-R-20.
- G. Identification:
1. Plastic Underground Warning Tape: Polyethylene plastic tape with metal strip, 6-inches wide by 4 mils thick, with continuously printed caption in black letters "CAUTION - HEATING WATER LINES BURIED BELOW". Solid red tape shall be installed above the hot water supply piping and solid Yellow tape is to be installed above the hot water return piping.
- H. Valves:
1. 1-1/2" and smaller for hot water application: Provide similar to Apollo 70 Series.
 - a. Provide quarter turn resilient sealed, full port, ball valves.
 2. 2" & larger for hot water application: Provide similar to DeZurik HP640 Series.
 - a. Provide high performance butterfly valves, in ANSI 150 design, with lug style body. Bodies shall be of carbon steel and designed to accept interchangeable seats of PTFE, reinforced PTFE, metal, or fire-safe PTFE or RTFE with metal construction. Valves shall conform to ANSI B16.1, ANSI B16.5, ANSI B16.34, MSS-SP-25, MSS-SP-44, and API 601.
 - b. Provide drip-tight shutoff to 285 psi. Valves shall provide drip-tight shutoff to the full valve rating on dead end or isolation service without downstream flange.
 - c. Valves shall be of the single offset shaft/disc design to provide uninterrupted 360 deg seating and to minimize pressure imbalance applied to the disc during operation or at closure.
 - d. Valves shall be furnished with replaceable upper and lower shaft/thrust bearings to assure disc centering in the seat without the use of shims. Bearings shall be of composite design with a 317 stainless steel carrier and 317 backed PTFE/fiberglass replaceable liners. Bearings shall be designed to permit easy removal and to prevent rotation in the body.
 - e. Valves shall be furnished with adjustable v-ring packing of PTFE and an externally adjustable packing gland. Packing gland, nuts and studs shall be stainless steel.
 - f. Shafts shall be one-piece design and shall be strain hardened type 316 stainless steel, condition H1150m Type 17-4 stainless steel, or flash chrome plated 316, and shall be centerless ground to minimize bearing and packing wear. Shaft diameters shall be large enough to prevent valve pressure derating whether 316 or 17-4 stainless steel shaft material is used. The drive end of the shaft shall be squared to provide a positive actuator connection with minimum backlash or hysteresis and marked to indicate disc position.
 - g. Valve seats shall be PTFE with an integral titanium hoop capable of service in temperature ranges of -100 deg to 450 deg F. Seat design shall be a dual-seal type with pressure assisted and mechanical seat-to-disc sealing features and capable of drip-tight bi-directional shutoff.
 - h. Discs shall be designed with a concave face to reduce dynamic torque, decrease turbulence and maximize flow capacity. Discs shall be 316 stainless steel.
 - i. Disc-to-shaft pins shall be stainless steel and of the tangential or compressive type. Pins shall be subject to compression forces only.

- j. Material test reports for pressure retaining components shall be kept on-file, by the manufacturer, for a period of three years from the date of manufacture.

PART 3 - EXECUTION

3.1 PREPARATION OF BURIED PIPE FOUNDATION

- A. Grade trench bottom to provide a smooth, firm, stable, and rock-free foundation throughout the length of the piping.
- B. Remove unstable, soft, and unsuitable materials at the surface upon which pipes are to laid and backfilled.

3.2 PIPE INSTALLATION

- A. Locations and Arrangements: Drawings (plans, schematics, and details) indicate the general location and arrangement of piping systems, so far as practical, install piping as indicated.
- B. Piping shall be installed per manufacturer's specifications.
- C. Provide a minimum cover over piping of 48 inches below finish grade or top of pavement.
- D. Use fittings for changes in direction (horizontal and vertical).
- E. Thrust blocks shall be poured and installed prior to testing the pipe.
- F. Provide factory applied watertight end seals on hot water piping. Moisture barrier end seal shall be rubber completely sealing the exposed end of the insulation. Field applied end seals shall be installed at each field cut to the pipe before continuing with the insulation. End seals shall be certified as having passed a 20-foot head pressure test.

3.3 VALVE INSTALLATION

- A. Install all valve stems vertically up.
- B. Install valves in compliance with manufacturer's installation instructions.

3.4 ANCHORAGE AND THRUST BLOCK INSTALLATION

- A. Provide anchorage and thrust blocks for tees, caps, bends, crosses, and valves.
- B. Refer to plans for thrust block sizing. Thrust blocks must bear against firm stable soil.

3.5 PROTECTIVE COATINGS

- A. Apply full coat of asphalt or other acceptable corrosion-retarding material to surface of installed ferrous anchorage devices, and any other exposed ferrous materials.

3.6 IDENTIFICATION INSTALLATION

- A. Install continuous plastic underground warning tape during back-filling of trench for underground hot water piping. Locate 15 to 18 inches below finish grade, directly over piping.

3.7 FIELD JOINTS AND TESTING

- A. Conduct piping tests before joints are covered and after thrust blocks have sufficiently hardened.
- B. Test each line separately, apply a hydraulic pressure of 150 psig (1-1/2 times the operating pressure) and carefully check for leaks over the 4-hour test period. New distribution system shall be completely isolated from existing distribution system during testing by means of a weld end cap or flat plate. Repair all leaks and retest the system until proved leak tight. Note: Backfill piping as required, leaving joints exposed prior to subjecting piping to pressure test. After test, insulation shall then be poured in place into the field weld area. All field applied insulation shall be placed only in straight sections. Field insulation of fittings shall not be acceptable. The mold for the polyurethane shall be made of clear adhesive backed polyester film. The installer shall seal the field joint area with a heat shrinkable adhesive backed wrap or with wrappings of glass reinforcement fully saturated with catalyzed resin identical in properties to the factory-applied resin. Backfilling shall not begin until the heat shrink wrap has cooled or until the FRP lay-up has cured. All insulation and coating materials for making the field joint shall be furnished by the piping system manufacture.
- C. Ten percent (10%) of all welds shall be radiographed; ten welds minimum. If 2 welds fail, all welds shall be radiographed and repaired as required at the Contractor's expense.

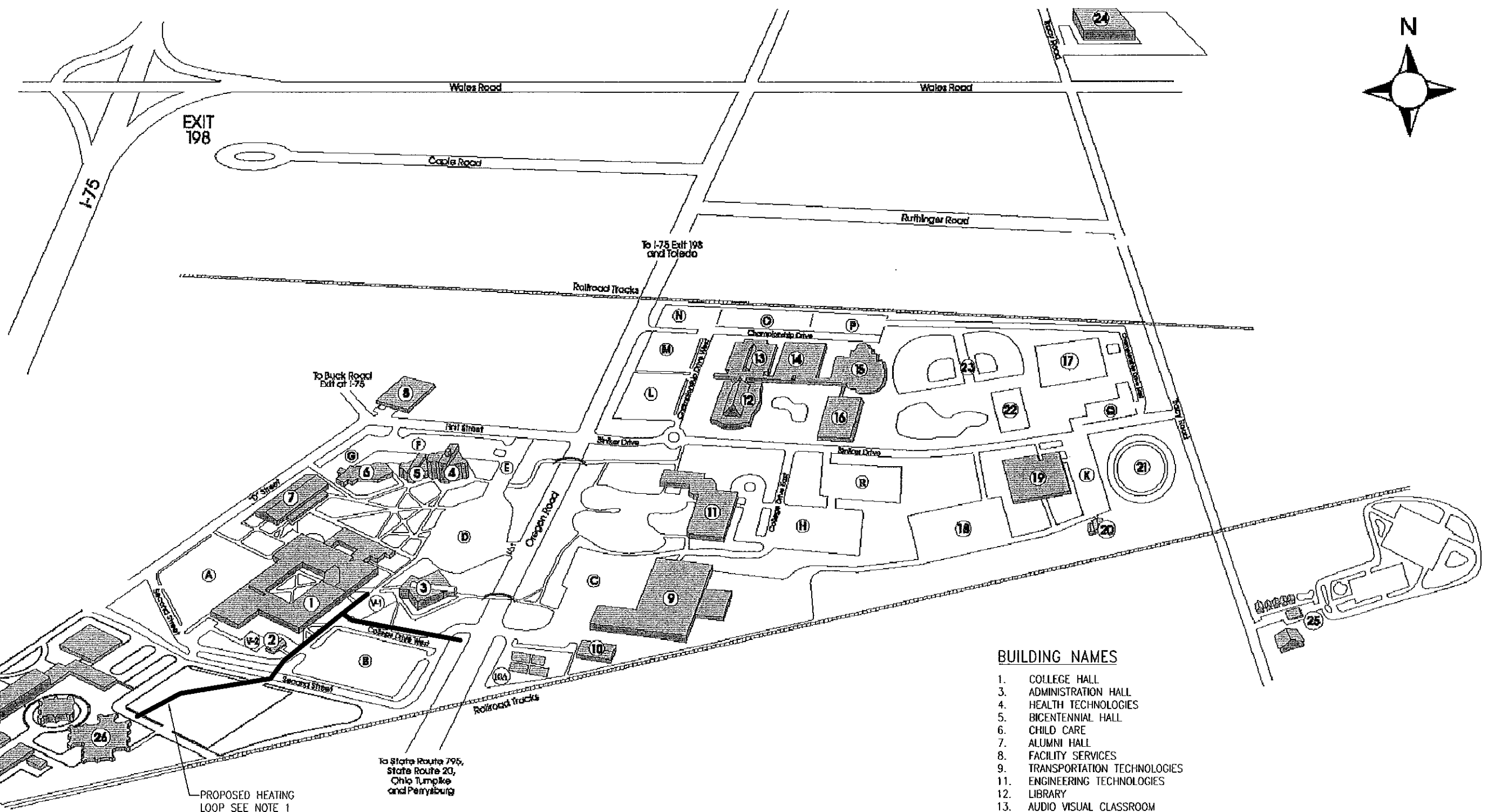
3.8 BACKFILL

- A. A 4-inch layer of sand or fine gravel shall be placed and tamped in the trench to provide a uniform bedding for the pipe. The entire trench width shall be evenly backfilled with a similar material as the bedding in 6-inch compacted layers to a minimum height of 6-inches above the top of the insulated piping system. The remaining trench shall be evenly and continuously backfilled in uniform layers with suitable excavated soil.
- B. Coordinate with Site Contractor. Refer to Site documents for backfill requirements.

3.9 FINAL SYSTEM CHARGE

- A. Provide 10-psig Nitrogen system charge at installation completion.
- B. Confirm specified charge over a 48-hour period. If charge does not hold, fix problem and re-confirm specified charge over a 48-hour period.

END OF SECTION 232113



BUILDING NAMES

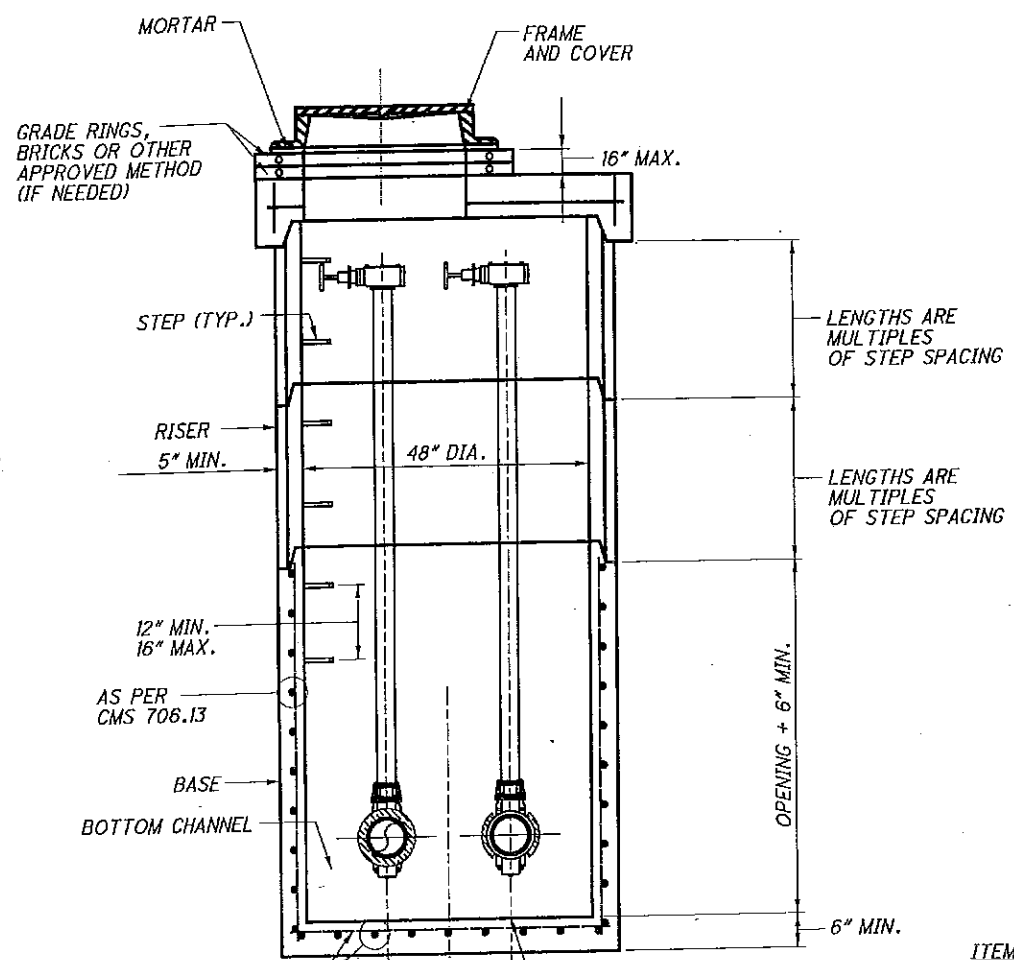
- 1. COLLEGE HALL
- 3. ADMINISTRATION HALL
- 4. HEALTH TECHNOLOGIES
- 5. BICENTENNIAL HALL
- 6. CHILD CARE
- 7. ALUMNI HALL
- 8. FACILITY SERVICES
- 9. TRANSPORTATION TECHNOLOGIES
- 11. ENGINEERING TECHNOLOGIES
- 12. LIBRARY
- 13. AUDIO VISUAL CLASSROOM
- 14. MATH SCIENCE
- 15. STUDENT HEALTH CENTER
- 16. PERFORMING ARTS
- 19. FIRE & POLICE TRAINING CENTER
- 26. PCA CLASSROOMS (FORMERLY PENTA ADMINISTRATION)

Toledo Area Campus

NOTE:

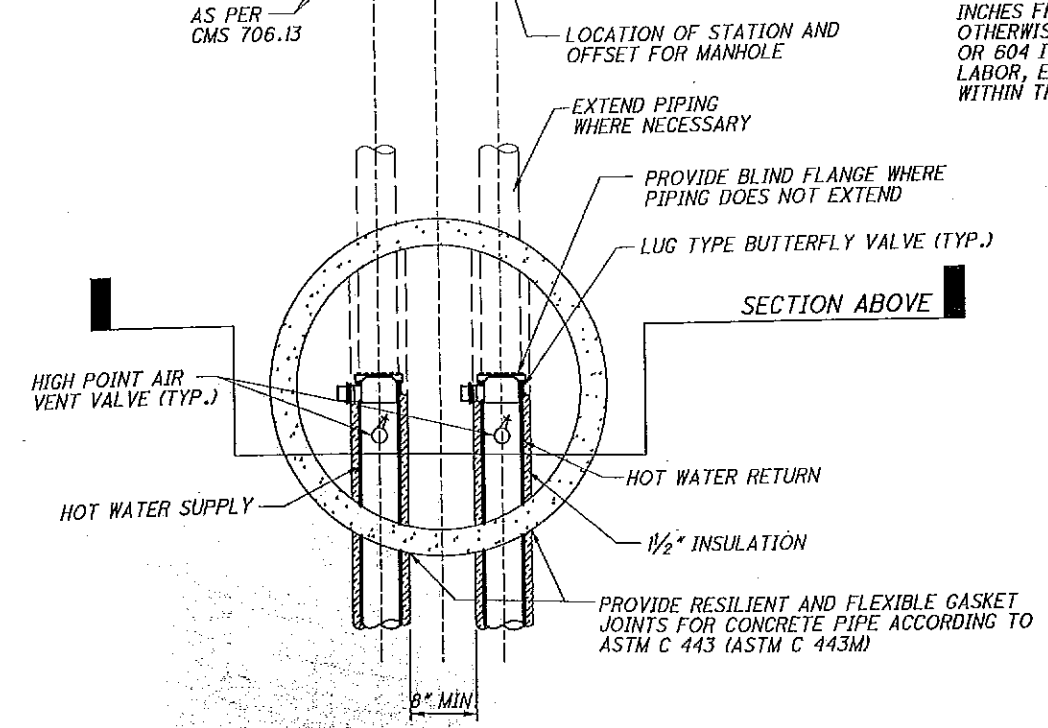
1. THIS DRAWING SHOWS THE APPROXIMATE LOCATION OF THE PROPOSED HEATING LOOP TO BE INSTALLED AS PART OF THE PARKING LOT IMPROVEMENTS.

<table border="1"> <tr> <td>REVISION</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		REVISION												OWENS COMMUNITY COLLEGE TOLEDO, OHIO			
		REVISION															
NOTICE: This drawing and all information contained thereon is confidential and proprietary to Orbital Technical Solutions. It cannot be copied or reproduced without express written permission of Orbital Technical Solutions.		DATE		TITLE:													
		DRAWN:		PROPOSED HEATING LOOP SITE PLAN													
CH'KD:																	
APP'D:																	
ORBITAL TECHNICAL SOLUTIONS		SCALE:	PROJ./CONTRACT NO.	DRAWING NO.	REV.												
		NONE	40-1285-00	M100	0												

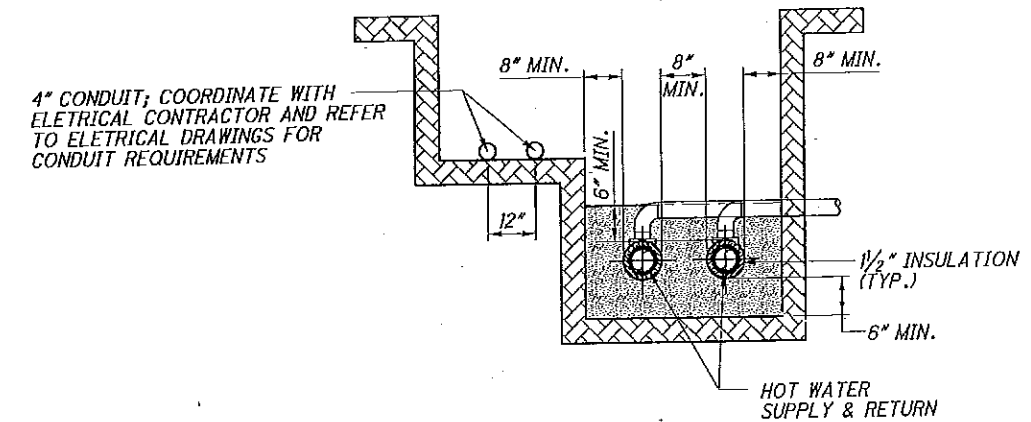


VALVE No.	HWR & HWS VALVE SIZE
1	4"
2	4"
3	6"
4	4"
5	4"
6	4"
7	6"

ITEM 604, AS PER PLAN ALL CAST-IN-PLACE AND STRUCTURES SHALL HAVE THE ABILITY TO BE FIELD ADJUSTED UP OR DOWN A MINIMUM OF 6 (SIX) INCHES FROM PLAN ELEVATION IN PAVEMENT AND A MINIMUM OF 12 (TWELVE) INCHES OTHERWISE. ANY ASSOCIATED COSTS SHALL BE INCLUDED IN THE PERTINENT 603 OR 604 ITEM. NO ADDITIONAL COST SHALL BE INCURRED BY THE OWNER FOR ANY LABOR, EQUIPMENT OR MATERIALS NECESSARY TO RAISE OR LOWER THE STRUCTURES WITHIN THIS REQUIRED AMOUNT.



ODOT MANHOLE No. 3 - AS PER PLAN,
DETAIL AND SECTION
NTS



TRENCH SECTION
NTS