Division of Finance and Business Operations

Wayne State University

Integrative Biosciences Center
Mechanical Roof Platform Extensions

WSU Project Number 211-121168

Prevailing Wage Work

FOR:
Board of Governors
Wayne State University
Detroit, Michigan

Owner's Representative:
Jason R. Davis, Project Manager
Facilities Planning & Management

Design & Construction Services
5454 Cass
Wayne State University
Detroit, Michigan 48202

Owner's Agent:
Valerie Kreher, **Senior Buyer**
WSU – Procurement & Strategic Sourcing
5700 Cass, Suite 4200
Detroit, Michigan 48202
313-577-3720 / 313-577-3747 fax
rfpteam2@wayne.edu and copy
leiann.day@wayne.edu@wayne.edu

Consultant:
Harley Ellis Devereaux
26913 Northwestern Highway Suite 200
Southfield, Michigan 48033

October 12, 2015

TABLE OF CONTENTS

INFORMATION FOR BIDDERS

OWNER:	Board of Governors Wayne State University
PROJECT:	**Integrative Biosciences Center** **Mechanical Roof Platform Extensions** Project No. **211-121168**
LOCATION:	Wayne State University **6135 Woodward Ave** Detroit, Michigan 48202
OWNER'S AGENT:	**Valerie Kreher**, **Senior Buyer** WSU – Procurement & Strategic Sourcing 5700 Cass, Suite 4200 Detroit, Michigan 48202 **313-577-3720** / 313-577-3747 fax **rfpteam2@wayne.edu** & copy **leiann.day@wayne.edu@wayne.edu**
OWNER'S REPRESENTATIVE:	**Jason R. Davis** , Project Manager Facilities Planning & Management Design & Construction Services Wayne State University 5454 Cass Avenue Detroit, Michigan 48202
Architect:	**Harley Ellis Devereaux** **26913 Northwestern Highway Suite 200** **Southfield, Michigan 48033**

SPECIAL NOTE: Right to reject any and all proposals, either in whole or in part and to waive any irregularities therein is reserved by the Owner.

BIDS ADVERTISED: October 12, 2015

BIDDING: Bidding documents may be obtained by vendors from the University Purchasing Web Site at **http://www.forms.procurement.wayne.edu/Adv_bid/Adv_bid.html** beginning **October 12, 2015**. When visiting the Web Site, click on the "**Construction**" link in green. Copies of the RFP will not be available at the pre-proposal meeting.

MANDATORY Pre-Bid Conference: **2:00 p.m., local time, October 19, 2015** to be held at Wayne State University – **6135 Woodward**, **1010,** Detroit, MI, 48202. Late Arrivals may not be permitted to submit bids.

OPTIONAL Second Walk Through: (if needed) **To be determined at the conclusion of the pre-bid conference, by those in attendance.**

DUE DATE FOR QUESTIONS: Due Date for questions shall be **October 26, 2015 at 12:00 Noon.** All questions must be reduced to writing and emailed to the attention of **Valerie Kreher**, **Senior Buyer** at **rfpteam2@wayne.edu**, copy to **Leiann Day**, **Procurement Analyst** at: **leiann.day@wayne.edu@wayne.edu**.

Bids Due: Sealed proposals for lump-sum General Contract will be received at the office of the Procurement & Strategic Sourcing located at 5700 Cass Avenue, Suite 4200, Detroit, MI 48202 on **November 5, 2015,** until 2:00 p.m. (local time).

No public bid opening will be held.

Bid Qualification Meeting: Bidders must be available for bid prequalification meeting as soon as the day following the bid opening. The lowest qualified bidder will be contacted and requested to meet with Facilities Planning &

Management at their office located at 5454 Cass Avenue, Detroit, MI 48202. During the prequalification, the Vendor must provide a Project Schedule and a Schedule of Values, including a list of Contractor's suppliers, subcontractors and other qualifications.

An unsigned contract will be given to the successful Contractor at the conclusion of the Pre Award meeting, if all aspects of the bid are in order. The Contractor has 5 business days to return the contract to the Project Manager for University counter signature. The contractor must also submit a Performance Bond as outlined above and a Certificate of Insurance in the same 5 business day period. In the event the Contractor fails to return the documents in this 5 day period, the University reserves the right to award the contract to the next most responsive bidder.

All available information pertaining to this project will be posted to the Purchasing web site at
http://www.forms.procurement.wayne.edu/Adv_bid/Adv_bid.html.
Information that is not posted to the website is not available/not known

INSTRUCTIONS TO BIDDERS

OWNER:	Board of Governors Wayne State University
PROJECT:	**Integrative Biosciences Center** Project No. **211-121168** **Mechanical Roof Platform Extensions**
LOCATION:	Wayne State University **6135 Woodward Ave**, Detroit, Michigan 48202
OWNER'S AGENT:	**Valerie Kreher**, **Senior Buyer** WSU – Procurement & Strategic Sourcing 5700 Cass, Suite 4200 Detroit, Michigan 48202 **313-577-3720** / 313-577-3747 fax **rfpteam2@wayne.edu** & copy **leiann.day@wayne.edu@wayne.edu**

1. PROPOSALS

A. The Purchasing Agent will receive sealed Proposals for the work as herein set forth at the place and until the time as stated in the "Information for Bidders", a copy of which is bound herewith in theses specifications. **No public bid opening will be held.**

B. Proposals shall be for a **lump-sum General Contract for the entire work of the Project as provided in the Form of Proposal.**

C. Proposals shall be submitted in duplicate on forms furnished with the Bidding documents. The forms must be fully filled out in ink or typewritten with the signature in longhand, and the completed forms shall be without alterations, interlineations, or erasures. Forms shall contain no recapitulations of the work to be done. Each proposal shall be delivered in an opaque sealed envelope, marked **"PROPOSAL"** AND SHALL BEAR THE NAME OF THE PROJECT AND THE NAME OF THE BIDDER. Proposals submitted by telephone or telegraph will not be accepted. Modifications by telephone or telegraph to previously submitted proposals will not be accepted.

D. (***revised 5-29-2009***) All base bids must be conforming to the detailed specifications and drawings provided by the University, including any Addenda issued. Voluntary Alternates will only be considered if the Contractor has also submitted a conforming base bid. Any stipulation of voluntary alternates or qualifications contrary to the Contract requirements made by the Bidder in or accompanying his proposal as a condition for the acceptance of the Contract will not be considered in the award of the Contract and will cause the rejection of the entire Proposal.

E. **The competency and responsibility of Bidders will be considered in making the award. The Owner does not obligate himself to accept the lowest or any other bids. The Owner reserves the right to reject any and all bids and to waive any informalities in the Proposals**.

2. PROPOSAL GUARANTEE *(revised 3-22-2012)*

A. A certified check or bank draft payable to the Owner, or satisfactory Bid Bond executed by the Bidder and Surety Company, in an amount equal to not less than five percent (5%) of the maximum proposal amount shall be submitted with each Proposal, which amount may be forfeited to the Board of Governors, Wayne State University, if the successful Bidder refuses to enter into a Contract within ninety (90) days from receipt of Proposals.

B. Bond must be issued by a Surety Company with an "A rating as denoted in the AM Best Key Rating Guide"

C. The bid deposit of all bidders except the lowest three will be returned within three (3) days after the bids are opened. After the formal Contract and bonds are approved, the bid deposit will be returned to the lowest three bidders, except when forfeited.

D. Bid bonds shall be accompanied by a Power of Attorney authorizing the signer of the bond to do so on behalf of the Surety Company.

E. Withdrawal of Proposals is prohibited for a period of ninety (90) days after the actual date of opening thereof.

3. CONTRACT SECURITY *(revised 3-22-2012)*

A. The successful Bidder will be required to furnish a Performance Bond and Labor and Material Payment bond in an amount equal to 100% of the contract award amount, and include such cost in the Proposal, complying with the laws of the State of Michigan. The graduated formula no longer applies.

B. Performance Bond and Labor and Material Payment Bond shall be from a surety company acceptable to the Owner and made payable as follows:

(1) A bond for 100% of the contract award amount to the Board of Governors of Wayne State University, and guaranteeing the payment of all subcontractors and all indebtedness incurred for labor, materials, or any cause whatsoever on account of the Contractor in accordance with the laws of the State of Michigan relating to such bonds.

(2) A bond for 100% of the contract award amount to the Board of Governors of Wayne State University to guarantee and insure the completion of work according to the Contract.

C. The only acceptable Performance Bond shall be the AIA A312 – 2010.

D. Bond must be issued by a Surety Company with an “A rating as denoted in the AM Best Key Rating Guide”.

4. BOND CLARIFICATION

For bids below $50,000.00,

A. Bid bond will not be required.

B. Performance Bond will not be required.

5. INSPECTION

A. Before submitting his Proposal, each Bidder shall be held to have visited the site of the proposed work and to have familiarized himself as to all existing conditions affecting the execution of the work in accordance with the Contract Documents. No allowance or extra consideration on behalf of the Contractor will subsequently be made by reason of his failure to observe the Conditions or on behalf of any subcontractor for the same reason.

6. EXPLANATION TO BIDDERS AND ADDENDA

A. Neither the Owner nor Representative nor Purchasing Agent will give verbal answers to any inquiries regarding the meaning of drawings and specifications, and any verbal statement regarding same by

any person, previous to the award, shall be unauthoritative.

B. Any explanation desired by Bidders must be requested of the Purchasing Agent in writing, and if explanation is necessary, a reply will be made in the form of an Addendum, a copy of which will be forwarded to each Bidder registered on the Bidders' List maintained by Procurement & Strategic Sourcing.

C. All addenda issued to Bidders prior to date of receipt of Proposals shall become a part of these Specifications, and all proposals are to include the work therein described.

7. INTERPRETATION OF CONTRACT DOCUMENTS

A. If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the drawings, specifications, or other Contract Documents, he may submit to the Purchasing Agent, a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the Contract Documents will be made by an addendum duly issued. A copy of such addendum will be mailed and delivered to each registered Bidder. Each proposal submitted shall list all addenda, by numbers, which have been received prior to the time scheduled for receipt of proposal.

8. SUBSTITUTION OF MATERIALS AND EQUIPMENT*

A. Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided that the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

9. TAXES

A. The Bidder shall include in his lump sum proposal and make payment of all Federal, State, County and Municipal taxes, including Michigan State Sales and Use Taxes, now in force or which may be enacted during the progress and completion of the work covered.

10. REQUIREMENTS FOR SIGNING PROPOSALS AND CONTRACTS

A. The following requirements must be observed in the signing of proposals that are submitted:

(1) Proposals that are not signed by individuals making them shall have attached thereto a Power of Attorney, evidencing the authority to sign the Proposal in the name of the person for whom it is signed.

(2) Proposals that are signed for partnership shall be signed by all of the partners or by an Attorney-in-Fact. If signed by an Attorney-in-Fact, there must be attached to the Proposal a Power of Attorney evidencing authority to sign the Proposal, executed by the partners.

(3) Proposals that are signed for a corporation shall have the correct corporate name thereof and the signature of the President or other authorized officer of the corporation, manually written in the line of the Form of Proposal following the words "signed by". If such a proposal is signed by an official other than the President of the Corporation, a certified copy of resolution of the Board of Directors, evidencing the authority of such official to sign the bid, shall be attached to it. Such proposal shall also bear the attesting signature of the Secretary of the Corporation and the impression of the corporate seal.

11. QUALIFICATIONS OF BIDDERS

A. The Owner may request each of the three (3) low bidders to submit information necessary to satisfy the Owner that the Bidder is adequately prepared to fulfill the Contract. Such information may include past performance records, list of available personnel, plant and equipment, description of work that will be done simultaneously with the Owner's Project, financial statement, or any other pertinent information. This information and such other information as may be requested will be used in determining whether a Bidder is qualified to perform the work required and is responsible and reliable.

12. SPECIAL REQUIREMENTS

A. The attention of all Bidders is called to the General Conditions, Supplementary General Conditions, and Special Conditions, of which all are a part of the Specifications covering all work, including Subcontracts, materials, etc. Special attention is called to those portions dealing with Labor Standards, including wages, fringe benefits, Equal Employment Opportunities, and Liquidated Damages.

B. Prior to award of the project, the apparent low bidder will be required to produce a schedule of values which will include the proposed subcontractors for each division of work and whether the subcontractor is signatory or non-signatory. A contract will not be issued to the apparent low bidder until this document is provided. A contractor will have one week to produce this document. If the required document is not received within this time, the bidder will be disqualified.

13. NOTICE OF AWARD/ACCEPTANCE OF BID PROPOSAL *(revised 12-15-2009)*

A. The Proposal shall be deemed as having been accepted when a copy of the Contract (fully executed by both the vendor and the appropriate signatory authority for the University), with any/all Alternates, Addenda, and Pre-Contract Bulletins, as issued by the office or agent of the Owner has been duly received by the Contractor. After signing the Contracts, the Contractor shall then return all copies, plus any required bonds and certificates of insurance, to the office of the Owner's Representative, at 5454 Cass, Wayne State University, Detroit, MI 48202. Construction will begin when the fully-executed contract has been returned to the Contractor.

14. TIME OF STARTING AND COMPLETION

A. It is understood that the work is to be carried through to substantial completion with the utmost speed consistent with good workmanship and to meet the established start and completion dates.

B. The Contractor shall begin work under the Contract without delay, upon receipt of a fully-executed contract from the Owner, and shall substantially complete the project ready for unobstructed occupancy and use of the Owner for the purposes intended within the completion time stated in the Contract.

C. The Contractor shall, immediately upon receipt of fully-executed contract, schedule his work and expedite deliveries of materials and performance of the subcontractors to maintain the necessary pace for start and completion on the aforementioned dates.

15. CONTRACTOR'S PERFORMANCE EVALUATION *(2-2015)*

In an effort to provide continuous process improvement regarding the construction of various university projects, Wayne State University is embarking upon a process of evaluating the contractor's overall performance following the completion of work. At the conclusion of the construction project a subjective evaluation of the Contractor's performance will be prepared by the Project Manager and the supervising Director of Construction. The evaluation instrument that will be used in this process is shown in Section **00440-01 - Contractor's Performance Evaluation**.

16. BIDDING DOCUMENTS

A. Bid specifications are not available at the University, but are available beginning **October 12, 2015** through Wayne State University Procurement & Strategic Sourcing's Website for Advertised Bids: **http://www.forms.procurement.wayne.edu/Adv_bid/Adv_bid.html**. The plans for this project can be viewed in advance and/or printed from the above website. Copies of the RFP will not be available at the pre-proposal meeting.

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B. **DOCUMENTS ON FILE *(revised 12-2007)***

(1) *Wayne State University Procurement & Strategic Sourcing's Website.*
All available information pertaining to this project will be posted to the Purchasing web site at **http://www.forms.procurement.wayne.edu/Adv_bid/Adv_bid.html**.
Information that is not posted to the website is not available/not known.

(2) Notification of this Bid Opportunity has been sent to *DUNN BLUE (for purchase of Bid Documents only), DODGE REPORTS, REED CONSTRUCTION, CONSTRUCTION NEWS and the CONSTRUCTION ASSOCIATION OF MICHIGAN (CAM).*

(3) Please note: Effective December 1, 2007, bid notices will be sent only to those Vendors registered to receive them via our Bid Opportunities list serve. To register, to **http://www.forms.procurement.wayne.edu/Adv_bid/Adv_bid.html**, and click on the "Join our Listserve" link at the top of the page.

15. Smoke and Tobacco-Free Policies *(9-2015)*

On August 19, 2015, Wayne State joined hundreds of colleges and universities across the country that have adopted smoke- and tobacco-free policies for indoor and outdoor spaces. Contractors are responsible to ensure that all employees and all subcontractors' employees are in compliance anytime they are on WSU's main, medical, or extension center campuses. The complete policy can be found at http://wayne.edu/smoke-free/policy/.

NOTICE OF MANDATORY PRE-BID CONFERENCE

PROJECT: **Integrative Biosciences Center Mechanical Roof Platform Extensions**

PROJECT NOS.: **WSU PROJECT NO. 211-121168**

It is **MANDATORY** that each Contractor proposing to bid on this work must attend a pre-bid conference at the following location:

Wayne State University
6135 Woodward, 1010
Detroit MI 48202

2:00 p.m., local time, October 19, 2015

The purpose of this conference is to clarify the procedures, scope of work, and to identify any omissions and/or inconsistencies that may impede preparation and submission of representative competitive bids.

In the event that less than 4 individual contractor firms attend the pre-bid conference, the University reserves the right, at its sole discretion, to either reschedule the pre-bid conference or proceed and offer a second pre-bid conference date. (Attendance at only one pre-bid conference will be required).

An attendance list shall be prepared and minutes of the conference shall be furnished to all those attending.

Any clarifications or corrections that cannot be made at the conference will be by Addendum.

For your convenience a map of the University and appropriate parking lots can be downloaded and printed from: **http://campusmap.wayne.edu/**. Guest parking in any of the University student and guest lots is **$7.00**. A detailed list of Cash & Coin operated lots can be viewed at **http://purchasing.wayne.edu/cash_and_credit_card_lots.php**. Cash lots dispense change in quarters. Due to time constraints, Vendors are encouraged to avoid parking at meters on the street (especially blue “handicapped” meters).

All available information pertaining to this project will be posted to the Purchasing web site at
http://www.forms.procurement.wayne.edu/Adv_bid/Adv_bid.html.
Information that is not posted to the website is not available/not known.

AGENDA

I. Welcome and Introductions
- A. Wayne State University Representatives
- B. Vendor Representatives
- C. Sign in Sheet- be sure to include your fax number and email address (LEGIBLY) on the sign in sheet.

II. Brief Overview of Wayne State University
- A. Purpose and Intent of RFP.
- B. Detailed review of the RFP and the requirements for a qualified response.
- C. Review of all pertinent dates and forms that are REQUIRED for a qualified response.

III. Vendor Questions/Concerns/Issues
- A. Questions that can be answered directly by the appropriate person in this meeting will be answered and both question and answer will be recorded in the minutes of the meeting.
- B. Questions that need to be researched will be answered and a nature of clarification will be emailed to the appropriate ListServ. See **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_Bid_Listserve.html** for a list of ListServ Bid Lists.
- C. Minutes will be emailed to all participants of the meeting within a reasonable amount of time. (be sure to include your email address/addresses on the sign in sheet)
- D. Questions and concerns that come up after this meeting are to be addressed to **Valerie Kreher**, Procurement & Strategic Sourcing. Discussion with other University members is seriously discouraged and could lead to disqualification from further consideration. All questions and answers will be recorded and emailed to all participants of the RFP.
- E. Due date for questions is **October 26, 2015, 12:00 noon**.

IV. Minimum Participation
- A. Pre-registration for the Pre-Bid meeting is required. In the event that we do not have four (4) or more eligible bidders pre-registered, the University reserves the right to postpone the Pre-bid meeting with up to 4 business hour notice.
- B. If less than 4 individual contractor firms attend the mandatory pre-bid meeting, the University reserves the right, at its sole discretion, to either reschedule the pre-bid conference or proceed and offer a second pre-bid conference date. (Attendance at only one pre-bid conference will be required).
- C. On the day of the bid opening, if less than 3 sealed bids are received, the University reserves the right, at its sole discretion, to rebid the project in an effort to obtain greater competition. If the specifications are unchanged during the rebid effort, any contractor who submitted a bid will be given the option of keeping its bid on file for opening after the second bid effort, or of having the bids returned to them unopened.

V. Proposal Due Date- **November 5, 2015, 2:00 p.m.**

VI. Final Comments

VII. Adjourn

VENDOR NAME_____

GENERAL CONTRACT - PROPOSAL FORM *(revised 1 - 2011)*

Please Note – Vendors must Pre-qualify themselves when responding to this bid opportunity. Our Prequalification questions can be found on page 4 of this section.

OWNER:	Board of Governors Wayne State University
PROJECT:	**Integrative Biosciences Center** **Mechanical Roof Platform Extensions**
PROJECT NO.:	WSU PROJECT NO. **211-121168**
PROJECT TYPE:	**General Construction Work**
PURCHASING AGENT:	**Valerie Kreher**, **Senior Buyer** WSU – Procurement & Strategic Sourcing 5700 Cass, Suite 4200 Detroit, Michigan 48202 **313-577-3720**/ 313-577-3747 fax **rfpteam2@wayne.edu** & copy **leiann.day@wayne.edu@wayne.edu**
OWNER'S REPRESENTATIVE:	**Jason R. Davis** , Project Manager Design & Construction Services Facilities Planning & Management Wayne State University 5454 Cass Avenue Detroit, Michigan 48202
TO:	Board of Governors Wayne State University Detroit, Michigan

BASE PROPOSAL:

The undersigned agrees to enter into an Agreement to complete the entire work of the **Integrative Biosciences Center Mechanical Roof Platform Extensions** project (WSU Project No. **211-121168**) in accordance with the Bidding Documents for the following amounts:

$_____ Dollars

LAWN REPLACEMENT:

The undersigned agrees that, in the event of existing lawn or landscaping damage, due to the Contractor's work, that has not been properly addressed and repaired to the satisfaction of the University, the University may repair/replace the lawn and/or landscaping, and that the expense will be at a **unit cost of $10.00 per square yard for lawn, and landscaping at a rate of 1.5 times the cost of said repairs**, the full cost of which shall be reimbursed by the contractor.

CONTRACT CHANGE ORDERS: ***(revised 4-01-2011)***

The undersigned agrees to the following pricing formula and rates for changes in the contract work:

1. For subcontract work, Contractor's markup for handling, overhead, profit and bonding on subcontractors sell price, shall not exceed **5%.**

1.1. For subcontract work that is provided on a time and material basis, the subcontractor shall be permitted a single markup for handling, overhead, profit and bonding of 5%. When a markup is identified in the subcontractor's hourly labor rate, additional markup on labor is not permitted.

1.1.1 For changes that are based upon a lump sum value, subcontractor shall provide all labor and material back-ups to ensure that duplicative charges are avoided and authorized mark-ups for OH&P can be confirmed

2. For work by his own organization, Contractor's markup for job* and general overhead, profit and bonding shall not exceed **5%** of the net labor** and material costs.

Within 14 days of the project's contract execution Contractor shall provide to the Owner; Subcontractor's hourly labor rate breakdown details. This requirement shall extend to the lowest level of subcontractor participation.

* Job and general overhead includes supervision and executive expenses; use charges on small tools, scaffolding, blocking, shores, appliances, etc., and other miscellaneous job expenses.

** Net labor cost is the sum of the base wages, fringe benefits established by governing trade organizations, applicable payroll taxes, and increased expense for contractor's liability insurance (Workman's Compensation, P.L. and P.D.).

TIME OF COMPLETION:

(revised 4-01-2011)
The Contract is expected to be fully executed on or about 25 calendar days after successful bidder qualification and recommendation of award. The undersigned agrees to start construction **immediately after** receipt of a fully executed contract, and to complete the work as follows:

Substantial Completion will be completed no later than **March 15, 2016.**

LIQUIDATED DAMAGES:

It is understood and agreed that, if project is not completed within the time specified in the contract plus any extension of time allowed pursuant thereto, the actual damages sustained by the Owner because of any such delay, will be uncertain and difficult to ascertain, and it is agreed that the reasonable foreseeable value of the use of said project by Owner would be the sum of **$100.00, One hundred dollars per day**, and therefore the contractor shall pay as liquidated damages to the Owner the sum of **$100.00, One hundred dollars per day** for each day's delay in substantially completing said project beyond the time specified in the Contract and any extensions of time allowed thereunder.

TAXES:

The undersigned acknowledges that prices stated above include all applicable taxes of whatever character or description. Michigan State Sales Tax is applicable to the work. Bidder understands that the Owner reserves the right to reject any or all bids and to waive informalities or irregularities therein.

ADDENDA:

The undersigned affirms that the cost of all work covered by the following Addenda are included in the lump sum price of this proposal.

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

CONTRACTOR'S PREQUALIFICATION STATEMENT & QUESTIONNAIRE:

Our Minimum Requirements for Construction Bids are:

WSU considers this project: General Construction Work.

Criteria	Small Project bid less than $50,000	Medium Project bid between $50,001 and $250,000	Large Project bid between $250,001 and $2 million	Very Large Project bid greater than $2 million
EMR Rating (Experience Modification Rating)	1.0 or Less	1.0 or Less	1.0 or Less	1.0 or Less
Bondable Vendor	N.A.	Required	Required	Required
Length of Time in Construction Business	2 Years	3 Years	5 Years	5 Years
Demonstrated Experience in Projects Similar in Scope and Price in the last 3 years	1 or more	1 or more	2 or more	3 or more
Unsuccessful Projects on Campus in last 3 years	None Allowed	None Allowed	None Allowed	None Allowed
Failure to comply with Prevailing Wage and/or Project Labor requirements	None Allowed	None Allowed	None Allowed	None Allowed
Withdrawn University Bid (with or without Bond forfeiture) within the last 3 years **	1 or less	1 or less	1 or less	1 or less
Company currently not in Chapter 11 of the US Bankruptcy Code	1 Year	2 Years	3 Years	3 Years

** Withdrawal of a bid is subject to the University suspension policy, for a period up to one year.

Contractors must complete the following information to determine their eligibility to participate in this bid. This information is required with your Bid to the University

Failure to complete this form in its entirety will result in your bid being disqualified.

Check one of the following on the makeup of your company:

_____ Corporation _____ Individual

_____ Partnership _____ Joint Venture

_____ Other (Explain below):

_____

_____

Diversity Classification: Please indicate the appropriate diversity classification for your company. The University recognizes the following groups as diverse or disadvantaged:

- Majority Owned _____
- Minority Business Enterprises (MBE) _____
- Women Business Enterprises (WBE) _____

- Disabled Veteran Enterprises (DVBE) _____
- Disabled Person Enterprises (DBE) _____
- Veteran Owned Businesses (VBE) _____
- Small Businesses per the US Small Business Administration (SBE) _____
- Other (Please Explain): _____ _____

1. How many years has your organization been in business as a contractor? _____

2. How many years has your organization been in business under its present business name? _____

3. List states in which your organization is legally qualified to do business. _____

   _____

4. Provide the Name and Address of your Liability Insurance Carrier. _____

   _____

5. What is your current EMR Rating? _____
   The minimum requirement is an EMR Rating of 1.0 or less for all projects. Bidders with a rating higher than 1.0 understand that their bid may be disqualified, at the sole discretion of the University.

6. What percentage of work performed on projects are by company employees; excluding any hired subcontracting and outsourced relationships, for the bid submitted? _____ %

7. What percentage of work performed on your companies behalf are by subcontracted business relationships; disallowing 1099 contracting work forces, for the bid submitted? _____ %

8. Have you ever failed to complete any work awarded to you? If so, attach a separate sheet of explanation. Include the name of the Project, the customer, the dates of the work, and the amount of the contract?

   _____

9. Have you withdrawn a bid after a University bid opening and/or refused to enter into a contract with the University upon notification of award within the last 3 years? If so, state the Project Name and Number, and the date of bid submission below.

   _____

10. Has any officer or partner of your organization ever been an officer or partner of another organization that failed to complete a construction contract? If so, attach a separate sheet of explanation.

    _____

11. List the construction experience of the principals and superintendents of your company.

    Name: _____ Title: _____

    _____

    _____

    Name: _____ Title: _____

    _____

    _____

    Name: _____ Title: _____

    _____

12. List the construction Projects, and approximate dates, when you performed work similar in Scope to this project.

    Project: _____ Owner: _____

    Contract Amount: _____ Date Completed: _____

    Project: _____ Owner: _____

    Contract Amount: _____ Date Completed: _____

    Project: _____ Owner: _____

    Contract Amount: _____ Date Completed: _____

13. List the construction Projects, and approximate dates, when you performed work similar in Dollar Amount to this project.

    Project: _____ Owner: _____

    Contract Amount: _____ Date Completed: _____

    Project: _____ Owner: _____

    Contract Amount: _____ Date Completed: _____

    Project: _____ Owner: _____

    Contract Amount: _____ Date Completed: _____

14. Is your Company "bondable"? Yes _____ No _____

15. What is your present bonding capacity? $ _____

16. Who is your bonding agent?

    NAME: _____

    ADDRESS: _____

    PHONE: (_____) _____

    CONTACT: _____

17. Does your company agree to provide financial reports to the University upon request? Failure to agree may result in disqualification of your bid. Yes _____ No _____

18. Does your company agree that all of the Terms and Conditions of this RFP and Vendor's Response Proposal become part of any ensuing agreement? Yes _____ No _____

19. Does your company agree to execute a contract containing the clauses shown in Section 00500 "Agreement Between Contractor and Owner for Construction"? Yes _____ No _____

    If "No", clearly note any exceptions to any information contained in the contract documents and include with your proposal.

20. Did your company quote based upon **Prevailing Wage Rates**? Yes _____ No _____

21. Does your company agree to comply with the University **Smoke and Tobacco Free Policies**? Yes _____ No_____

Note: Contractors submitting proposals for this project may, at the discretion of the University, be required to submit references including contact information to be used to assist in the post bid evaluation process for the subject project

ACKNOWLEDGEMENT OF MINIMUM QUALIFICATIONS:

The undersigned has read and understands the minimum qualifications for University construction projects, and has completed the Prequalification section completely and accurately. The undersigned understands that a contractor, who fails to meet the minimum qualifications **in the category identified for this project, will be disqualified from consideration for the project**.

ACCEPTANCE OF PROPOSAL:

The undersigned agrees to execute a Contract, being the Wayne State University standard form titled "Agreement Between Contractor and Owner for Construction" (see section 00500 of the bid documents), provided that we are notified of the acceptance of our Proposal within sixty (60) days of the date set for the opening thereof.

The undersigned below understands that the bid will be disqualified if the Prequalification information above is not completed in its entirety.

NAME OF COMPANY: _____

OFFICE ADDRESS: _____

PHONE NUMBER: _____ DATE_____

FAX NUMBER: _____

SIGNED BY: _____
Signature

_____
(Please print or type name here)

TITLE _____

EMAIL ADDRESS: _____@_____

PREVAILING WAGE RATE SCHEDULE *(revised 4-05-2010)*

A. See also Page 00100-4 Section 12.B

B. Wayne State University requires all project contractors, including subcontractors, who provide labor on University projects to compensate at a rate no less than prevailing wage rates.

C. The rates of wages and fringe benefits to be paid to each class of laborers and mechanics by each VENDOR and subcontractor(s) (if any) shall be not less than the wage and fringe benefit rates prevailing in Wayne County, Michigan, as determined by the United States Secretary of Labor. Individually contracted labor commonly referred to as "1099 Workers" and subcontractors using 1099 workers are not acceptable for work related to this project.

D. To maintain compliance with State of Michigan Ordinances, Certified Payroll must be provided for each of the contractor's or subcontractor's payroll periods for work performed on this project. Certified Payroll should accompany all Pay Applications. Failure to provide certified payroll will constitute breach of contract, and pay applications will be returned unpaid, and remain so until satisfactory supporting documents are provided.

A Prevailing Wage Rate Schedule has been issued from the State of Michigan that is enclosed in this section

Additional information can be found on the University Procurement & Strategic Sourcing's web site at the following URL address:

http://purchasing.wayne.edu/vendors/wage-rates.php

If you have any questions, or require rates for additional classifications, please contact:

Michigan Department of Consumer & Industry Services,
Bureau of Safety and Regulation, Wage and Hour Division,
7150 Harris Drive,
P.O. Box 30476,
Lansing, Michigan 48909-7976

http://www.michigan.gov/dleg/0,1607,7-154-27673_27706---,00.html

F. **Wayne State University's Prevailing Wage Requirements:**

When compensation will be paid under prevailing wage requirements, the University shall require the following:

A. The contractor shall obtain and keep posted on the work site, in a conspicuous place, a copy of all current prevailing wage and fringe benefit rates.

B. The contractor shall obtain and keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each laborer and mechanic employed in connection with this contract.

C. The contractor shall submit a completed certified payroll document [U.S. Department of Labor Form WH 347] verifying and confirming the prevailing wage and benefits rates for all employees and subcontractors for each payroll period for work performed on this project. The contractor shall include copies of pay stubs for all employee or contract labor payments related to Wayne State University work. The certified payroll form can be downloaded from the Department of Labor website at **http://www.dol.gov/whd/forms/wh347.pdf**.

D. A properly executed sworn statement is required from all tiers of contractors, sub-contractors and suppliers which provide services or product of $1,000.00 or greater. Sworn statements must accompany applications for payment. All listed parties on a sworn statement and as a subcontractor must submit Partial or Full Conditional Waivers for the amounts invoiced on the payment application. A copy of the acceptable WSU Sworn Statement and Waiver will be provided to the awarded contractor.

E. Apprentices for a skilled trade must provide proof of participation in a Certified Apprenticeship Program and the level of hours completed in the program.

F. Daily project sign-in sheets and field reports for the project must be turned in weekly.

Note: Contractor invoices WILL NOT be processed until all listed certified payroll documents are received.

G. If the VENDOR or subcontractor fails to pay the prevailing rates of wages and fringe benefits and does not cure such failure within 10 days after notice to do so by the UNIVERSITY, the UNIVERSITY shall have the right, at its option, to do any or all of the following:

1. Withhold all or any portion of payments due the VENDOR as may be considered necessary by the UNIVERSITY to pay laborers and mechanics the difference between the rates of wages and fringe benefits required by this contract and the actual wages and fringe benefits paid.

2. Terminate this contract and proceed to complete the contract by separate agreement with another vendor or otherwise, in which case the VENDOR and its sureties shall be liable to the UNIVERSITY for any excess costs incurred by the UNIVERSITY.

3. Propose to the Director of Purchasing that the Vendor be considered for Debarment in accordance with the University's Debarment Policy, found on our website at **http://purchasing.wayne.edu/docs/appm28.pdf**

Terms identical or substantially similar to this section of this RFP shall be included in any contract or subcontract pertaining to this project.

H. The current applicable prevailing wage rates as identified by the State of Michigan Department of Consumer & Industry Services, Bureau of Safety and Regulation, Wage and Hour Division are attached. Refer to item C above if additional information is required.

I. Prior to award of the project, the apparent low bidder will be required to produce a schedule of values which will include the proposed subcontractors for each division of work and whether the subcontractor is signatory or non-signatory. A letter of intent or **contract will not** be issued to the apparent low bidder until this document is provided. The apparent low bidder will have one week to produce this document. If the required document is not received within this time, the bidder will be disqualified, and the next low bidder will be required to provide this schedule of values.

SEE ATTACHED STATE PREVAILING WAGE INFORMATION

State of Michigan

WHPWRequest@michigan.gov

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel
Project Number: WSU Project 211-121168

Wayne County

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Asbestos & Lead Abatement Laborer							
Asbestos & Lead Abatement Laborer	4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive	MLDC	10/1/2014	$40.25	$53.64	$67.03	H H H X X X X D Y
Asbestos & Lead Abatement, Hazardous Material Handler							
Asbestos and Lead Abatement, Hazardous Material Handler	4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive	AS207	10/1/2014	$40.25	$53.58	$66.90	H H H X X X X D Y
Boilermaker							
Boilermaker		BO169	2/17/2015	$54.70	$81.08	$107.45	H H H H H H H D Y
	Apprentice Rates:						
	1st 6 months			$40.31	$59.49	$78.67	
	2nd 6 months			$41.45	$61.21	$80.95	
	3rd 6 months			$42.57	$62.88	$83.19	
	4th 6 months			$43.69	$64.57	$85.43	
	5th 6 months			$44.81	$66.24	$87.67	
	6th 6 months			$48.63	$72.50	$96.36	
	7th 6 months			$49.32	$73.01	$96.69	
	8th 6 months			$51.58	$76.40	$101.21	

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Bricklayer							
Bricklayer, stone mason, pointer, cleaner,		BR1	10/15/2014	$52.43	$78.65	$104.86	H H D H D D D D Y
Make up day allowed comment							
Saturday for 5 day 8 hour week Friday for 4 day 10 hour week 4 10s allowed M-TH							
	Apprentice Rates:						
	First 6 months			$31.87	$47.81	$63.74	
	2nd 6 months			$33.72	$50.60	$67.44	
	3rd 6 months			$35.57	$53.37	$71.14	
	4th 6 months			$37.42	$56.14	$74.84	
	5th 6 months			$39.27	$58.92	$78.54	
	6th 6 months			$41.12	$61.70	$82.24	
	7th 6 months			$42.97	$64.46	$85.94	
	8th 6 months			$44.82	$67.24	$89.64	
Carpenter							
Diver		CA 687 D	6/25/2014	$64.65	$93.14	$121.63	X X H X X H H D Y
Four 10s allowed M-Sat; double time due when over 12 hours worked per day							
Make up day allowed comment							
Saturday							

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

County: Wayne

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Carpet and Resilient Floor Layer, (does not include installation of prefabricated formica & parquet flooring which is to be paid carpenter rate)	CA1045	6/12/2014	$49.21	$70.18	$91.14	X X H X X X X D Y
Apprentice Rates:						
1st 6 months			$24.23	$32.71	$41.18	
2nd 6 months			$28.25	$38.73	$49.22	
3rd 6 months			$30.35	$41.88	$53.42	
4th 6 months			$32.44	$45.02	$57.60	
5th 6 months			$34.54	$48.17	$61.80	
6th 6 months			$36.63	$51.31	$65.98	
7th 6 months			$38.74	$54.48	$70.20	
8th 6 months			$40.82	$57.59	$74.36	
Carpenter four 10s allowed Mon-Sat; double time due when over 12 hours worked per day *Make up day allowed comment* Saturdays	CA687Z1	6/24/2014	$55.24	$79.04	$102.84	X X H X X H H D Y
Apprentice Rates:						
1st year			$33.82	$46.92	$60.00	
3rd 6 months			$36.21	$50.49	$64.78	
4th 6 months			$38.58	$54.05	$69.52	
5th 6 months			$40.97	$57.64	$74.30	
6th 6 months			$43.33	$61.17	$79.02	
7th 6 months			$45.72	$64.77	$83.80	
8th 6 months			$48.09	$68.32	$88.54	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Piledriver Four 10s allowed Monday-Saturday; double time due when over 12 hours worked per day *Make up day allowed comment* Saturday	CA687Z1P	6/24/2014	$55.24	$79.04	$102.84	X X H X X H H D Y
Apprentice Rates:						
1st 6 months			$33.82	$46.92	$60.00	
2nd 6 months			$38.58	$54.05	$69.52	
3rd 6 months			$43.33	$61.17	$79.02	
4th 6 months			$48.09	$68.32	$88.54	
Cement Mason						
Cement Mason	br1cm	10/15/2014	$50.05	$71.17	$92.28	X X H H H H H D N
Apprentice Rates:						
1st 6 months			$29.13	$39.45	$49.77	
2nd 6 months			$31.20	$42.54	$53.87	
3rd 6 months			$35.31	$48.67	$62.01	
4th 6 months			$39.46	$54.85	$70.23	
5th 6 months			$41.52	$57.91	$74.30	
6th 6 months			$45.67	$64.10	$82.52	
Cement Mason	CE514	11/10/2011	$46.30	$64.89	$83.48	H H D H H H H D N
Apprentice Rates:						
1st 6 months			$26.77	$36.07	$45.36	
2nd 6 months			$28.68	$38.91	$49.13	
3rd 6 months			$32.50	$44.59	$56.66	
4th 6 months			$36.32	$50.26	$64.19	
5th 6 months			$38.24	$53.11	$67.98	
6th 6 months			$42.06	$58.79	$75.51	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016
Page 5 of 33

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Drywall						
Drywall Taper	PT-22-D	9/5/2014	$44.41	$57.66	$70.91	H H D H D D D D Y
Four 10s allowed Monday-Thursday						
Make up day allowed comment						
Friday make-up day for bad weather or holidays						
	Apprentice Rates:					
	First 3 months		$31.16	$37.79	$44.41	
	Second 3 months		$33.81	$41.76	$49.71	
	Second 6 months		$36.46	$45.73	$55.01	
	Third 6 months		$39.11	$49.71	$60.31	
	4th 6 months		$40.43	$51.69	$62.95	
Electrician						
Inside Wireman	EC-58-IW	10/2/2014	$58.91	$77.39	$95.87	H H H H H H H D N
	Apprentice Rates:					
	0-1000 hours		$36.73	$44.12	$51.51	
	1000-2000 hours		$38.58	$46.89	$55.21	
	2000-3500 hours		$40.43	$49.67	$58.91	
	3500-5000 hours		$42.27	$52.44	$62.59	
	5000-6500 hours		$45.97	$57.98	$69.99	
	6500-8000 hours		$49.67	$63.53	$77.39	
Sound and Communication Installer	EC-58-SC	6/19/2015	$38.11	$51.23	$64.35	H H H H H H H D N
	Apprentice Rates:					
	Period 1		$24.99	$31.55	$38.11	
	Period 2		$26.30	$33.52	$40.73	
	Period 3		$27.62	$35.50	$43.37	
	Period 4		$28.93	$37.46	$45.99	
	Period 5		$30.25	$39.44	$48.63	
	Period 6		$31.55	$41.39	$51.23	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Elevator Constructor						
Elevator Constructor Elevator Constructor *Make up day allowed*	EL 36	8/7/2007	$56.46		$94.99	D D D D D D D D Y
Apprentice Rates:						
1st Year Apprentice			$37.74		$58.93	
2nd Year Apprentice			$41.90		$66.94	
3rd Year Apprentice			$43.98		$70.95	
4th Year Apprentice			$48.14		$78.96	
Glazier						
Glazier If a four 10 hour day workweek is scheduled, four 10s must be consecutive, M-F.	GL-357	10/2/2014	$47.35	$65.97	$84.58	H H H H H H H D Y
Apprentice Rates:						
1st 6 months			$32.45	$43.62	$54.78	
2nd 6 months			$33.94	$45.85	$57.76	
3rd 6 months			$36.92	$50.33	$63.72	
4th 6 months			$38.41	$52.56	$66.70	
5th 6 months			$39.90	$54.79	$69.68	
6th 6 months			$41.39	$57.03	$72.66	
7th 6 months			$42.88	$59.27	$75.64	
8th 6 months			$45.86	$63.73	$81.60	
Heat and Frost Insulator						
Spray Insulation	AS25S	3/5/2007	$20.14	$29.14		H H H H H H H H N

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Statewide

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Heat and Frost Insulator and Asbestos Worker							
Heat and Frost Insulators and Asbestos Workers		AS25	1/29/2014	$60.25	$76.00	$91.74	H H H H H H H D Y
Four 10s must be worked for a minimum of 2 weeks consecutively, Monday thru Thursday. All hours worked in excess of 10 will be paid at double time. All hours worked on the fifth day,							
	comment						
	Four 10s must be worked for a minimum of 2 consecutive weeks. OVERTIME is different on a four 10 week. OT is 2x for hours beyond 10. All hours on fifth day, M-F require time and one half. Sat first 8 hours, 1.5, all hours after 8 require double time.						
	Apprentice Rates:						
	1st Year			$46.08	$54.74	$63.40	
	2nd Year			$49.23	$59.46	$69.70	
	3rd Year			$50.80	$61.82	$72.84	
	4th Year			$53.95	$66.54	$79.14	
Ironworker							
Fence, Sound Barrier & Guardrail erection/installation and Exterior Signage work Four ten hour work days may be worked during Monday-Saturday.		IR-25-F1	2/24/2015	$34.65	$46.65	$58.65	X X H X X X H D Y
	Apprentice Rates:						
	60% Level			$24.25	$31.45	$38.65	
	65% Level			$25.55	$33.35	$41.15	
	70% Level			$26.86	$35.26	$43.66	
	75% Level			$28.15	$37.15	$46.15	
	80% Level			$29.45	$39.05	$48.65	
	85% Level			$30.75	$40.95	$51.15	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168

Official Rate Schedule
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

County: Wayne

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Siding, Glazing, Curtain Wall 4 tens may be worked Monday thru Thursday @ straight time. *Make up day allowed comment* Friday	IR-25-GZ2	6/5/2015	$47.16	$58.82	$70.48	X X H H H H D D Y
Apprentice Rates:						
Level 1			$30.23	$36.84	$43.43	
Level 2			$32.34	$39.58	$46.80	
Level 3			$34.46	$42.33	$50.19	
Level 4			$36.58	$45.08	$53.57	
Level 5			$38.69	$47.82	$56.95	
Level 6			$40.81	$50.57	$60.33	
Pre-engineered Metal Work *Make up day allowed comment* 4 tens allowed M-Th with Saturday make up day	IR-25-PE-Z1	6/3/2015	$46.49	$56.78	$67.06	X X H X X X X D Y
Apprentice Rates:						
1st Year			$27.36	$32.83	$38.31	
3rd 6 month period			$29.48	$35.71	$41.93	
4th 6 month period			$31.61	$38.60	$45.58	
5th 6 month period			$33.73	$41.46	$49.20	
6th 6 month period			$35.86	$45.24	$54.62	
Reinforced Iron Work *Make up day allowed*	IR-25-RF	6/3/2015	$56.11	$84.03	$111.95	H H D H D D D D N
Apprentice Rates:						
Level 1			$36.76	$54.83	$72.88	
Level 2			$39.13	$58.37	$77.62	
Level 3			$41.49	$61.92	$82.34	
Level 4			$44.03	$65.72	$87.42	
Level 5			$46.56	$69.53	$92.48	
Level 6			$49.10	$73.33	$97.56	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Rigging Work	IR-25-RIG	6/3/2015	$62.08	$92.78	$123.47	H H H H H H H D N
Apprentice Rates:						
Level 1& 2			$37.38	$55.69	$74.01	
Level 3			$40.21	$59.94	$79.67	
Level 4			$43.03	$64.17	$85.31	
Level 5			$45.86	$68.42	$90.97	
Level 6			$48.69	$72.67	$96.63	
Decking 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time. *Make up day allowed comment* Friday for 4 tens M-Th Saturday for 5 eights M-F	IR-25-SD	6/5/2015	$54.04	$80.73	$107.42	X X H H H H D D Y
Structural, ornamental, welder and pre-cast 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time. *Make up day allowed*	IR-25-STR	6/3/2015	$62.21	$92.94	$123.67	H H H H H H D D Y
Apprentice Rates:						
Levels 1 & 2			$36.79	$55.10	$73.42	
Level 3			$39.62	$59.35	$79.08	
Level 4			$42.44	$63.58	$84.72	
Level 5			$45.27	$67.83	$90.38	
Level 6			$48.10	$72.08	$96.04	
Level 7			$50.92	$76.30	$101.68	
Level 8			$53.75	$80.55	$107.34	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Industrial Door erection & construction		IR-25-STR-D	6/19/2015	$42.54	$63.44	$84.34	H H H H H H D D Y
Make up day allowed comment							
Friday for bad weather when 4 tens scheduled for M-Th. If holiday celebrated on M, 4 tens may be worked T-F. Work in excess of 12 hours per day must be paid @ double time.							

Laborer

Construction Laborer, Demolition Laborer, Mason Tender,Carpenter Tender, Drywall Handler, Concrete Laborer, Cement Finisher Tender, Concrete Chute, and Concrete Bucket Handler	L33401-A-CC	7/15/2013	$43.54	$61.94	$80.33	H H H H H H H D Y
If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8						
Make up day allowed comment						
Saturday						
Apprentice Rates:						
0-1,000 work hours			$37.60	$53.03	$68.45	
1,001 - 2,000 work hours			$38.79	$54.81	$70.83	
2,001 - 3,000 work hours			$39.98	$56.60	$73.21	
3,001 - 4,000 work hours			$42.35	$60.15	$77.95	
Signal Man (on sewer & caisson work), Air, Electric or Gasoline Tool Operator, Concrete Vibrator Operator, Acetylene Torch & Air Hammer Operator; Scaffold Builder, Caisson Worker	L33401-B-SB	7/16/2013	$43.80	$62.33	$80.85	H H H H H H H D Y
If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8						
Make up day allowed comment						
Saturday						

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Official Rate Schedule
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Project Number: WSU Project 211-121168
County: Wayne

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Furnace Battery Heater Tender, Burning Bar & Oxy-Acetylene Gun If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time. *Make up day allowed comment* Saturday	L33401-D-HH	7/16/2013	$44.04	$62.69	$81.33	H H H H H H H D Y
Expediter Man, Top Man and/or Bottom Man (Blast Furnace Work or Battery Work) If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time. *Make up day allowed comment* Saturday	L33401-E-EX	7/16/2013	$44.79	$63.81	$82.83	H H H H H H H D Y
Cleaner/Sweeper Laborer; Furniture Laborer If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time. *Make up day allowed comment* Saturday	L33401-F-CL	7/16/2013	$38.09	$53.76	$69.43	H H H H H H H D Y
Lansing Burner, Blaster & Powder Man; Air, Electric or Gasoline Tool Operator (Blast Furance Work or Battery Work) *Make up day allowed comment* Saturday	L334C	7/16/2013	$44.29	$63.06	$81.83	X X H X H H H D Y

Project Number: WSU Project 211-121168
County: Wayne

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Plasterer Tender, Plastering Machine Operator		LPT-1	10/25/2013	$43.54	$61.94	$80.33	X X H H H H H D Y

If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8

Make up day allowed comment
Saturday

Apprentice Rates:			
0 - 1,000 hours	$37.60	$53.03	$68.45
1,001 - 2,000 hours	$38.79	$54.81	$70.83
2,001 - 3,000 hours	$39.98	$56.60	$73.21
3,001 - 4,000 hours	$42.35	$60.15	$77.95

Laborer - Hazardous

Class A performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or federal regulations; or a laborer performing work in conjunction with the removal, handling, or containment of hazardous waste substances when use of personal protective equipment level "D" is required.	LHAZ-Z1-A	11/7/2014	$43.54	$61.94	$80.33	H H H H H H H D Y

Make up day allowed comment
4 10s allowed M-Th or T-F; inclement weather makeup day Friday

Apprentice Rates:			
0-1,000 work hours	$37.60	$53.03	$68.45
1,001-2,000 work hours	$38.79	$54.81	$70.83
2,001-3,000 work hours	$39.98	$56.60	$73.21
3,001-4,000 work hours	$42.35	$60.15	$77.95

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168

Official Rate Schedule
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County: Wayne

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class B performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels "A", "B" or "C" is required.	LHAZ-Z1-B	11/7/2014	$44.54	$63.44	$82.33	H H H H H H H D Y
Make up day allowed comment						
4 10s allowed M-Th or T-F; inclement weather makeup day Friday						
Apprentice Rates:						
0-1,000 work hours			$38.36	$54.17	$69.97	
1,001-2,000 work hours			$39.59	$56.01	$72.43	
2,001-3,000 work hours			$40.83	$57.87	$74.91	
3,001-4,000 work hours			$43.30	$61.58	$79.85	

Laborer Underground - Tunnel, Shaft & Caisson

Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman.	LAUCT-Z1-1	9/6/2013	$37.87	$48.66	$59.44	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.05	$41.43	$49.80	
1,001-2,000 work hours			$34.02	$42.88	$51.74	
2,001-3,000 work hours			$34.98	$44.32	$53.66	
3,001-4,000 work hours			$36.91	$47.21	$57.52	
Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder.	LAUCT-Z1-2	9/6/2013	$37.98	$48.82	$59.66	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.14	$41.56	$49.98	
1,001-2,000 work hours			$34.10	$43.00	$51.90	
2,001-3,000 work hours			$35.07	$44.45	$53.84	
3,001-4,000 work hours			$37.01	$47.37	$57.72	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class III	Air tool operator (jack hammer man, bush hammer man and grinding man), first bottom man, second bottom man, cage tender, car pusher, carrier man, concrete man, concrete form man, concrete repair man, cement invert laborer, cement finisher, concrete shoveler, conveyor man, floor man, gasoline and electric tool operator, gunnite man, grout operator, welder, heading dinky man, inside lock tender, pea gravel operator, pump man, outside lock tender, scaffold man, top signal man, switch man, track man, tugger man, utility man, vibrator man, winch operator, pipe jacking man, wagon drill and air track operator and concrete saw operator (under 40 h.p.).	LAUCT-Z1-3	9/6/2013	$38.04	$48.91	$59.78	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.18	$41.62	$50.06	
	1,001-2,000 work hours			$34.15	$43.07	$52.00	
	2,001-3,000 work hours			$35.12	$44.53	$53.94	
	3,001-4,000 work hours			$37.07	$47.45	$57.84	
Class IV	Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.	LAUCT-Z1-4	9/6/2013	$38.22	$49.18	$60.14	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.32	$41.83	$50.34	
	1,001-2,000 work hours			$34.30	$43.30	$52.30	
	2,001-3,000 work hours			$35.28	$44.77	$54.26	
	3,001-4,000 work hours			$37.24	$47.71	$58.18	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

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Project Number: WSU Project 211-121168
County: Wayne

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class V - Tunnel, shaft and caisson miner, drill runner, keyboard operator, power knife operator, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars)		LAUCT-Z1-5	9/6/2013	$38.47	$49.56	$60.64	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.50	$42.10	$50.70	
	1,001-2,000 work hours			$34.50	$43.60	$52.70	
	2,001-3,000 work hours			$35.49	$45.09	$54.68	
	3,001-4,000 work hours			$37.48	$48.07	$58.66	
Class VI - Dynamite man and powder man.		LAUCT-Z1-6	9/6/2013	$38.80	$50.05	$61.30	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.75	$42.47	$51.20	
	1,001-2,000 work hours			$34.76	$43.99	$53.22	
	2,001-3,000 work hours			$35.77	$45.51	$55.24	
	3,001-4,000 work hours			$37.79	$48.53	$59.28	
Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones.		LAUCT-Z1-7	9/6/2013	$32.08	$39.97	$47.86	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$28.71	$34.91	$41.12	
	1,001-2,000 work hours			$29.38	$35.92	$42.46	
	2,001-3,000 work hours			$30.06	$36.94	$43.82	
	3,001-4,000 work hours			$31.41	$38.97	$46.52	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Landscape Laborer							
	Landscape Specialist includes air, gas, and diesel equipment operator, skidsteer (or equivalent), lawn sprinkler installer on landscaping work where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintenance of landscape projects occurs. Sundays paid at time & one half. Holidays paid at double time.	LLAN-Z1-A	6/26/2014	$28.58	$39.49	$50.39	X X H X X X H D Y
	Skilled Landscape Laborer: small power tool operator, lawn sprinkler installers' tender, material mover, truck driver when seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs Sundays paid at time & one half. Holidays paid at double time.	LLAN-Z1-B	6/26/2014	$24.36	$33.16	$41.95	X X H X X X H D Y
Marble Finisher							
	Marble Finisher A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-MF	10/20/2014	$43.48	$54.29	$65.10	H H D H D D D D Y
	Apprentice Rates:						
	Level 1			$19.04	$25.12	$31.20	
	Level 2			$20.24	$26.92	$33.60	
	Level 3			$27.01	$33.96	$40.90	
	Level 4			$28.47	$36.14	$43.82	
	Level 5			$29.99	$37.84	$45.70	
	Level 6			$31.61	$39.86	$48.10	
	Level 7			$33.30	$41.59	$49.87	
	Level 8			$34.79	$43.48	$52.17	

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Official Rate Schedule
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Project Number: WSU Project 211-121168
County: Wayne

prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Marble Mason							
Marble Mason	A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-MM	10/17/2014	$50.29	$64.51	$78.72	H H D H D D D Y
	Apprentice Rates:						
	Level 1			$25.14	$32.65	$40.15	
	Level 2			$28.20	$36.49	$44.78	
	Level 3			$33.41	$41.97	$50.53	
	Level 4			$36.15	$45.66	$55.17	
	Level 5			$38.42	$48.17	$57.92	
	Level 6			$42.07	$53.56	$65.05	
	Level 7			$42.74	$54.38	$66.02	
	Level 8			$43.67	$55.78	$67.88	
Operating Engineer							
Crane with boom & jib or leads 120' or longer	*comment* Double time after 12 hours M-F	EN-324-A120	6/12/2014	$57.11	$74.62	$92.13	X X H H D D D D Y
Crane with boom & jib or leads 140' or longer	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A140	6/12/2014	$57.93	$75.85	$93.77	X X H H D D D D Y
Crane with boom & jib or leads 220' or longer	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A220	6/12/2014	$58.23	$76.30	$94.37	X X H H D D D D Y
Crane with boom & jib or leads 300' or longer	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A300	6/12/2014	$59.73	$78.55	$97.37	X X H H D D D D Y

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168

Official Rate Schedule

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County: Wayne

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane with boom & jib or leads 400' or longer	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A400	6/12/2014	$61.23	$80.80	$100.37	X X H H D D D D Y
Compressor or welding machine	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-CW	6/12/2014	$46.26	$58.35	$70.43	X X H H D D D D Y
Forklift, lull, extend-a-boom forklift	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-FL	6/12/2014	$53.57	$69.31	$85.05	X X H H D D D D Y
Fireman or oiler	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-FO	6/12/2014	$45.23	$56.80	$68.37	X X H H D D D D Y
Regular crane, job mechanic, concrete pump with boom	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-RC	6/12/2014	$56.25	$73.33	$90.41	X X H H D D D D Y
Regular engineer, hydro-excavator, remote controlled concrete breaker	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-RE	6/12/2014	$55.28	$71.88	$88.47	X X H H D D D D Y

Apprentice Rates:

0-999 hours	$44.32	$55.94	$67.55
1,000-1,999 hours	$45.99	$58.45	$70.89
2,000-2,999 hours	$47.64	$60.92	$74.19
3,000-3,999 hours	$49.30	$63.41	$77.51
4,000-4,999 hours	$50.96	$65.90	$80.83
5,000-5,999 hours	$52.62	$68.39	$84.15

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Official Rate Schedule
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Project Number: WSU Project 211-121168
County: Wayne

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Operating Engineer - DIVER						
Diver/Wet Tender/Tender/Rov Pilot/Rov Tender	GLF D	4/2/2014	$52.80	$79.20	$105.60	H H H H H H H D N
Operating Engineer - Marine Construction						
Diver/Wet Tender, Engineer (hydraulic dredge)	GLF-1	2/12/2014	$65.00	$84.85	$104.70	X X H H H H H D Y
Make up day allowed						
Subdivision of county all Great Lakes, islands therein, & connecting & tributary waters						
Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender	GLF-2	2/12/2014	$63.50	$82.60	$101.70	X X H H H H H D Y
Holiday pay = $120.80 per hour, wages &						
Make up day allowed						
Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters						
Friction, Lattice Boom or Crane License Certification	GLF-2B	2/12/2014	$64.50	$84.10	$103.70	X X H H H H H D Y
Holiday pay = $123.30						
Make up day allowed						
Subdivision of county All Great Lakes, islands, therein, & connecting & tributary waters						
Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs or more), Tug/Launch Operator, Loader, Dozer on Barge, Deck Machinery	GLF-3	2/12/2014	$59.30	$76.30	$93.30	X X H H H H H D Y
Holiday pay = $110.30 per hour, wages &						
Make up day allowed						
Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters						

Official Request #: 1206
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Project Description: Integrative Biosciences Center Roof Steel

Official Rate Schedule
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy

Project Number: WSU Project 211-121168
County: Statewide

of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Deck Equipment Operator, (Machineryman/Fireman), (4 equipment units or more), Off Road Trucks, Deck Hand, Tug Engineer, & Crane Maintenance 50 ton capacity and under or Backhoe 115,000 lbs or less, Assistant Tug Operator		GLF-4	2/12/2014	$53.60	$67.75	$81.90	X X H H H H H D Y
Holiday pay = $96.05 per hour, wages & fringes *Make up day allowed*							
Subdivision of county	All Great Lakes, islands therein, & connecting & tributary waters						
Operating Engineer Steel Work							
Forklift, 1 Drum Hoist *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-ef	9/5/2014	$58.16	$76.37	$94.58	H H D H H H D D Y
Crane w/ 120' boom or longer *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-SW120	9/5/2014	$60.86	$80.42	$99.98	H H D H H H D D Y
Crane w/ 120' boom or longer w/ Oiler *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-SW120-OY	9/5/2014	$61.86	$81.92	$101.98	H H D H H H D D
Crane w/ 140' boom or longer *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-SW140	9/5/2014	$62.04	$82.19	$102.34	H H D H H H D D Y
Crane w/ 140' boom or longer W/ Oiler *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-SW140-OY	9/5/2014	$63.04	$83.69	$104.34	H H D H H H D D
Boom & Jib 220' or longer *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-SW220	9/5/2014	$62.31	$82.60	$102.88	H H D H H H D D Y
Crane w/ 220' boom or longer w/ Oiler *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather		EN-324-SW220-OY	9/5/2014	$63.31	$84.10	$104.88	H H D H H H D D

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168

Official Rate Schedule

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County: Wayne

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Boom & Jib 300' or longer		EN-324-SW300	9/5/2014	$63.81	$84.85	$105.88	H H D H H H D D Y
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							
Crane w/ 300' boom or longer w/ Oiler		EN-324-SW300-OY	9/5/2014	$64.81	$86.35	$107.88	H H D H H H D
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							
Boom & Jib 400' or longer		EN-324-SW400	9/5/2014	$65.31	$87.10	$108.88	H H D H H H D D Y
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							
Crane w/ 400' boom or longer w/ Oiler		EN-324-SW400-OY	9/5/2014	$66.31	$88.60	$110.88	H H D H H H D
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							
Crane Operator, Job Mechanic, 3 Drum Hoist & Excavator		EN-324-SWCO	9/5/2014	$60.50	$79.88	$99.26	H H D H H H D D Y
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							
	Apprentice Rates:						
	0-999 hours			$47.87	$61.43	$75.00	
	1,000-1,999 hours			$49.81	$64.35	$78.88	
	2,000-2,999 hours			$51.74	$67.24	$82.74	
	3,000-3,999 hours			$53.68	$70.15	$86.62	
	4,000-4,999 hours			$55.62	$73.07	$90.50	
	5,000 hours			$57.56	$75.97	$94.38	
Crane Operator w/ Oiler		EN-324-SWCO-OY	9/5/2014	$61.50	$81.38	$101.26	H H D H H H D
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							
Compressor or Welder Operator		EN-324-SWCW	9/5/2014	$53.15	$68.86	$84.56	H H D H H H D D Y
Make up day allowed comment							
4 10s allowed M-Th with Friday makeup day because of bad weather							

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168
County: Wayne

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Hoisting Operator, 2 Drum Hoist, & Rubber Tire Backhoe	EN-324-SWHO	9/5/2014	$59.86	$78.92	$97.98	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Oiler	EN-324-SWO	9/5/2014	$51.64	$66.59	$81.54	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Tower Crane & Derrick where work is 50' or more above first level	EN-324-SWTD50	9/5/2014	$61.59	$81.52	$101.44	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Tower Crane & Derrick 50' or more w/ Oiler where work station is 50' or more above first	EN-324-SWTD50-O	9/5/2014	$62.59	$83.02	$103.44	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Operating Engineer Underground						
Class I Equipment	EN-324A1-UC1	10/14/2014	$51.74	$66.98	$82.22	H H H H H H H D Y
Apprentice Rates:						
0-999 hours			$41.79	$52.45	$63.12	
1,000-1,999 hours			$43.32	$54.75	$66.18	
2,000-2,999 hours			$44.84	$57.03	$69.22	
3,000-3,999 hours			$46.36	$59.31	$72.26	
4,000-4,999 hours			$47.89	$61.61	$75.32	
5,000-5,999 hours			$49.41	$63.89	$78.36	
Class II Equipment	EN-324A1-UC2	10/14/2014	$47.01	$59.89	$72.76	H H H H H H H D Y
Class III Equipment	EN-324A1-UC3	10/14/2014	$46.28	$58.79	$71.30	H H H H H H H D Y

Official Request #: 1206
Requestor: Wayne State University
Project Description: Integrative Biosciences Center Roof Steel

Project Number: WSU Project 211-121168

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County: Wayne

Official 2015 Prevailing Wage Rates for State Funded Projects

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class IV Equipment		EN-324A1-UC4	10/14/2014	$45.71	$57.94	$70.16	H H H H H H H D Y
Master Mechanic		EN-324A1-UMM	10/14/2014	$51.99	$67.81	$83.63	H H H H H H H D Y
Painter							
Painter (8 hours of repaint work performed on Sunday shall be paid time & one half rate) Four 10s allowed Monday-Thursday with Friday makeup day if job down due to weather, holiday or other conditions beyond the control of the employer. *Make up day allowed comment* Fridays for bad weather or holidays		PT-22-P	10/8/2014	$42.82	$55.63	$68.43	H H D H D D D D Y
	Apprentice Rates:						
	First 6 months			$30.02	$36.43	$42.83	
	Second 6 months			$33.86	$42.19	$50.51	
	Third 6 months			$35.14	$44.11	$53.07	
	Fourth 6 months			$36.42	$46.03	$55.63	
	Fifth 6 months			$37.70	$47.95	$58.19	
	Final 6 months			$38.98	$49.87	$60.75	
Pipe and Manhole Rehab							
General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant		TM247	4/17/2015	$28.20	$38.20		H H H H H H H H N
Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment		TM247-2	4/17/2015	$32.70	$44.95		H H H H H H H H N

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County: Statewide

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work		TM247-3	4/17/2015	$31.45	$43.07		H H H H H H H H N
Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated		TM247-4	4/17/2015	$33.20	$45.70		H H H H H H H H N
Combo Unit driver & Jetter-Vac Operator		TM247-5	4/17/2015	$33.20	$45.70		H H H H H H H H N
Pipe Bursting & Slip-lining Equipment Operator		TM247-6	4/17/2015	$34.20	$47.20		H H H H H H H H N
Pipefitter							
Pipefitter		PF-636	6/30/2014	$66.73	$87.93	$105.13	H H D H D D D D Y

comment

Four 10s allowed during the week preceding, following and/or the week of a holiday.

Apprentice Rates:			
1st & 2nd periods	$26.93	$35.28	$42.28
3rd period	$28.93	$38.28	$46.28
4th period	$30.18	$40.16	$48.78
5th period	$31.43	$42.03	$51.28
6th period	$32.68	$43.90	$53.78
7th period	$33.93	$45.78	$56.28
8th period	$34.93	$47.28	$58.28
9th period	$35.93	$48.78	$60.28
10th period	$37.36	$50.92	$63.14

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Project Number: WSU Project 211-121168
County: Wayne

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Plasterer							
Plasterer		BR1P	11/1/2012	$45.04	$67.56	$90.08	H H H H H H H D N
Make up day allowed comment							
Saturday							
	Apprentice Rates:						
	1st 6 months			$32.11	$48.17	$64.22	
	2nd 6 months			$33.40	$50.10	$66.80	
	3rd 6 months			$34.69	$52.04	$69.38	
	4th 6 months			$37.28	$55.92	$74.56	
	5th 6 months			$39.87	$59.81	$79.74	
	6th 6 months			$42.45	$63.68	$84.90	
Plasterer		PL67	9/8/2010	$44.72	$60.11	$75.50	H H H X D D D D N
	Apprentice Rates:						
	1st 6 months			$29.33	$37.02	$44.72	
	2nd 6 months			$30.87	$39.34	$47.80	
	3rd 6 months			$32.41	$41.64	$50.88	
	4th 6 months			$35.49	$46.26	$57.04	
	5th 6 months			$38.56	$51.16	$63.76	
	6th 6 months			$41.64	$55.49	$69.34	

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Project Number: WSU Project 211-121168
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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
Contract must be awarded by: 1/4/2016
Page 26 of 33

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Plumber						
Plumber	PL-98	7/18/2013	$64.45	$84.87	$101.29	H H D H D D D D Y
comment						
4 tens allowed M-Th or T-F; OT of time and one half required on 11th & 12th hour of any ten hour days						
Apprentice Rates:						
Period 1			$19.93	$26.43	$32.93	
Period 2			$23.90	$31.40	$38.90	
Period 3			$30.60	$39.19	$47.77	
Period 4			$31.23	$40.13	$49.03	
Period 5			$32.39	$41.87	$51.35	
Period 6			$33.54	$43.59	$53.65	
Period 7			$34.69	$45.32	$55.95	
Period 8			$35.86	$47.07	$58.29	
Period 9			$37.01	$48.80	$60.59	
Period 10			$38.16	$50.53	$62.89	
Roofer						
Commercial Roofer Straight time is not to exceed ten (10) hours per day or forty (40) hours per week.	RO-149-WOM	8/18/2008	$48.46	$62.29	$76.62	H H D H H H D D N
Make up day allowed						
Apprentice Rates:						
Apprentice 1			$32.62	$39.86	$48.04	
Apprentice 2			$36.80	$44.80	$53.30	
Apprentice 3			$38.22	$46.93	$56.14	
Apprentice 4			$39.25	$48.48	$58.20	
Apprentice 5			$40.47	$50.30	$60.64	
Apprentice 6			$41.87	$52.40	$63.44	
Sewer Relining						
Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV	SR-I	11/3/2014	$42.76	$57.75	$72.74	H H H H H H H D N

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.		SR-II	11/3/2014	$41.23	$55.46	$69.68	H H H H H H H D N
Sheet Metal Worker							
Sheet Metal Worker A 4 10 schedule may be worked, 4 consecutive days Monday thru Friday.		SHM-80	9/9/2014	$61.83	$78.74	$95.65	H H D X H H H D Y
	Apprentice Rates:						
	1st & 2nd Periods Indentured after 6-1-11			$39.18	$46.79	$54.40	
	3rd & 4th Periods Indentured after 6-1-11			$40.88	$49.34	$57.80	
	5th & 6th Periods Indentured after 6-1-11			$42.56	$51.86	$61.16	
	7th & 8th Periods Indentured after 6-1-11			$44.25	$54.40	$64.54	
	9th & 10th Periods Indentured before 6-1-11			$51.92	$64.44	$76.96	
Siding and decking *Make up day allowed*		SHM-80-SD	1/13/2014	$42.07	$54.28	$66.48	H H H H H H H D Y

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Project Number: WSU Project 211-121168
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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 10/6/2015
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Page 28 of 33

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Sprinkler Fitter							
Sprinkler Fitter		SP 704	12/19/2014	$64.92	$86.15	$107.38	H H D H D D D D Y
4 ten hour days allowed Monday-Friday Double time pay due after 12 hours worked M-F							
	Apprentice Rates:						
	1st Period			$28.29	$36.78	$45.27	
	2nd Period			$41.57	$51.12	$60.68	
	3rd Period			$43.69	$54.30	$64.92	
	4th Period			$45.81	$57.48	$69.16	
	5th Period			$47.94	$60.68	$73.42	
	6th Period			$50.06	$63.86	$77.66	
	7th Period			$52.18	$67.04	$81.90	
	8th Period			$54.30	$70.22	$86.14	
	9th Period			$56.43	$73.42	$90.40	
	10th Period			$58.55	$76.60	$94.64	
Terrazzo							
Terrazzo Finisher		BR1-TRF	10/17/2014	$43.97	$55.03	$66.08	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.							
	Apprentice Rates:						
	Level 1			$19.04	$25.12	$31.20	
	Level 2			$20.24	$26.92	$33.60	
	Level 3			$27.01	$33.96	$40.90	
	Level 4			$28.47	$36.14	$43.82	
	Level 5			$29.99	$37.84	$45.70	
	Level 6			$31.61	$39.86	$48.10	
	Level 7			$33.30	$41.59	$49.87	
	Level 8			$34.79	$43.48	$52.17	

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Terrazzo Worker	A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TRW	10/17/2014	$49.73	$63.67	$77.60	H H D H D D D D Y
	Apprentice Rates:						
	Level 1			$25.14	$32.65	$40.15	
	Level 2			$28.20	$36.49	$44.78	
	Level 3			$33.41	$41.97	$50.53	
	Level 4			$36.15	$45.66	$55.17	
	Level 5			$38.42	$48.17	$57.92	
	Level 6			$42.07	$53.56	$65.05	
	Level 7			$42.74	$54.38	$66.02	
	Level 8			$43.67	$55.78	$67.88	
Tile							
Tile Finisher	A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TF	10/17/2014	$43.50	$54.32	$65.14	H H D H D D D D Y
	Apprentice Rates:						
	Level 1			$19.04	$25.12	$31.20	
	Level 2			$20.24	$26.92	$33.60	
	Level 3			$27.01	$33.96	$40.90	
	Level 4			$28.47	$36.14	$43.82	
	Level 5			$29.99	$37.84	$45.70	
	Level 6			$31.61	$39.86	$48.10	
	Level 7			$33.30	$41.59	$49.87	
	Level 8			$34.79	$43.48	$52.17	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Tile Layer A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TL	10/17/2014	$49.68	$63.59	$77.50	H H D H D D D D Y
Apprentice Rates:						
Level 1			$25.14	$32.65	$40.15	
Level 2			$28.20	$36.49	$44.78	
Level 3			$33.41	$41.97	$50.53	
Level 4			$36.15	$45.66	$55.17	
Level 5			$38.42	$48.17	$57.92	
Level 6			$42.07	$53.56	$65.05	
Level 7			$42.74	$54.38	$66.02	
Level 8			$43.67	$55.78	$67.88	
Truck Driver						
on all trucks of 8 cubic yard capacity or less (except dump trucks of 8 cubic yard capacity or over, tandem axle trucks, transit mix and semis, euclid type equipment, double bottoms and low boys)	TM-RB1	8/8/2013	$41.92	$37.85		H H H H H H H H Y
of all trucks of 8 cubic yard capacity or over	TM-RB1A	8/8/2013	$41.30	$38.00		H H H H H H H H Y
on euclid type equipment *Make up day allowed*	TM-RB1B	8/8/2013	$41.45	$38.23		H H H H H H H H Y

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, Class I							
Construction Laborer		LAUC-Z1-1	9/5/2013	$37.72	$48.43	$59.14	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$32.94	$41.26	$49.58	
	1,001-2,000 work hours			$33.90	$42.70	$51.50	
	2,001-3,000 work hours			$34.85	$44.13	$53.40	
	3,001-4,000 work hours			$36.76	$46.99	$57.22	
Underground Laborer Open Cut, Class II							
Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.		LAUC-Z1-2	10/25/2013	$37.83	$48.60	$59.36	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.02	$41.38	$49.74	
	1,001-2,000 work hours			$33.98	$42.82	$51.66	
	2,001-3,000 work hours			$34.95	$44.27	$53.60	
	3,001-4,000 work hours			$36.87	$47.15	$57.44	
Underground Laborer Open Cut, Class III							
Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodder, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger man, and directional boring man.		LAUC-Z1-3	9/5/2013	$37.88	$48.67	$59.46	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.06	$41.44	$49.82	
	1,001-2,000 work hours			$34.02	$42.88	$51.74	
	2,001-3,000 work hours			$34.99	$44.33	$53.68	
	3,001-4,000 work hours			$36.92	$47.23	$57.54	

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, Class IV							
	Trench or excavating grade man.	LAUC-Z1-4	9/5/2013	$37.96	$48.79	$59.62	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.12	$41.53	$49.94	
	1,001-2,000 work hours			$34.09	$42.99	$51.88	
	2,001-3,000 work hours			$35.06	$44.44	$53.82	
	3,001-4,000 work hours			$36.99	$47.33	$57.68	
Underground Laborer Open Cut, Class V							
	Pipe Layer	LAUC-Z1-5	9/5/2013	$38.02	$48.88	$59.74	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.16	$41.59	$50.02	
	1,001-2,000 work hours			$34.14	$43.06	$51.98	
	2,001-3,000 work hours			$35.11	$44.51	$53.92	
	3,001-4,000 work hours			$37.05	$47.43	$57.80	
Underground Laborer Open Cut, Class VI							
	Grouting man, top man assistant, audio visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances.	LAUC-Z1-6	9/5/2013	$35.47	$45.06	$54.64	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$31.25	$38.73	$46.20	
	1,001-2,000 work hours			$32.10	$40.00	$47.90	
	2,001-3,000 work hours			$32.94	$41.26	$49.58	
	3,001-4,000 work hours			$34.63	$43.79	$52.96	

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, Class VII							
	Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes, flagstones etc.	LAUC-Z1-7	9/5/2013	$32.09	$39.99	$47.88	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$28.72	$34.93	$41.14	
	1,001-2,000 work hours			$29.39	$35.93	$42.48	
	2,001-3,000 work hours			$30.07	$36.95	$43.84	
	3,001-4,000 work hours			$31.42	$38.98	$46.54	

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Project Number: WSU Project 211-121168
County: Wayne

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Key Performance Indicator Tracking
Sworn Statement Requirements

The University tracks it's level of spend along a number of socio-economic categories. This includes it's spend with Diverse organizations, it's spend with Detroit based organizations, and it's spend with Michigan based organizations. To assist with this, The University has the following requirements for submission of your bid and for Pay Applications submitted by the successful contractor**.**

Submission of Bid

1. **Diverse or disadvantaged prime contractor:** Please specify in your bid whether ownership of your company is a certified diverse or disadvantaged business, according to the categories listed previously in section 00300. In accordance with guidelines from the MMSDC and GL-WBC, the University considers a business to be diverse when it is at least 51% owned, operated, and controlled by one or more members of a diverse classification. Section 00300 has a place for this information on page 00300-3.

2. **Detroit based and Michigan Based contractor:** It is presumed that the contractor is headquartered at the location we submit our Purchase Orders to, and that it should be the same address as listed in Section 00300 at the signature line. If a supplier is headquartered elsewhere, please make note of this information, so we do not inaccurately include or exclude spend.

Pay Applications and Sworn Statements

1. **Applicability:** The University requires Sworn Statements with Pay Applications for all construction projects that use
   - Subcontractors greater than $1,000.00
   - Significant suppliers (those with a purchase value of $1,000 or more).

2. **Sworn Statements:** The Supplier must submit applicable monthly sworn statements to the Project Manager and the Buyer of Record, in the format shown on page 2 of Section 00420. Sworn Statements are "always required" for this project, and are to be submitted to **Jason R. Davis,** the project manager, and to **Valerie Kreher**, **Senior Buyer**

3. **Inclusion**: Sworn Statements are to detail the inclusion of recognized diverse and disadvantaged groups in the following 2 categories; Subcontracts or Suppliers. The University recognizes the following groups as diverse or disadvantaged:

   - Minority Business Enterprises (MBE)
   - Women Business Enterprises (WBE)
   - Disabled Veteran Enterprises (DVBE)
   - Disabled Person Enterprises (DBE)
   - Veteran Owned Businesses (VBE)
   - Small Businesses per the US Small Business Administration (SBE)

4. A complete set of the University's Supplier Diversity Program, which includes complete definitions of each of the above, can be downloaded from our web site at **http://policies.wayne.edu/administrative/04-02-supplier-diversity.php**.

STATE OF MICHIGAN

Sworn Statement

COUNTY OF _____ } §

_____ , being duly sworn, deposes and says that (s)he makes the Sworn Statement on behalf of _____, who is the Contractor for an improvement to the following described real property situated in _____ County, Michigan, and described as follows:

That the following is a statement of each subcontractor and supplier and laborer, for which laborer the payment of wages or fringe benefits and withholdings is due but unpaid, with whom_____ has subcontracted for performance under the contract with the Owner or lessee thereof, and that the amounts due to the persons as of the date thereof are correctly and fully set forth opposite their names, as follows. (Subcontracts or suppliers of values of less than $1,000 are omitted.)

NO.	SUBCONTRACTOR (Name, Address, Telephone Number) SUPPLIER OR LABORER	S=Supplier C=Contractor	Type of Entity *see below	TYPE OF IMPROVEMENT FURNISHED	TOTAL CONTRACT PRICE	CONTRACT CHANGE +/-	ADJUSTED CONTRACT AMOUNT	AMOUNT PAID TO DATE	AMOUNT CURRENTLY OWING	BALANCE TO COMPLETE
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12	_____ _____									
				TO TALS						

* Type of Entity: MBE=Minority Business Enterprises; WBE=Women Business Enterprises; DVBE=Disabled Veteran Enterprises; DBE=Disabled Person Enterprises; VBE=Veteran Owned Businesses; SBE=Small Businesses per the US Small Business Administration

Please attach additional sheets if the number of items exceeds the page limit.

That _____ has not procured material from, or subcontracted with, any person other than those set forth above and owes no money for the improvement.

Deponent further says that _____ makes the foregoing statement as a representative of _____, for the purpose of representing to the owner or lessee of the above-described premises and his or her agents that the above-described property is free from claims of construction liens, or the possibility of construction liens, except as specifically set forth above and except for claims of construction liens by laborers which may be provided pursuant to section 109 of the construction lien act, Act No. 497 of the Public Acts of 1980, as amended, being section 570.1109 of the Michigan Compiled Laws.

_____
Deponent Signature

WARNING TO OWNER: AN OWNER OR LESSEE OF THE ABOVE-DESCRIBED PROPERTY MAY NOT RELY ON THIS SWORN STATEMENT TO AVOID THE CLAIM OF A SUBCONTRACTOR, SUPPLIER, OR LABORER WHO HAS PROVIDED A NOTICE OF FURNISHING OR A LABORER WHO MAY PROVIDE A NOTICE OF FURNISHING PURSUANT TO SECTION 109 OF THE CONSTRUCTION LIEN ACT TO THE DESIGNEE IS NOT NAMED OR HAS DIED.

ON RECEIPT OF THIS SWORN STATEMENT, THE OWNER OF LESSEE, OR THE OWNER'S OR LESSEE'S DESIGNEE, MUST GIVE NOTICE OF ITS RECEIPT, EITHER IN WRITING, BY TELEPHONE, OR PERSONALLY, TO EACH SUBCONTRACTOR, SUPPLIER AND LABORER WHO HAS PROVIDED A NOTICE OF FURNISHING UNDER SECTION 109 OR, IF A NOTICE OF FURNISHING IS EXCUSED UNDER SECTION 108 OR 108A, TO EACH SUBCONTRACTOR, SUPPLIER OR LABORER WHO HAS PROVIDED A NOTICE OF FURNISHING OR WHO IS NAMED IN THE SWORN STATEMENT MAKES A REQUEST, THE OWNER, LESSEE, OR DESIGNEE SHALL PROVIDE THE REQUESTER A COPY OF THE SWORN STATEMENT WITHIN 10 BUSINESS DAYS AFTER RECEIVING THE REQUEST.

WARNING TO DEPONENT: A PERSON, WHO WITH INTENT TO DEFRAUD, GIVES A FALSE STATEMENT IS SUBJECT TO CRIMINAL PENALTIES AS PROVIDED IN SECTION 110 OF THE CONSTRUCTION LIEN, ACT, ACT NO. 497 OF THE PUBLIC ACTS OF 1980, AS AMENDED, BEING SECTION 570.2220 IF THE MICHIGAN COMPILED LAWS.

(NOTARY STAMP BELOW)

Subscribed and sworn to before me this _____ day of _____

Notary Public _____

_____ County, Michigan - My commission expires: _____

Rev.4_06.05.15

WAYNE STATE UNIVERSITY
PAYMENT PACKAGE DOCUMENT REQUIREMENTS *(Revised 7-23-2015)*:

Review and comply with Section 410 of Bid Front End Documents.
Review and comply with Article 15 of the Supplemental General Conditions.

PAYMENT APPLICATION - AIA document G702 & G703 (or equivalent) –Checklist:

- Correct Project Name – Found on your contract.
- Correct Project Number – Found on your contract.
- Purchase Order Number – Required prior to beginning work.
- Correct Application Number.
- Correct Period Reporting Dates – Applications support docs must be sequential and within application range.
- Approved & Executed Change Orders Listed. (Cannot invoice for unapproved Change Orders)
- Schedule of Values percentages and amounts match the approved Pencil Copy Review – Signed by the Architect, Contractor, and University Project Manager.
- Correct Dates – Back dating not accepted.
- Signed and Notarized.

SWORN STATEMENT – Checklist:

- List all contractors, sub-contractors, suppliers… ≥ $1000.00
- A sworn statement is required from every Sub Contractor on the job with a material purchase or sub-contract of $1,000 or more. (All tiers.)
- Purchase Order Number
- Dates – Back dating not accepted.
- Signed and Notarized.

CERTIFIED PAYROLL - Dept. of Labor Form WH-347 – Checklist: (Union and Non-Union)

- For every contractor & sub-contractors work, for each week within the application reporting period.
- Correct Project Number
- List ALL workers on-site.
- Make sure their addresses are listed.
- Social Security Numbers MUST be blackened out or listed in XXX-XX-1234 format.
- Work classifications based on the job specific Prevailing Wage Schedule descriptions. If you require rates for additional classifications, contact the Michigan Department of Consumer & Industry Services. http://www.cis.state.mi.us/bwuc/bsr/wh/revised_rates/whc_tbl.htm
- For any workers paid at the Apprenticeship rates - proof of enrolled program and current completion required.
- Rate of Pay verified against the Prevailing Wage Schedule with an hourly cost breakdown of fringes paid.
- Authorized signatures on affidavit.
- Dates – must represent the weeks within the application period.

APPLICATION PACKAGE SUPPORTING DOCUMENTATION –

- Copies of ***Pay Stubs*** for each Certified Payroll period reported may be required– (Social Security Numbers MUST be blackened out or listed in XXX-XX-1234 format. Pay stubs need to reflect claimed participation of fringes like Medical, Dental, Retirement or 1099 classification.)

- ***Proof of Ownership*** for any 'Owner Operator' contractors not wishing to claim their time on prevailing wage. – (Must list their hours and dates worked on the WH-347 Form and enter EXEMPT on the income brackets.) The Owner must provide copies of "DBA" registration form confirming status as exempt from prevailing wage requirements.

- ***Proof of Stored Materials*** – Bill of Lading, Delivery Receipts, Pictures, Certificate of Insurance or endorsement pate specifically insuring stored material at location, and pictures with materials clearly separated and labeled for WSU. The University reserves the right to on site verification of stored materials.

- ***Partial Conditional Waivers*** – The contractor shall provide covering the entire amount of the application. For non-bonded projects all sub-contractors must provide for all applications which they have a draw.

- ***Partial Unconditional Waivers*** – Must release amount paid for work and be delivered starting with application #2 and in no case after payment application #3, through all sequential applications for contractors, sub-contractors, and suppliers listed on the Sworn Statements.

- ***Full Unconditional Waivers*** – Must be delivered with final payment application, releasing all contractors, sub-contractors, suppliers listed on the sworn statements and any legitimate notice of furnishings reconciled.

FINAL PAYMENT APPLICATION – Checklist:

- Clear and concise As-Built drawings.
- Operation and Maintenance Manuals
- Process and training directions (if applicable).
- Warranty of work in accordance with project documents.
- Submittals log and samples installed on the job.
- Certificate of Substantial Completion
- Full Unconditional Waiver
-

The Project Manager may provide additional requirements as may apply to individual jobs

Revised 7-23-2015

Contractor Performance Evaluation

In an effort to provide continuous process improvement regarding the construction of various university projects, Wayne State University is embarking upon a process of evaluating the contractor's overall performance following the completion of work. At the conclusion of the construction project a subjective evaluation of the Contractor's performance will be prepared by the Project Manager and the supervising Director of Construction. The evaluation instrument that will be used in this process is presented below:

Contractor Evaluation Sheet

Contractor Name : _____ Project Name: _____
Contractor's PM:_____ PM Name:_____
Superintendent:_____ Project Number:_____ PO#:_____
Designer:_____

EVALUATION SCORING: 1 = Unacceptable, 2 = Less than Satisfactory, 3 = Satisfactory or Neutral, 4 = Good, 5 = Excellent
Note: Comments are REQUIRED if any score is less than 3. Write comments on the back of the evaluation.

		Score					Weight	Total
Field Management								
1)	Work Planning / Schedule:	1	2	3	4	5	8	
2)	Compliance with Construction Documents:	1	2	3	4	5	8	
3)	Safety Plan & Compliance:	1	2	3	4	5	5	
4)	Compliance with WSU procedures:	1	2	3	4	5	7	
5)	Effectiveness of Project Supervision:	1	2	3	4	5	8	
6)	Project Cleanliness:	1	2	3	4	5	3	
7)	Punch List Performance:	1	2	3	4	5	5	
8)	Contractor Coordination with WSU Vendors:	1	2	3	4	5	3	
9)	Construction Quality:	1	2	3	4	5	8	
Administrative Management								
10)	Responsiveness:	1	2	3	4	5	4	
11)	Contractor communication:	1	2	3	4	5	4	
12)	Contractor Professionalism:	1	2	3	4	5	3	
13)	Subcontractor Professionalism:	1	2	3	4	5	3	
14)	Compliance with Contract Requirements:	1	2	3	4	5	3	
15)	Submittal\RFI Process:	1	2	3	4	5	4	
16)	Close-out - Accuracy of Documents	1	2	3	4	5	7	
Invoice and Change Management								
17)	Change Management	1	2	3	4	5	7	
18)	Applications for Payment	1	2	3	4	5	6	
19)	Timely payment of Subs/Suppliers:	1	2	3	4	5	4	
							Total 100	**Total**
20)	Level of Self-Performance:	Low		Med		High		
21)	Would you work with this Contractor again?			Yes		No		
22)	Would you work with this team again?			Yes		No		
One year follow up								
23)	Warranty Support:	1	2	3	4	5		

Evaluator

Signature_____ Date:_____
Title:
Name:
Please Print

We are providing the evaluation instrument at this time to allow the bidder's to review and understand the criterion that the University's project management team will use to evaluate the successful bidder's performance at the conclusion of the project. It is the intent of the university to utilize the results of this evaluation to determine if it will continue to conduct business with the Contractor in future bidding opportunities.

The scoring range is between 100 to 500 points, with 100 being low and 500 being high. Each question has an associated 'weight' factor, and the higher the weight; the greater the importance of satisfactory performance on the final score. At the conclusion of the project, and after the Project Manager and the supervising Director has prepared their independent evaluation, the University's project representative will meet with the Contractor to review the results. Acceptable contractor performance is essential to avoid having the University decline future work with the Contractor. An appeals process is available for Contractor disagreement with evaluation scores.

Contractors engaged in work are encouraged to maintain an open and regular dialog with the Design and Construction Department over the course of the construction project to ensure that the final evaluation is an accurate representation of the Contractor's performance.

WAYNE STATE UNIVERSITY

AGREEMENT BETWEEN THE UNIVERSITY AND CONTRACTOR FOR CONSTRUCTION SERVICES

Executed as of the _____ day of _____, 2015 by and between:

The Board of Governors, Wayne State University
Detroit, Michigan 48202
(The University)

and

CONTRACTOR'S_NAME
CONTRACTOR'S_ADDRESS

regarding

PROJECT_NAME
PROJECT_LOCATION
CONTRACT_NUMBER

In consideration of the mutual covenants and conditions contained herein, the Parties agree as follows:

Article 1 - Scope of Work

1.1 This Agreement provides for"(Enter a one or two-sentence description of the project)" . The documents listed in Article 4 fully define the scope of work.

1.2 The Contractor shall furnish all the labor, materials, equipment, services, and supervision to perform all the work shown on the drawings and specifications listed in Article 18, including any addenda issued during the bid phase, and approved change orders issued during the construction phase.

1.3 The Contractor shall notify the University in writing within five (5) calendar days when the Contractor discovers any condition that will affect the contract amount or the completion date.

Article 2 - Time of Completion

2.1 The work to be performed under this Agreement shall commence upon the Contractor's receipt of a fully-executed Agreement, and substantial completion shall be achieved by Month_Day_Year .

Article 3 - The Contract Sum

3.1 The University shall pay the Contractor a "lump sum/not-to-exceed (pick one)" amount of $$$$$$$ ("Amount in words 00" /100 dollars) for the performance of all work associated with the Contractor's Base Bid "and Alternates (List)" .

3.2 The University may, at its sole discretion, during the life of the contract, award the following alternates at the amounts indicated: "(If section 3.2 is not used, delete all text and enter_Deleted"

Description	Amount
Alternate □	
Alternate □	
Alternate □	

3.3 In the event additional work becomes necessary, the following unit prices will apply:
"(If section 3.3 is not used, delete all text and enter_Deleted"

Work Item	Unit Price
1.	
2.	
3.	

Article 4 - The Contract Documents

4.1 The Contract Documents shall consist of this Agreement, the drawings and specifications as listed in Article 18, the General Conditions of the Contract for Construction as defined by AIA Document A201 1970 Edition, except as otherwise provided herein, and Wayne State University's Supplementary General Conditions 1997 Edition.

4.2 For any inconsistencies found among or between these Contract Documents, the language

contained in this Agreement shall prevail over all other documents and the Supplementary General Conditions shall prevail over the General Conditions. In the event of a conflict between the Drawings and Specifications, the requirement for the higher quantity and/or higher quality shall prevail.

Article 5 – Examination of Premises

5.1 The Contractor acknowledges that the University provided the opportunity for a thorough examination of the project site and its surroundings and that the Contractor knows of no conditions preventing accomplishment of the full scope of work within the time and for the amount specified in this Agreement.

5.2 The University will deny all claims for additional time and/or cost for conditions that could have been reasonably discovered during such an examination.

Article 6 - The Architect/Engineer

6.1 The Architect/Engineer for this project is:
"(List the Architect and Engineer separately if appropriate)"

Architect's/Engineer's_Firm_Name
Street_Number_and_Street_Name
Suite_or_PO_Box
City,_State,_Zip
Phone_No._/FAX_No.

6.2 The University will appoint a Project Manager who will be the University's point of contact for all matters of contract administration including, but not limited to, interpretation of documents, defining the scope of work, approving work schedules, and approving contract payments.

Article 7 - Additional Work

7.1 The University reserves the right to let other Agreements in connection with this work. The Contractor will afford other Contractors or the University's own workforce reasonable opportunity for the delivery and storage of their material and for the performance of their work and shall properly connect and coordinate its work with theirs.

7.2 If any part of the Contractor's work depends for proper execution or results upon the work of another Contractor or the University's own workforce, the Contractor shall inspect and promptly report to the University's Project Manager any defects in such work that render it unsuitable for such proper execution and results. The Contractor's failure to so inspect and report shall constitute an acceptance of the work of others as fit and proper for reception of the Contractor's work and as a waiver of any claim or defense against the University or other contractor which relies in whole or in part upon the contention that such work was unsuitable for proper execution and resolution.

Article 8 – Dispute Resolution

8.1 Jurisdiction over all claims, disputes, and other matters in question arising out of or relating to this contract or the breach thereof, shall rest in the Court of Claims of the State of Michigan. No provision of this agreement may be construed as Wayne State University's consent to submit any claim, dispute or other matter in question for dispute resolution pursuant to any arbitration or

mediation process, whether or not provisions for dispute resolution are included in a document which has been incorporated by reference into this agreement. Specifically, all references to Arbitration contained in the General Conditions are superceded by this Article.

8.2 In any claim or dispute by the Contractor against the University, which cannot be resolved by negotiation, the Contractor shall submit the dispute in writing for an administrative decision by the University's Vice President for Finance and Administration, within 30 days of the end of negotiations. Any decision of the Vice President shall be made within 45 days of receipt from the Contractor and is final unless it is challenged by the Contractor by filing a lawsuit in the Court of Claims of the State of Michigan within one year of the issuance of the decision. The Contractor agrees that appeal to the Vice President is a condition precedent to filing suit in the Michigan Court of Claims.

8.3 For purposes of this section, the "end of negotiations" shall be deemed to have occurred when:

8.3.1 Either party informs the other that pursuant to this section, negotiations are at an impasse; or

8.3.2 The Contractor submits the dispute in writing to the Vice President.

8.4 Unless otherwise agreed by the University in writing, and notwithstanding any other rights or obligations of either of the parties under any Contract Documents or Agreement, the Contractor shall continue with the performance of its services and duties during the pendency of any negotiations or proceedings to resolve any claim or dispute, and the University shall continue to make payments in accordance with the Contract Documents; however, the University shall not be required or obligated to make payments on or against any such claims or disputes during the pendency of any proceeding to resolve such claims or disputes.

Article 9 - Termination for Convenience

9.1 Upon thirty days written notice to the Contractor, the University may, without cause and without prejudice to any other right or remedy of the University, elect to terminate the contract. In such case, the Contractor shall only be paid (without duplication of any items), using a Close out Change Order, for the following:

9.1.1 For completed and acceptable work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

9.1.2 For expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted work, including fair and reasonable sums for overhead and profit on such expenses.

9.2 The Contractor shall not be paid on account of loss of anticipated profits or revenue, delay or disruption, or other economic loss arising out of or resulting from such termination. For purposes of this section, "fair and reasonable sums for overhead and profit" shall be determined by reference to Michigan law, without reference to principles used for such determinations in arbitration.

Article 10 - Progress Payments

10.1 On or before the 20th day of each month, the Contractor shall submit a written application for payment, using form AIA G702, to the Architect/Engineer and the University's Project Manager for review. The Architect/Engineer shall have ten (10) calendar days to accept or reject the Contractor's application for payment. Acceptable applications for payment shall then be submitted to the University for Payment of authorized amount(s) within thirty (30) calendar days of receipt by the University's Project Manager.

10.2 The application for payment shall contain a full schedule of values organized and sorted by subcontractor, by Construction Specifications Institute standard work categories, or in another format acceptable to the University.

10.3 Monthly progress payments shall show the percentage of work installed as of the date of the application, less amount previously installed and the amount due for the application period. The Contractor shall deduct a 10% retainage from the balance due for each progress payment and indicate the net amount due on each application.

10.4 When 50% of the work associated with this Agreement is installed, the Contractor shall not deduct additional retainage from the balance due from the University. When substantial completion is achieved and acknowledged by the Architect/Engineer, the Contractor and the University in writing, the University shall remit to the Contractor all but 2% of the retainage. The remaining 2% shall be retained by the University until the final payment is authorized and remitted to the Contractor.

Article 11 - Acceptance and Final Payments

11.1 Final payment shall be due thirty (30) days after the completion of the work, including all punch list items, provided the work is fully completed and the Agreement fully performed.

11.2 Upon receipt of written notice that the work is ready for final inspection and acceptance, the Architect/Engineer shall promptly inspect the work. When the Architect/Engineer concludes that the work is acceptable and the Agreement to be fully performed, the Architect/Engineer shall promptly issue a final certificate with an original signature, stating that the work provided is complete and acceptable and that the entire remaining balance found to be due the Contractor shall be remitted by the University once the final application for payment is received.

11.3 If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Architect/Engineer so certifies, the University shall, upon certificate of the Architect/Engineer, and without terminating the Contract, make payments of the balance due for that portion of the work fully completed and accepted. Such payments shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Article 12 - Non-Discrimination

12.1 The Contractor agrees that it will not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of race, color, religion, sex, age, national origin, or ancestry. Breach of this covenant may be regarded as material breach of this Agreement.

12.2 The Contractor further agrees that it will, in all subcontracts relating to the performance of the work under this Agreement, provide in its subcontracts that the subcontractor will not discriminate against any employee or applicant for employment, to be employed in the performance of such contract, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment because of race, sex, age, color, religion, national origin or ancestry. Breach of this covenant may also be regarded as a material breach of this Agreement.

Article 13 – Laborers and Mechanics

13.1 All laborers and mechanics must be covered by Worker's Compensation and Employer's Liability Insurance as required by Federal and Michigan law. The Contractor shall also require all of its Subcontractors to maintain this insurance coverage.

13.2 The Contractor acknowledges and shall abide by the University's prohibition on use of 1099 independent contractors and owner / operator business entities. The Contractor shall ensure that all classifications of laborers and construction mechanics performing Work on the Project job site are employees of the Contractor or any Trade Contractor for any tier thereof, and that each worker is covered by workers compensation insurance

Article 14 - Prevailing Wages

14.1 The Contractor and each subcontractor shall pay to each class of mechanics and laborers not less than the wage and fringe benefit rates prevailing in the Detroit Metropolitan Area, as determined by the Michigan Department of Licensing and Regulatory Affairs, Department of Wage and Hour.. The Contractor shall post on site, in a conspicuous place, a copy of all applicable wage and benefit rates, and shall provide the University with a copy of the applicable wage and benefit rates.

14.2 The Contractor and each subcontractor shall keep an accurate record showing the name and occupation of and the actual benefits and wages paid to each laborer and mechanic employed in connection with this contract. The Contractor and each subcontractor shall make certified payroll records available to the University's representatives upon request.

14.3 If a Contractor or subcontractor fails to pay the prevailing rates of wages and fringe benefits and does not cure such failure within ten (10) days after notice to do so by the University, the University shall have the right, at its option, to do any or all of the following:

14.3.1 Withhold all or any portion of payments due the Contractor as may be considered necessary by the University to pay laborers and mechanics the difference between the rates of wages and fringe benefits required by this Agreement and the actual wage and fringe benefits paid.

14.3.2 Terminate part or all of this Agreement or any subagreement and proceed to complete the Agreement or subagreement by separate agreement with another Contractor or otherwise, in which case the Contractor and its sureties shall be liable to the University for any excess costs incurred by the University.

14.4 The Contractor shall include terms identical or substantially similar to this section in any Agreement or subagreement pertaining to the project.

Article 15 - Save Harmless

15.1 The Contractor shall indemnify, defend and hold harmless the University, its agents and employees from any and all loss, damage, claims, and causes of action whatsoever, including all costs, expenses and attorneys' fees arising out of Contractor's performance of obligations under the terms and conditions of this agreement. Such responsibility shall not be construed as liability for damage caused by or resulting from the negligence of the University, its agents other than the Contractor, or its employees.

Article 16 - Liquidated Damages

16.1 It is understood and agreed that, if the project is not completed within the time specified in the Agreement plus any extension of time allowed pursuant thereto, the actual damages sustained by the University because of any such delay will be uncertain and difficult to ascertain, and it is agreed that the reasonable foreseeable value of the use of said project by the University would be the sum of $$$$$$ ("Amount in words 00" /100 dollars) per day. Therefore, the Contractor shall pay as liquidated damages to the University the sum of $$$$$$ ("Amount in words 00" /100 dollars) per day for each day's delay in substantially completing said project beyond the time specified in this Agreement and any extensions of time allowed thereunder.

"ENTER N/A FOR ABOVE AMOUNT IF NO LIQUIDATED DAMAGES"

Article 17 - Interpretation

17.1 This Agreement shall be interpreted and construed according to the laws of the State of Michigan.

17.2 If one part of this Agreement is found to be void by legal or legislative action, the remainder of the contract remains in full effect.

Article 18 - Drawings and Specifications

18.1 The Technical Specifications and the Project Manual dated SPECIFY_DATES , and the following List of Drawings represents the scope of work as defined in the Contract Documents from Article 4.

Drawing No.	Description	Dated

IN WITNESS WHEREOF the parties to these presents have hereunto set their hands as of the day and year first written above.

Signed, sealed and delivered
In the presence of:

CONTRACTOR'S_NAME_GOES_HERE

By_____
Signature

_____
Please print name here

_____
Date signed

_____
Title

_____
Witness

THE BOARD OF GOVERNORS of
WAYNE STATE UNIVERSITY

By_____
William R. Decatur, Vice President for
Finance and Business Operations

_____
Date signed

Form Contract Approved by OGC 06/13 - LG
Rev. 5-6.30.2014 formatting only RGP
Rev.6-1-15-2015 date changes only SS
Rev.7-7-1-2015 formatting, signatory only RGP

FORM OF GUARANTEE

PROJECT: Integrative Biosciences Center Roof Steel

OWNER: BOARD OF GOVERNORS, WAYNE STATE UNIVERSITY

CONTRACTOR: _____

DATE: _____

Know all men by these presents that, in consideration of my (our) having been awarded the Contract or Subcontract for complete furnishing and installation of:

Integrative Biosciences Center Roof Steel (**211-121168**)

For: **Board of Governors, Wayne State University**

In conformity with drawings and specifications prepared by Architect or Engineer, **Harley Ellis Devereaux**, and known as the buildings indicated above, I (we) do hereby agree that, should I (we) be notified that the said work has proved faulty, etc., that I (we) will return to the buildings within three (3) working days of the receipt of such notice, and will furnish the necessary labor and material to repair such work to the satisfaction of the Owner and without cost to the Owner.

The Agreement shall remain in full force and effect **for a one year period (DATE TBD)**

WITNESS:

signed:_____
Subcontractor

by:_____

address:_____

city/state/zip:_____

signed:_____
General Contractor

by:_____

(THIS FORM TO BE FILED IN DUPLICATE.)

GENERAL CONDITIONS (Revised 10-2009)

A. Although AIA Document A201 - Twelfth Edition (April 1970) - "General Conditions of the Contract for Construction" is not bound herein, it forms a part of these construction documents.

B. A reference copy of AIA Document A201 - Twelfth Edition (April 1970) - "General Conditions of the Contract for Construction" is on file at the following location:

Wayne State University
Finance & Facilities Management
Procurement & Strategic Sourcing
Academic / Administrative Services Building
5700 Cass Avenue
Detroit Michigan 48202

SUPPLEMENTARY GENERAL CONDITIONS

OF

THE CONTRACT FOR CONSTRUCTION

Facilities Planning & Management - Design & Construction Services

Wayne State University

WSU SUPPLEMENTARY GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

NOTE: The following items related to A.I.A. General Conditions, A.I.A. Document A-201 - Twelfth Edition (April 1970), by specific number being amended to. These items, as amendments, shall have precedence over the article being amended.

ARTICLE 1 - CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.5 The Agreement

The Agreement executed by the Contractor and the Owner.

1.2 EXECUTION, CORRELATION, INTENT, AND INTERPRETATIONS

1.2.6 "General Conditions and "Supplementary General Conditions" apply with equal force to all Contractors, Subcontractors work, and extra work required under this Contract.

1.2.7 Precedence of Drawings and Specifications.
The Agreement has precedence over WSU Supplementary General Conditions.

WSU Supplementary General Conditions have precedence over A.I.A. A-201 General Conditions of the Contract.

Specifications have precedence over drawings. Full-size drawings have precedence over scale drawings. Large-scale plans and details have precedence over small-scale plans and details. Figured dimensions have precedence over plans and elevations.

ARTICLE 2 - ARCHITECT

2.1 DEFINITION

2.1.1.1 The term Architect or Architect/Engineer as used in these specifications refers to Facilities Planning and Management - Design Services, and/or Consulting Architect/Engineer.

2.2 ADMINISTRATION OF THE CONTRACT

2.2.16 The Architect will assign Field Representatives to make periodic visits to the project for the purpose of assisting the Architect in carrying out his field responsibilities at the site. The duties, responsibilities and limitations of authority of any such Field Representative shall be as follows:

a. Explain Contract Documents: Assist the Contractor via the Contractor's Superintendent to understand the intent of the Contract Documents.

b. Observations: Conduct on-site observations and spot checks of the work in progress as a basis for determining conformance of the work, material, and equipment with the Contract Documents.

c. Additional Information: Obtain from the Architect, additional details or information, if and when required, at the job site for proper execution of the work.

d. Modifications: Consider and evaluate suggestions or modifications that may be submitted by the Contractor and report them with recommendations to the Architect for final decision.

e. Construction Schedule and Completion: Be alert to the completion, and report same to the Architect.

When the construction work has been completed in accordance with the Contract Documents, advise the Architect that the work is ready for general inspection and acceptance.

f. Job Conferences: Attend and report to the Architect on all required conferences held at the job site.

g. Observe Tests: See that tests which are required by the Contract Documents are actually conducted; observe, record and report to the Architect all details relative to the test procedures; and advise the architect's office in advance of the schedules of tests.

h. Inspection by Others: If inspectors, representing local, state or federal agencies having jurisdiction over the project, visit the job site, accompany such inspectors during their trips through the project, record the outcome of these inspections, and report same to the Architect's office.

i. Shop Drawings: Do not permit the installation of any materials and equipment for which shop drawings are required unless such drawings have been duly approved and issued by the Architect.

j. Contractor's Requisitions for Payment: Review and make recommendations to the Architect for disposition.

k. List of Items for Correction: After substantial completion, make a list of items for correction before final inspection and check each item as it is corrected.

l. Owner's Occupancy of the Building: If the Owner occupies (to any degree) the building prior to actual completion of the work by the Contractor, be especially alert to possibilities of claims for damage to completed work prior to the acceptance of the building.

m. Owner Existing Operation: In the case of additions to or Demolitions of an existing facility, which must be maintained as an operational unit, be alert to conditions on the job site which may have an effect on the Owner's existing operation.

n. Limitations of Authority: Do not become involved in any of the following areas of responsibility unless specific exceptions are established by written instructions issued by the Architect.

aa. Do not authorize deviations from the Contract Documents.

bb. Avoid conducting any test personally.

cc. Do not enter into the area of responsibility of the Contractor's field superintendent.

dd. Do not expedite job for Contractor unless so instructed by the Architect.

ee. Do not advise on or issue directions relative to any aspect of the building technique or sequence unless a specific technique or sequence is called for in the Specifications or by written instructions from the Architect.

ff. Do not approve shop drawings or samples.

gg. Do not authorize or advise the Owner to occupy the Project, in whole or in part, prior to the final acceptance of the building.

hh. Do not issue a Certificate for Payment.

ARTICLE 3 - OWNER

3.5 OWNER'S RIGHT TO DO WORK

3.5.1 The Owner may exercise his right, which is hereby acknowledged by the Contractor, to let independent of the Contract for the work herein specified, any other work on the premises even if of like character and trades, and the Owner shall not be liable for any damage, loss or expense incurred by the Contractor through the fault

of any other Contractor so employed by the Owner. The Contractor acknowledges the necessity of work by others, to be performed at approximately the same time as the work hereunder, and agrees to perform his work in full cooperation with the work of such other trades and/or Contractors, partially or entirely completed, by such other trades and/or Contractors, or by the Owner, when, in the opinion of the Architect, such access or use is necessary for the performance and completion of any portion or all of the work of others or of any work on the site.

3.6 OWNER'S ACCESS AND PARTIAL OCCUPANCY

3.6.1 The Owner shall have access to the work at all times, and at his election, may from time to time (prior to the stipulated contract completion date) occupy any of the units or parts of the project as the work in connection therewith is complete to such a degree as will, in the opinion of the Owner, permit their temporary or permanent use. The Owner will, prior to any such partial occupancy, give notice to the Contractor thereof and such occupancy shall be upon the following terms:

a. Such occupancy shall not constitute an acceptance of work not performed in accordance with the Contract nor shall such occupancy relieve the Contractor of liability to perform any work by the Contract by not complete at the time of occupancy.

b. Except as otherwise provided by an agreement at the time of such partial occupancy, the Contractor shall be relieved of all maintenance costs on units or parts so occupied.

c. The Contractor shall not be responsible for wear and tear or damage resulting from partial occupancy.

d. The Owner shall assume risk of loss with respect to any unit or part so occupied.

e. The Contractor shall, if required by the Owner, furnish heat, light, water, or other such services to the units or parts occupied and the Owner shall make proper remuneration therefore to the Contractor.

3.6.2 The Contractor agrees that the Owner shall have the right, after seven (7) days' written notice to the Contractor, to place and install as much equipment and machinery during the progress of the work as is possible before the completion of the various parts of the work; and further agrees that such placing and installation of equipment shall not in any way evidence the completion of the work or any portion thereof, nor signify the Owner's acceptance of the work or any portion thereof. Should the Owner place or install such equipment and machinery with his own forces he shall be responsible for any damage to work of the Contractor caused by the Owner's work or workmen. Should the Owner have such placement or installation performed by another Contractor, then the Owner shall require said Contractor to be responsible for all such damage caused by his work, his workers, or his subcontractors.

ARTICLE 4 - CONTRACTOR

4.4 LABOR AND MATERIALS

4.4.3 All materials shall be so delivered, stored and handled to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Packaged materials shall be delivered and stored in original packages until ready for use. Packages or materials showing evidence of water or other damage shall be rejected. All materials shall be of the respective qualities specified herein.

4.4.4 The Contractor shall be responsible for the proper care and protection of all his materials, equipment, etc., delivered at the site. Building materials, equipment, etc., may be stored on the premises subject to the approval of the Architect.

4.4.5 To insure timely availability of critical materials in case of national emergency, the Contractor may order his subcontractors to proceed with fabrication of the same earlier than required by normal sequence of construction. In the event storage facilities are not available on the site or at the source of fabrication, the Owner will endeavor to provide such storage space as may be available to care for same. Where this is necessary, the Contractor shall be paid for all stored material on the Owner's property or on the properties approved by the Owner upon approval of certified invoices. It shall be the Contractor's obligation to pay for all handling costs and damage to this material. The Contractor shall protect this property against damage.

4.6 TAXES

4.6.1 The Bidder shall include in his proposal and make payment of all Federal, State, County and Municipal taxes including Michigan State Sales and Use Taxes, now in force or which may be enacted during the progress and completion of the work covered.

4.7 PERMITS, FEES AND NOTICES

4.7.3 The Contractor shall pay highway or DPW fees for damages to sidewalks, streets, or other public property or to any public utilities.

4.7.4 Permits and licenses of a temporary nature necessary for the execution of the work shall be secured and paid for by the Contractor.

4.7.5 **Except for the General Building Permit (which is not required), the Contractor shall secure and pay for all other required permits, including the following:**

Electrical	**-**	**State of Michigan**
Plumbing	**-**	**State of Michigan**
Mechanical	**-**	**State of Michigan**
Elevator-		**City of Detroit**

4.7.6 The Contractor shall secure certificates of inspection and of occupancy that may be required by authorities having jurisdiction over the work. These certificates shall be delivered to the Architect upon completion of the work.

4.9 SUPERINTENDENT

4.9.2 The Contractor shall give sufficient supervision to the work, using his best skill and attention. He shall carefully study and compare all drawings, specifications, and other instructions, and shall at once report to the Architect any error, inconsistency, or omission which he may discover, but he shall not be held responsible for their existence or discovery.

4.9.3 The Contractor's superintendent shall periodically inspect the entire project to make certain that all of the stipulations of all of the articles of the General Conditions are being observed.

4.12 DRAWINGS AND SPECIFICATIONS AT THE SITE

4.12.1.1 Refer to Paragraph 4.12.1, of A.I.A. General Conditions of the Contract for Construction. Modify the last sentence of this paragraph to read:

"The Drawings, marked to record all changes made during construction, shall be incorporated in the Contractor's 'Informational Package'."

4.12.2 As a basic and interim step for the fulfillment of the "Informational Package", accurate records of all non-structural underground and concealed work shall be kept, including, but not limited to, all piping, conduit, equipment, and drainage and tunnel work. In addition, such records shall be available for review during various steps of the project.

4.13 SHOP DRAWINGS AND SAMPLES

4.13.9 Immediately before and as a condition of substantial completion, the Contractor shall provide the Owner an

"Informational Package" and instructional sessions on the operation, maintenance, and service of the facility. The "Informational Package" shall include:

1. One (1) set of transparency (sepia) of the approved shop drawings and descriptive material submitted during construction. Any shop documents unobtainable in sepia shall be supplied in three (3) sets.

2. One (1) set of transparency (sepia) of constructional shop drawings with all installation revisions incorporated to reflect the as-built condition. Examples of constructional shop drawings are dimensioned conduit, piping and ductwork layout drawings.

3. Three (3) sets of instructional manuals on the installation, operation, maintenance and service of equipment and systems, including parts lists.

Examples of Specific Information Required:

1. Electrical

   a. Conduit layout of light, power, and special systems, indicating dimensionally the locations and size of runs; circuit grouping and conductor size and number in conduit runs.
   b. System description and elementary diagrams, connection and interconnection diagrams, and device internal diagrams.

2. Mechanical

   a. Piping and ductwork layout indicating dimensionally the location and size of the runs.

   b. Description and diagrams of control systems.

Following the submittal of the "Informational Package", the Contractor shall schedule and provide, at the Owner's convenience, instructional sessions for Owner's personnel to acquaint them with the operation, maintenance, and service of the system.

3. Elevators

   a. Elementary diagrams and description of sequence of operation of the system control components, connection and interconnection diagrams, and device internal diagrams.

ARTICLE 5 - SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.3 Delete Article 5.2.3 in its entirety.

5.2.4 Delete Article 5.2.4 in its entirety.

ARTICLE 7 - MISCELLANEOUS PROVISIONS *(Revised 6-13-2011)*

7.5 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.5.1 The successful Bidder will be required to furnish a Performance Bond and Labor and Material Payment bond in an amount equal to 100% of the contract award amount, and include such cost in the Proposal, complying with the laws of the State of Michigan. The graduated formula no longer applies.

A. Performance Bond and Labor and Material Payment Bond shall be from a surety company acceptable to the Owner and made payable as follows:

(1) A Labor and Material Payment bond for 100% of the contract award amount to the Board of Governors of Wayne State University, and guaranteeing the payment of all subcontractors and all indebtedness incurred for labor, materials, or any cause whatsoever on account of the Contractor in accordance with the laws of the State of Michigan relating to such bonds.

(2) A Performance bond for 100% of the contract award amount to the Board of Governors of Wayne State University to guarantee and insure the completion of work according to the Contract.

B. The only acceptable Performance Bond shall be the AIA A312 – 2010.

C. The Contractor shall include with his bid evidence of his ability to obtain a Performance Bond in the amount of 100% of the bid amount, and in accordance with the terms and conditions outlined in this section, Such evidence shall be project specific and shall be submitted on a form provided by the Surety or Agent thereof.

7.7 ROYALTIES AND PATENTS

7.7.1 Indemnification and Hold Harmless (***Revised 2-2015***).
To the fullest extent permitted by law, the Contractor shall hold harmless, defend, and indemnify the Board of Governors of Wayne State University, the University, the Architect and Architect's Consultants, and officers, employees, representatives and agents of each of them, from and against any and all claims or losses arising out of or alleged to be resulting from, or relating to (1) the failure of the Contractor to perform its obligations under the Contract or the performance of its obligation in a willful or negligent manner; (2) the inaccuracy of any representation or warranty by the Contractor given in accordance with or contained in the Contract Documents; and (3) any claim of damage or loss by any subcontractor, or supplier, or laborer against the University , the Architect or the Architect's consultants arising out of any alleged act or omission of the Contractor or any other subcontractor, or anyone directly or indirectly employed by the Contractor or any subcontractor.

The Contractor shall also be liable for and hereby agrees to pay, reimburse, fully indemnify and hold the University, the Architect and Architect's Consultants, harmless from and against all costs and expenses of every nature (including attorney fees and expenses incident thereto) incurred by the University in collecting the amounts due from the Contractor, or otherwise enforcing its rights, under the indemnification described in this Article.

7.9 INTEREST

7.9.1 Delete Article 7.9 in its entirety.

ARTICLE 8 - TIME

8.1 DEFINITIONS

8.1.3 The Date of Substantial Completion of the Work is the Date certified by the Architect when construction of the entire work is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the Work for the use for which it is intended. It is the beginning date for the guarantees on all the Project Work.

8.3.5 LIQUIDATED DAMAGES

It is understood that if said Contract is not completed within the time specified in the Contract plus any extension of time thereto, the Contractor shall pay Liquidated Damages to the Owner as set forth in Article 11 of the Agreement between Contractor and Owner for Construction.

ARTICLE 9 - PAYMENT AND COMPLETION

9.3 PROGRESS PAYMENTS

9.3.1 On or before the 20th day of each month, the Contractor shall submit to the Architect on the Owner's Standard

Form, a written application for payment showing the proportionate value of the work installed to date from which shall be deducted, a reserve of 10% and all previous payments, and the balance of the amount as approved by the Architect shall be due and payable to the Contractor on or about the 15th day of the succeeding month.

9.3.2.2 No payments will be made because of materials or equipment stored off the site, except as provided for in Subparagraph 4.4.5 of the Supplementary General Conditions or other special cases the Owner may approve.

9.6 FAILURE OF PAYMENT

9.6.1 Delete Article 9.6 in its entirety.

ARTICLE 11 - INSURANCE *(Revised 2-06-2015)*

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than any limits of liability specified herein, or required by law, whichever is greater, and shall include contractual liability insurance as applicable to the Contractor's obligations under Paragraph 4.18.

During the life of the Contract, the Contractor shall maintain the following types of insurance:

A. General Requirements

Type of Insurance	**Minimum Requirement**
Commercial General Liability (CGL) Contractor shall maintain commercial general liability (CGL) CGL insurance shall be written on Insurance Services form CG 00 01 (or substitute form providing equivalent coverage) and shall cover liability arising from premises, operation, independent contractors, products-completed operation, and personal injury, contractual liability broad form property damage liability, products and completed operations coverage and X,C,U (explosion, collapse, underground) hazards.	$1,000,000 combined single limit per occurrence $2,000,000 aggregate Umbrella Liability per occurrence and in the annual aggregate of $5,000,000.
Commercial Automobile Liability (CSL) (including hired and non-owned vehicles)	$1,000,000 combined single limit
Workers' Compensation (Employers' Liability)	Statutory-Michigan $500,000
Professional Liability insurance This limit shall be dedicated to the risks of Professional Liability and it shall not be combined with limits of any other coverages such as Environmental/Pollution General Liability, or Umbrella Liability unless otherwise approved by the Owner. Coverage shall be for the benefit of the Contracting or Design- Build entity, its principles, Employees, affiliates, agents, and partners-whether joint or several. It is presumed that this insurance will be Claims Made, and therefore must have a Retro-active date prior to the performance of any work for the Owner, whether or not such work is under contract or purchase order. This insurance will be placed with an insurer licensed to do business in the State of Michigan and rated no less that A X; by AM Best	**$500,000** Per Occurrence and in the Aggregate annually.

B. Maximum Acceptable Deductibles

Type of Insurance	Maximum Deductible
Comprehensive General Liability	$5,000
Fire Legal Liability	$5,000
Comprehensive Automobile Liability	-0-
Workers' Compensation	-0-
Property - All Risk	$ 500

11.1.3 The Board of Governors, Wayne State University, shall be named as an additional insured but only with respect to accidents arising out of the performance of said contract. The contractor shall prepare a certificate of insurance which shall name the "Office of Risk Management; 5700 Cass Avenue" as the Wayne State University certificate holder.

11.1.3.1 The Contractor shall either 1) require each of his Subcontractors to procure and to maintain during the life of his subcontract, Subcontractors' Comprehensive General Liability, Automobile Liability and Property Damage Liability Insurance of the type and in the same amounts as specified in the Subparagraph, or 2) insure the activity of his subcontractors in his own policy.

11.2 OWNER'S LIABILITY INSURANCE

Delete Article 11.2 in its entirety.

11.3 PROPERTY INSURANCE

Delete Article 11.3 in its entirety and replace with the following:

11.3.1 The Contractor shall purchase and maintain property insurance upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Contractor, Subcontractors, and sub-subcontractors in the work and shall insure against the perils of Fire, Extended Coverage, Vandalism, and Malicious Mischief.

11.3.2 The Owner and Contractor waive all rights against each other for damages caused by fires or other perils to the extent covered by insurance provided under Subparagraph 11.3.1. The Contractor shall require similar waivers by Subcontractors and sub-subcontractors in accordance with Clause 5.3.1.5.

11.3.3 Insurance must be issued by an insurance company with an "A rating as denoted in the AM Best Key Rating Guide".

ARTICLE 12 - CHANGES IN THE WORK

12.1 CHANGE ORDERS

12.1.8 Percentage markups in pricing under Subparagraphs 12.1.3.1, 12.1.3.3, and 1.2.4 shall be as limited in the Contract Documents. Unit price of Subparagraph 12.1.3.2 shall represent total unit cost to the Owner and shall include the Contractor's markup for overhead and profit.

ARTICLE 14 - TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 If the work is stopped for a period of thirty days under any order of any court or other public authority having jurisdiction, or as a result of any act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the contract or a subcontractor or their agents or employees or other persons performing any of the Work under a contract with the contractor, then the contractor may,

upon seven days' written notice to the Owner and the Architect, terminate the contract and recover from the Owner payment for all Work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment, and machinery, including reasonable profit and damages.

ARTICLE 15 - ADDITIONAL CONDITIONS

15.1 SUBSTITUTION OF MATERIALS AND EQUIPMENT

15.1.1 Whenever a material, article, or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors, which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance, and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

15.2 NON-DISCRIMINATION PROVISION AND WAGE AND HOUR ACT

15.2.1 During the performance of this contract, the Contractor agrees as follows:

15.2.1.1 The Contractor shall not discriminate against any employee or applicant for employment because of sex, race, creed, color, age, or national origin. The Contractor will take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their sex, race, age, creed, color, or national origin.

15.2.1.2 Such action shall include but not be limited to, the following: employment; upgrading; demotion; or transfer; recruitment or recruitment advertising; layoff or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

15.2.1.3 The Contractor will, in all solicitations, or advertisements for employees, placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to sex, race, creed, color, age or national origin.

15.2.1.4 The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of October 27, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

15.2.1.5 The Contractor will comply with all provisions of the Executive Order No. 11246 of October 27, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor or other government agency or authority having jurisdiction.

15.2.1.6 The Contractor will furnish all information and reports required by Executive Order No. 11246 of October 27, 1965, and by the rules, regulations, and orders of the Secretary of Labor or other government agency or authority having jurisdiction, and will permit access to his books, records, and accounts by the administrative agency and the Secretary of Labor for the purposes of investigation to ascertain compliance with such rules, regulations and orders.

15.2.1.7 In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract, or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further University contracts or federally-assisted contracts in accordance with procedure authorized in Executive Order No. 11246 of October 27, 1965, or by rule, regulation, or order of the Secretary of Labor or other government agency or authority having jurisdiction.

15.2.1.8 The Contractor will include in the provisions of Subparagraph 15.2.1.1 through 15.2.1.8 in every subcontract or purchase order unless exempted by rules, regulations or orders of the President's Committee on Equal Employment Opportunity issued pursuant to Section 204 of Executive Order No. 11246 of September 14, 1965, so that provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

15.3 COMPLIANCE WITH COPELAND ANTI-KICKBACK ACT AND REGULATIONS

15.3.1 The Contractor shall comply with the Copeland Anti-Kickback Act and Regulations of the Secretary of Labor (29CFR, Part 3) which are herein incorporated by reference.

15.4 PREVAILING WAGES

15.4.1 Contractors and subcontractors shall pay all mechanics and laborers, including apprentices and trainees, no less than the wage and fringe benefit rates prevailing in the locality in which the work is performed. Wage and fringe benefit rates are determined by the Federal Government Department of Labor.

15.4.2 Classifications not provided in the schedule shall be determined prior to the award of the contract and shall be no less than the wage and fringe benefit rates determined by the Federal Department of Labor.

15.4.3 Contractors and subcontractors shall adhere to the ratios of apprentices to journey workers as determined by the Federal Department of Labor.

15.4.4 Contractors and subcontractors shall keep a copy of the prescribed wage and benefit rates posted at the construction site in a conspicuous place.

15.4.5 Contractors and subcontractors shall keep an accurate record of the name, occupation, and the actual benefits paid to each mechanic or laborer for the contract. This record shall be made available for reasonable inspection by the Federal Department of Labor and the Owner.

DRAWINGS

The Technical Specifications dated **October 12, 2015** and the following List of Drawings represent the scope of work as defined in the Contract Documents from Article 4.

DRAWINGS

Drawing No.:	**Description**	
AG-01:	Cover Sheet	dated October 12, 2015
CP-01:	Site Layout Plan	dated October 12, 2015
SG-01:	General Notes	dated October 12, 2015
S4-23:	Enlarged Plans	dated October 12, 2015
AP-05e:	Partial Roof Plan – East	dated October 12, 2015
AP-05w:	Partial Roof Plan – West	dated October 12, 2015
A4-01:	Vertical Circulation	dated October 12, 2015
A4-05:	Ladder Details	dated October 12, 2015
A5-31:	Roof Details	dated October 12, 2015
A5-32:	Roof Details	dated October 12, 2015

GENERAL REQUIREMENTS

GENERAL

A. **CONTRACTOR'S RESPONSIBILITY**

It is not the responsibility of the Architect/Engineer or Owner's Representative to notify the Contractor or subcontractors when to commence, to cease, or to resume work; nor in any way to superintend so as to relieve the Contractor of responsibility or of any consequences of neglect or carelessness by him or his subordinates. All material and labor shall be furnished at times best suited for all Contractors and subcontractors concerned, so that the combined work of all shall be properly and fully completed on the date fixed by the Contract.

The Contractor shall be responsible for all items contained in both the specifications and on the drawings for all trades. He shall be responsible for the proper division of labor according to current labor union agreements regardless of the division of responsibility implied in the contract documents.

B. **CODES AND STANDARDS**

Reference to standard specifications for workmanship, apparatus, equipment and materials shall conform to the requirements of latest specifications of the organization referenced, i.e., American Society for Testing Materials (ASTM), Underwriters Laboratories, Inc. (UL), American National Standards Institute, Inc. (ANSI), and others so listed in the Technical Specifications.

C. **PERMITS, FEES AND NOTICES**

See Supplementary General Conditions.

D. **MEASUREMENTS**

Before proceeding with each Work Item, Contractor shall locate, mark and measure any quantity or each item and report quantities to Engineer. If measured quantities exceed Engineer's estimate, Contractor shall obtain written authorization to proceed from Owner before executing Work required for that Work Item.

Measurement of quantities for individual Work Items will be performed by Contractor and reviewed by Engineer. Coordinate measurements with inspection as required in Section "Coordination."

Cost of Work included in Work Item for quantities as indicated in Contract Documents shall be included in Base Bid.

1. Additions to or deductions from lump sum price for quantities of each Work Item added to or deducted from Work respectively shall be at unit prices indicated in Bid Form and shall constitute payment or deductions in full for all material, equipment, labor, supervision and incidentals necessary to complete Work.

E. **CONTRACTOR'S MEASUREMENTS**

Before ordering material, preparing Shop Drawings, or doing any work, each Contractor shall verify, at the building, all dimensions which may affect his work. He assumes full responsibility for the accuracy of his figures. No allowance for additional compensation will be considered for minor discrepancies between dimensions on the drawings and actual field dimensions.

F. **CONTINUITY OF SERVICE *(Revised 3-26-2012)***

Continuity of all existing services in the building shall be maintained throughout the construction period. Where it is necessary to tie into the existing electrical service, water or waste systems, it shall be done as directed by the Architect/Engineer. This Contract shall also provide temporary lines or bypasses that may be required to maintain continuous service in the building. All utility shutdowns must be approved by the Owners Representative / Project Manager, not less than **7 business days** prior to the event, so that proper notification can be posted.

G. **SUBMITTALS**

All submittals (except Shop Drawings) and samples required by the Specifications shall be submitted in triplicate unless otherwise specified for a particular item under an individual Specification Section.

Each sample shall be clearly identified on a tag attached, showing the name of the Project Consultant, the project number and title, the names of the Contractor, manufacturer (and supplier if same is not the manufacturer), the brand name or number identification, pattern, color, or finish designation and the location in the work.

Each submittal shall be covered by a transmittal letter, properly identified with the project title and number and a brief description of the item being submitted.

Contractor shall be responsible for all costs of packing, shipping and incidental expenses connected with delivery of the samples to the Project Consultant or other designated address.

If the initial sample is not approved, prepare and submit additional sets until approval is obtained.

Materials supplied or installed which do not conform to the appearance, quality, profile, texture or other determinant of the approval samples will be rejected, and shall be replaced with satisfactory materials at the Contractor's expense.

H. GENERAL/STANDARD ELECTRONIC EQUIPMENT AND INFRASTRUCTURE REQUIREMENTS *(Revised 11-2008)*

1. Compliance with WSU Standards for Communications Infrastructure

   A. All applicable work, products, materials and methods shall comply with the latest version of the “WSU Standards for Communications Infrastructure” except as where noted.

   B. This document is available at the following website/URL: **http://networks.wayne.edu/WSU-Communications-Standards.pdf**

2. Automation System Program Code

   A. All automation system uncompiled and compiled program codes, source codes, custom modules, graphical user interface screen shots and any other automation system programming data and material (Program Code) shall be provided to the UNIVERSITY in hard copy and on CD Rom in an unencrypted format acceptable to the UNIVERSITY.

   B. Copyright for the Program Code shall be assigned to the UNIVERSITY for purposes of system maintenance.

PROTECTION OF OCCUPANCY *(Revised 3-2006)*

A. **FIRE PRECAUTIONS**

Take necessary actions to eliminate possible fire hazards and to prevent damage to construction work, building materials, equipment, temporary field offices, storage sheds, and other property.
During the construction, provide the type and quantity of fire extinguishers and fire hose to meet safety and fire prevention practices by National Fire Protection Association (NFPA) Codes and Standards (available at http://www.nfpa.org/)

In the event that construction includes "hot work", the contractor shall provide the Owner's Representative with a copy of their hot work policy, procedures, or permit program. No hot work activity (temporary maintenance, renovation, or construction by operation of a gas or electrically powered equipment which produces flames, sparks or heat that is sufficient to start a fire or ignite combustible materials) shall be performed until such documents are provided. During such operations, all highly combustible or flammable materials shall be removed from the immediate working area, and if removal is impossible, same shall be protected with flame retardant shield.

Not more than one-half day's supply of flammable liquids such as gasoline, spray paint and paint solvent shall be brought into the building at any one time. Flammable liquids having a flash point of 100 degrees F. or below which must be brought into the building shall be confined in an Underwriters Laboratories (UL) labeled safety cans. The bulk supply of flammables shall be stored at least 75 feet from the building and other combustible materials. Spigots on drums containing flammable liquids are prohibited on the project site. Drums shall be equipped with approved vented pumps, and be grounded and bonded.

Only a reasonable working supply of combustible building materials shall be located inside the building.

All oil-soaked rags, papers, and other similar combustible materials shall be removed from the building at the close of each day's work, or more often if necessary, and placed in metal containers, with self-closing lids.

Materials and equipment stored in cardboard cartons, wood crates or other combustible containers shall be stored in an orderly manner and accessibly located, fire-fighting equipment of approved types shall be placed in the immediate vicinity of any materials or equipment stored in this type of crate or carton.

No gasoline, benzene, or like flammable materials shall be poured into sewers, manholes, or traps.

All rubbish shall be removed from the site and legally disposed of. Burning of rubbish, waste materials or trash on the site shall not be permitted.

The contractor shall be responsible for the conduct of employees relative to smoking and all smoking shall be in the area designated by the Architect/Engineer.

B. **GENERAL SAFETY AND BUILDING PRECAUTIONS**

Provide and maintain in good repair barricades, railings, etc., as required by law for the protection of the Public. All exposed material shall be smoothly dressed.

At dangerous points throughout the work environment provide and maintain colored lights or flags in addition to above guardrails.

Isolate Owner's occupied areas from areas where demolition and alteration work will be done, with temporary, dustproof, weatherproof, and fireproof enclosures as conditions may require and as directed by the Architect/Engineer.

Cover and protect furniture, equipment and fixtures to remain from soiling, dust, dirt, or damage when demolition work is performed in rooms or areas from which such items have not been removed.

Protect openings made in the existing roofs, floors, and other construction with weatherproof coverings, barricades, and temporary fire rated partitions to prevent accidents.

Repair any damage done to existing work caused by the construction and removal of temporary partitions, coverings, and barricades.

The Contractor will be held responsible for all breakage or other damage to glass up to the time the work is completed.

Provide protection for existing buildings, interior and exterior, finishes, walls, drives, landscaping, lawns (see below), etc. All damages shall be restored to match existing conditions to the satisfaction of the Architect/Engineer.

The Contractor and Owner will define the anticipated area of lawn damage at the project Pre-Construction Meeting. Whether the lawn is sparse or fully developed, any lawn damaged due to the Contractor's work will be replaced with sod by the University. The University's unit cost of $10.00 per square yard and landscaping at a rate of 1.5 times the cost of the sod repairs, the full cost of which will be assessed against the Contractor. At the completion of the project, a deductive Change Order reflecting this cost will be issued.
The Contractor is to include an allowance in his bid for this corrective work.

C. **INTERFERENCE WITH OWNER'S OPERATIONS**

The Owner will be utilizing the Building Facilities to carry on his normal business operation during construction. The Contractor shall schedule performance of the work necessary to complete the project in such a way as to interfere as little as possible with the operation during construction. The Contractor shall schedule performance of the work necessary to complete the project in such a way as to interfere as little as possible with the operation of the Owner.

Work which will interfere with the Owner's occupancy, including interruptions to the Owner's mechanical and electrical services, and essentially noisy operations (such as jackhammering) shall be scheduled in advance. The schedule of alterations shall be approved by the Architect/Engineer and the work shall be done in accordance with the approved schedule.

It is understood that the work is to be carried through to completion with the utmost speed consistent with good workmanship and to meet the construction schedule.

The Contractor shall begin work under the Contract without delay upon receipt of the fully-executed contract and shall substantially complete the project ready for unobstructed occupancy and use of the Owner for the purposes intended within the completion time stated in the contract.

The Contractor shall, immediately upon award of contract, schedule his work and expedite deliveries of materials and performance of subcontractors to maintain the necessary pace to meet the construction schedule.

CONTRACTOR'S REPRESENTATION AND COORDINATION

A. **FIELD SUPERINTENDENT**

Contractor shall assign a full time project manager/superintendent for the duration of the project. This person shall be experienced and qualified in all phases of the work and shall be present at the site during Contractor’s working hours. The project manager shall have Contractor’s full authority to represent Contractor in all routine operations including payment, changes to the work, and scheduling. Contractor shall not re-assign this individual without prior written permission of the Owner.

B. **MEETINGS**

When directed by the Architect/Engineer, meetings shall be held for the purpose of coordinating and expediting the work. The invited contractors or subcontractors will be required to have qualified representatives at these meetings, empowered to act in their behalf.

C. **COORDINATION**

The Contractor shall also provide a staff adequate to coordinate and expedite the work properly and shall at all times maintain competent supervision of its own work and that of its subcontractors to insure compliance with contract requirements.

The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the Contractor.

D. **CONSTRUCTION SCHEDULE**

The Construction Schedule shall be prepared after the award of contract. Soon after, a pre-construction meeting is held with the Owner and the Architect/Engineer to determine the areas to which the Contractor will be allowed access at any one time.

The Contractor is alerted to the fact that areas in which he will be working will be occupied by students and employees of the University as well as the general public. The Contractor's access, to and from the project site, will be confined to limited areas so as not to unduly disrupt the normal activities of the University.

TEMPORARY FACILITIES

A. **GENERAL**

The following temporary facilities descriptions represent standard conditions. Verify accuracy with Architect/Engineer at time of bids.

B. CONTRACTOR'S OFFICE

Provide field offices as required. Locate temporary field offices on site where directed by Architect/Engineer.

Appearance and location of field offices shall be approved by the Architect/Engineer.

Provide for all other administrative facilities and storage off the Owner's property.

C. STORAGE OF MATERIALS

All materials shall be stored in areas designated by the Architect/Engineer. All stored materials shall be arranged for the minimum disruption to occupants and to allow full access to and throughout the building. Materials stored outdoors shall be neat and orderly and covered to prevent damage or vandalism.

D. PARKING

1. GENERAL

University parking regulations will be strictly enforced.

Maintain Owner's parking areas free of dirt and debris resulting from operations under the contract.

2. STANDING AND UNLOADING/LOADING VEHICLES

All Contractors are to call Wayne State University Public Safety at 577-2222, and give at least 24 hours advance notice that they have vehicles that must be at the job site.

Vehicles will be permitted at the project site only as long as the vehicles are needed for loading/unloading, and must be immediately moved upon completion.

All unauthorized and/or unattended standing vehicles will be subject to ticketing and removal by University Police. Towed vehicles may be reclaimed by calling 577-2222, and paying any assessed charges.

3. COMPLIMENTARY PARKING

There is no complimentary parking for Contractor's employee vehicles.

4. WAYNE STATE UNIVERSITY PUBLIC/STUDENT PARKING AREAS

Public Parking, on a first-come first-served basis is available. Contact the office of the One Card System, at 313.577.9513 for information on availability of parking on a contractual basis.

E. TOILET FACILITIES

The Owner's designated existing toilet facilities may be used by workers on the project. Contractor shall maintain such facilities in a neat and sanitary condition.

F. TELEPHONE USE

If required, the Contractor shall provide and pay for a temporary telephone within the building for his use and that of his subcontractors.

No use of the Owner's telephone (except pay telephones) will be permitted.

G. ACCESS DEVICES

The Contractor shall furnish and maintain temporary hoists, ladders, railings, scaffolds, runways, and the like as required for safe, normal access to the permanent construction until the permanent facilities are complete. Each trade shall furnish such additional means of access as may be required for the progress and completion of the work. Such temporary access devices shall meet all applicable local, state, and federal codes and regulations.

H. **HEAT AND VENTILATION**

Provide cold weather protection and temporary heat and ventilation as required during construction to protect the work from freezing and frost damage.

Provide adequate ventilation as required to maintain reasonable interior building air conditions and temperatures, to prevent accumulation of excess moisture, and to remove construction fumes.

Tarpaulins and other materials used for temporary enclosures. Coverings and protection shall be flameproofed.

I. **WATER SERVICE**

Sources of water are available at the site. The Owner will pay for reasonable amounts of water used for construction purposes.

The Contractor shall provide, at the earliest possible date, temporary connections to the water supply sources and maintain adequate distribution for all construction requirements. The Contractor shall protect sources against damage.

Methods of conveying this water shall be approved by the Architect/Engineer and shall not interfere with the Owner's operations.

J. **ELECTRICAL SERVICES**

All charges for reasonable amounts of electrical power energy used for temporary lighting and power required for this work will be paid by the Owner.

The Contractor shall provide and maintain any temporary electrical lighting and power required for this work. At the completion of the work, all such temporary electrical facilities shall be removed and disposed of by the Contractor.

Temporary lighting and power shall comply with the regulations and requirements of the National Electrical Code

INSPECTIONS AND TESTS

The Architect/Engineer shall at all times have access to the work wherever it is in preparation or in progress and the Contractor shall provide proper facilities for such access and for observation.

No failure of the Architect/Engineer, during the progress of the work, to discover or reject materials or work not in accordance with the Contract Specifications and Drawings shall be deemed an acceptance thereof nor a waiver of defects therein. Likewise, no acceptance or waiver shall be inferred or implied due to payments made to contractor or by partial or entire occupancy of the work, or installation of materials that are not strictly in accordance with the Contract Specifications and Drawings.

Where tests are specifically called for in the Specifications, the Owner shall pay all costs of such tests and engineering services unless otherwise stated in the contract.

Where tests are not specifically called for in the Specifications, but are required by the Architect/Engineer or Consultant, the Owner shall pay all costs of such tests and engineering services unless the tests reveal that the workmanship or materials used by the Contractor are not in conformity with the Drawings, Specifications, and/or approved shop drawings. In such event, the Contractor shall pay for the tests, shall remove all work and materials so failing to conform and replace with work and materials that are in full conformity.

CLEAN-UP

The Contractor shall at all times keep the Owner's premises and the adjoining premises, driveways and streets clean of rubbish caused by the Contractor's operations and at the completion of the work shall remove all the rubbish, all of his tools, equipment, temporary work and surplus materials, from and about the premises, and shall leave the work clean and ready for use. If the contractor does not attend to such cleaning immediately upon request, the Architect/Engineer may cause such cleaning to be done by others and charge the cost of same to the Contractor.

The Contractor will be responsible for all damage from fire that originates in, or is propagated by, accumulations of rubbish or debris.

All rubbish and debris shall be disposed of off the Owner's property in an approved sanitary landfill site. No open burning of debris or rubbish will be permitted. Job site shall be left neat and clean at the completion of each day's operation.

PROJECT CLOSE-OUT

A. RECORD DRAWINGS

At beginning of job, provide one copy of Working Drawings, and record changes, between Working Drawings and "As Builts", including changes made by Addenda, Change Orders, Shop Drawings, etc. These shall be kept up to date. Update to indicate make of all mechanical and electrical equipment and fixtures installed. Keep these Record Prints in good condition and available for inspection by the Architect/Engineer.

Upon completion of the job, turn over to the Architect/Engineer Record Prints of Working Drawings showing all job changes.

B. OPERATING AND MAINTENANCE DATA

Prepare and furnish to the Architect/Engineer three (3) bound copies of "Operating and Maintenance Manual" on all equipment installed under this Contract.

Manual shall include copies of all Manufacturers' "Operating and Service Instructions", including Parts List, Control Diagrams, Description of Control Systems, Operating, Electrical Wiring, and any other information needed to understand, operate and maintain the equipment. The names and addresses of all subcontractors shall be included. These instructions shall be custom-prepared for this job -- catalog cuts will **not** be accepted. Equipment shall be cross-referenced to Section of Specifications and to location shown and scheduled on drawings.

Include Test-Adjust-Balance Report in the Manual.

C. FINAL INSPECTION

Secure final inspections from the State of Michigan as soon as the work is completed and immediately submit such Certificates to the Architect/Engineer.

D. GUARANTEES (See Sections 00510 and 01781)

Guarantees on material and labor from the General Contractor and his subcontractors shall be as required in Sections 00510 and 01781.

E. SWORN STATEMENT AND WAIVER OF LIENS *(revised 4-11-2012)*

Prior to final payment, the General Contractor shall provide a Contractor's Sworn Statement and Full Unconditional Waivers of Liens from all subcontractors for material and labor and from all suppliers who provide materials exceeding $1,000. Sworn Statements and signed waivers from all Subcontractors must accompany Pay Applications or they will be returned for such documentation prior to approval.

ASBESTOS HAZARD

A. The contractor shall not start any work in any area that has not been inspected for asbestos by the Owner's Industrial Hygiene Department, or a qualified representative of the Owner and approval is given for work to be done. If asbestos is found, safety

measures as recommended by the Owner's Industrial Hygiene Department, or a qualified representative of the Owner, shall be completed, or approval given for work to be done before work is started. The contractor shall not perform any asbestos removal or containment work under the contract.

KEYS

A. The Owner shall provide the contractor keys on loan to have access to the various spaces in order to complete the contract. Contractor will sign for and be responsible for each key on loan, returnable to Owner upon completion of the contract. In case of any lost keys, the Owner will backcharge the contract $250.00 for each core change. In the event that a Contractor wants access to a secured area, he shall give the Owner a minimum 48-hour notice.

SUMMARY OF WORK

SUMMARY OF WORK

PROJECT: Integrative Biosciences Center Mechanical Roof Platform Extensions

WSU PROJECT NO.: 211-121168

PROJECT MANAGER: Jason R. Davis

1. EXAMINATION

The Contractor shall visit the site and become familiar with conditions under which the work will be performed. The contractor will be required to meet with the WSU project manager and review site access, material storage areas, project schedule, etc. prior to starting work to minimize impact of the daily operations in and around the facility.

2. DOCUMENTS

The documents that describe the work associated with this bid are a part of the recently constructed Multidisciplinary Biomedical Research Building (MBRB/IBio) project designed by Harley Ellis Devereaux (architect/engineer) and constructed by Barton Malow / L.S. Brinker (Construction Manager). This work is an extension of the MBRB/IBio project; as such the documents used to describe this work are an extension of that project. Note that documents used to describe the scope of work are extensive, and not all information is specific to the scope of work associated with this project. Refer to the "Description of Work" below to understand the scope of work and the environment in which the work is to be completed.

Documents include:

Drawings issued by Harley Ellis Devereaux:

AG-01:	Cover Sheet	dated October 12, 2015
CP-01:	Site Layout Plan	dated October 12, 2015
SG-01:	General Notes	dated October 12, 2015
S4-23:	Enlarged Plans	dated October 12, 2015
AP-05e:	Partial Roof Plan – East	dated October 12, 2015
AP-05w:	Partial Roof Plan – West	dated October 12, 2015
A4-01:	Vertical Circulation	dated October 12, 2015
A4-05:	Ladder Details	dated October 12, 2015
A5-31:	Roof Details	dated October 12, 2015
A5-32:	Roof Details	dated October 12, 2015

Shop Drawings (reviewed by Harley Ellis Devereaux) issued for reference:

Sequence 46:	Half Roof Level Grid F to H	dated October 13, 2013
Sequence 41:	W. Roof Level Embeds, Conn Mtrl, Infill	dated September 6, 2013
Sequence 75:	W Grillage AB, Embeds, Conn Mtrl, Infill	dated July 30, 2013
Sequence 78:	Grating Plans	dated August 28, 2013
Sequence 81:	East Half Roof Level From Grid HX.5 to CC	dated October 23, 2013
Sequence 82:	East Half Roof Level 2 from Grid CC to AA	dated October 28 2013
Sequence 77:	West Half Grillage from Grids E-J	dated January 5, 2014
Sequence 79:	East Half Grillage Framing Grids J-CC	dated January 16, 2014

Specification Sections issued by Harley Ellis Devereaux:

Section 051200:	Structural Steel	dated October 12, 2015
Section 055000:	Metal Fabrication	dated October 12, 2015
Section 075323:	EPDM Membrane Roofing	dated October 12, 2015
Section 076200:	Sheet Metal Flashing and Trim	dated October 12, 2015

3. DESCRIPTION OF WORK

The scope of work associated with this project includes all labor, material and equipment necessary to extend existing platforms/grillage that service mechanical equipment on the roof of the Multidisciplinary Biomedical Research Building (MBRB/IBio). Extent of steel work is shown in Harley Ellis Devereaux drawings and specifications attached to this RFP. Steel shop drawings for the adjacent sequences have been included for reference. Note that grillage is added scope to an existing project/ recently construction. Not all details may be applicable to this scope.

Contractor shall provide full time field supervisor. All work shall comply with MIOSHA/OSHA rules and regulations. All work to be performed in accordance with the drawings and specifications. Fire watch for "hot work" operations is required. All work shall be coordinated with the WSU Project Manager. The Contractor shall be responsible for means and methods. The Contractor is required to secure and pay for any permits required to complete the work, and is responsible to adhere to all Federal, State and local environmental, health, and safety rules and regulations. Note: City of Detroit Building Permit is not required. The Contractor shall be responsible for replacing any landscaping, sidewalks, drives etc. damaged as a result of their work.

Sealed calculations and shop drawings from a Professional Engineer licensed in the State of Michigan are to be submitted to the University for review by Harley Ellis Devereaux (engineers of record for the project) prior to fabrication and erection.

The existing roof is under warranty through Carlisle SynTec Inc./Schreiber Roofing. The Contractor shall coordinate any roofing work so as not to void the existing warranty.

Bids shall include all costs for labor, material, equipment, incidentals, supervision, general conditions, OH&P, etc. to deliver the complete scope as defined by the contract documents.

4. TESTING

The University reserves the right to, at their own expense, have all connections and tested for compliance with contract documents.

5. WARRANTY

Two year warranty is required for all work.

6. BUILDING SITE

Multidisciplinary Biomedical Research Building (MBRB/IBio).
Wayne State University
6135 Woodward Ave
Detroit, Michigan 48202

7. HOURS

7:00 a.m. to 5:00 p.m. Monday through Friday. Any extended hours must be approved by the WSU Project Manager at least 24 hours in advance.

8. SMOKE FREE POLICY

WSU is a smoke free campus.

HARLEY ELLIS DEVEREAUX

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Project Manual

Wayne State University
Multi-Disciplinary Biomedical Research Building

at

Wayne State University
Detroit, Michigan

for

Wayne State University

WAYNE STATE UNIVERSITY

General Contract
HED Project No.: 2011-10087-000
WSU Project No.: 211-121168

Issued for Mechanical Roof Platform Extensions: October 12, 2015

Note: The documents that describe the work associated with this bid are a part of the recently constructed Multidisciplinary Biomedical Research Building (MBRB/IBio) project designed by Harley Ellis Devereaux (architect/engineer) and constructed by Barton Malow / L.S. Brinker (Construction Manager). This work is an extension of the MBRB/IBio project; as such the documents used to describe this work are an extension of that project. Note that documents used to describe the scope of work are extensive, and not all information is specific to the scope of work associated with this project. Refer to the "Description of Work" in the RFP to understand the scope of work and the environment in which the work is to be completed.

PROJECT NO.: 2011-10087-000

SECTION 000010 - TABLE OF CONTENTS

SECTION 051200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division -1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Extent of structural steel work is shown on Drawings, including schedules, notes and details.

B. Structural steel is that work defined in AISC "Code of Standard Practice" and as otherwise shown on Drawings.

C. Delegated Design:

1. Design of moment connection is the responsibility of the contractor.

D. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Sections "Quality Control - General" and "Testing and Inspection Services - Building and Site Work" for independent testing agency procedures and administrative requirements.
2. Division 3 Section "Cast-In-Place Concrete" for installation of embedded items in concrete.
3. Division 4 Section "Unit Masonry Assemblies" for installation of embedded items in masonry.
4. Division 5 Sections "Steel Floor Deck" for installation of shear connectors.
5. Division 5 Section "Metal Fabrications" for loose bearing plates, stairs and miscellaneous steel framing.
6. Division 9 Section "Paint" for field painting exposed steel.

1.3 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of following, except as otherwise indicated:

1. AISC "Code of Standard Practice for Steel Buildings and Bridges".
2. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings", including “Commentary" and Supplements thereto as issued.
3. AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.
4. AWS D1.1 "Structural Welding Code".

5. ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use".
6. To the extent that any provisions contained in any of the aforementioned codes and standards conflict with any other terms, requirements or definitions contained in the Contract Documents, then the terms, requirements or definitions contained elsewhere in the Contract Documents shall control.

B. Fabricator and Erector Qualifications:

1. Firms which have had a minimum of 5 years successful experience in fabrication and erection of steel structural buildings of this type and size.
2. The fabricator shall have a quality control program of either one of the following:

    a. be certified for the AISC Quality Program.
    b. maintains a program with an approved independent inspection or quality agency to conduct periodic in-plant inspections at the fabricator's plant.

        1) Provide back-up documentation for a period of at least three (3) years preceding the issue date of the construction documents.

C. Qualifications for Welding Work:

1. Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
2. Provide certification that welders to be employed in work have satisfactorily passed AWS qualification tests.
3. If recertification of welders is required, retesting will be Contractor's responsibility.

1.4 DELEGATED DESIGN REQUIREMENTS

A. Delegated Design Professional Requirements:

1. Professional Engineer licensed in the State of Michigan.
2. Experienced in the design connections for structural steel.

B. Design of Moment Connections:

1. Forces are shown on the Drawings.
2. Check columns for flange stiffener and web stiffener requirements.

1.5 SUBMITTALS

A. Product Data:

1. Submit producer's or manufacturer's specifications and installation instructions for following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).
2. Structural steel (each type), including certified copies of mill reports covering chemical and physical properties.

    a. Furnish certificate of compliance with specified ASTM Standards.

3. High-strength bolts (each type), including nuts and washers.

    a. Furnish certificate of compliance with ASTM Standards.

B. LEED Submittal:

1. MR Credit 4 – Recycled Content:

    a. Provide documentation in letter form indicating the percentage by weight of both the pre-consumer and post consumer content of the material provided to the Project under this Specification.
    b. Provide documentation in letter form the cost of the material supplied to the Project.

2. MR Credit 5 – Regional Materials:

    a. Provide documentation in letter form indicating the location (address) of the facility that is supplying the material(s) for the Project.
    b. Provide documentation in letter form the cost of the materials for each product that meets the 500 mile maximum radius requirement.

C. Moment Connections:

1. Submit signed and sealed calculations by the Delegated Design Professional and prior to preparation of shop drawings.
2. Calculations are submitted for general review only.

    a. The Architect will not conduct a formal or detailed review, but will confirm only that the calculations have been performed.
    b. The Contractor shall retain full responsibility for the completeness and accuracy of the submitted calculations and may not rely upon any subsequent review of the calculations by the Architect.

D. Shop Drawings:

1. Electronic submittal of shop drawings.

    a. The contractor has a limited option of submitting shop drawings electronically.
    b. The electronic submittal of shop drawings is restricted to the Design Data SDS/2 program.
    c. Any other format is not acceptable.
    d. Prior to any electronic submittal, the specific submittal process must be agreed on by the Architect, the fabricator/erector and the contractor.

2. Submit shop drawings for fabrication and assembly of structural steel members. Provide details, procedures, diagrams and schedules as necessary for fabrication and assembly in shop and field.

    a. Coordinate with submittal requirements of Section "Submittal Procedures".
    b. Provide key plan that indicates the sequencing of multiple submittals.
    c. Provide submittal dates of each sequence.

3. Submit standard details for approval before preparation of Detail Drawings. Consistently use standard details on Detail Drawings where appropriate.

    a. Identify slip critical connections.

4. Include details of cuts, connections, camber, holes, surface prep, shop finish (paint/galv.) and other pertinent data.
5. Indicate welds by standard AWS symbols, and show size, length, and type of each weld. Identify shop and field welds.

    a. Use prequalified joints for penetration welds. Indicate joint designation number, and preparation and assembly details for welding.

6. Show reactions on the Shop Drawings.

    a. Show reactions on the individual piece details.

7. Some dimensions indicated on the contract drawings are subject to change with specific requirements for equipment manufacturers. To name a few: elevator shafts, grillages for mechanical equipment, roof openings below equipment.

    a. Shop drawings shall be coordinated with purchased equipment requirements prior to submittal to Architect.
    b. Contractor shall indicate all dimensional adjustments.

8. Where permitted by Architect, submit locations of members to be cold-galvanized.
9. A complete set of the shop drawings reviewed and initialed by the Architect, shall be made available to the shop and field inspector. Contractor shall also furnish copies of final shop drawings to contractors of other trades, as far as such drawings pertain to their work.
10. Architect's signature on the shop drawings is to be interpreted only as review of the general design of details. This review does neither relieve Contractor of the necessity of correcting such details on the drawings and completed work as may thereafter be found deficient in strength or otherwise faulty, nor does it relieve Contractor of the responsibility for field measured and calculated dimensions on the shop drawing.

E. Test Reports:

1. Field Test Reports from Independent Testing Laboratory.

1.6 SEQUENCING

A. Supply anchor bolts, bearing plates and other anchorage items to be embedded in or attached to other construction. Supply without delaying the work.

1. Provide setting diagrams, templates, instructions, and directions for installation.
2. Provide anchor rod template with target arrows for column center lines, stamped for column location, orientation and elevation.

a. Templates may be plywood or thin-steel-plate.

1) Thin-steel-plate of sufficient rigidity to prevent dimensional distortion during the installation process.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground by using pallets, platforms, or other supports.

B. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures.

C. Protect steel members and packaged materials from erosion and deterioration. If bolts and nuts become dry or rusty, clean and relubricate before use.

D. Repair or replace damaged materials or structures as directed by the Owner's Representative.

PART 2 - PRODUCTS

2.1 LEED REQUIREMENTS

A. Recycled Content: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than the following:

1. W-Shapes: 80 percent.
2. Channels, Angles: 80 percent.
3. M, S Shapes: 25 percent.
4. Plate and Bar: 25 percent.
5. Cold-Formed Hollow Structural Sections: 25 percent.
6. Steel Pipe: 25 percent.

B. Regional Content:

1. Use products that have been manufactured within 50 miles (air-distance) of the Project.

    a. Use center of Project to center of manufacturing facility to determine miles.

2.2 MATERIALS

A. Caution: Please refer to ASTM A6, "Identification of Material". Raised markings indicating manufacturer's name, brand or trademark are required in accordance with ASTM A6. Rolled sections, shipped to the job site without raised markings are subject to rejection, even if those sections have a so-called "certified mill report".

B. Tubular Sections, (HSS Round, HSS Rectangular) shall be manufactured in USA or Canada.

C. Architecturally Exposed Steel:

1. For work that is noted as Architecturally Exposed Structural Steel, use only materials that are smooth and free of surface blemishes including pitting, rust and scale seam marks, roller marks, rolled trade names, and roughness.
2. Remove minor blemishes by grinding, or by welding and grinding, prior to cleaning, treating, and applying surface finishes.

D. Steel Shapes, Plates, and Bars:

1. Structural steel shall be newly rolled steel conforming to the standards listed herein. Yield strength requirements are shown on the drawings.
2. Provide ASTM grade for yield strengths as follows:

	Required Yield Strength (FY, KSI)	ASTM Grade
Rolled Shapes (W, WT)	36	A36 or A992
	50	A572, Grade 50 or A992
HSS Square, Rectangular	46	A500, Grade B
HSS Round (As Noted)	42	A500, Grade B
	46	A500, Grade C
Plates, Bars, Rods	36	A36
	50	A572, Grade 50
All Other Shapes	36	A36

E. Threaded Fasteners:

1. Hexagon head structural bolts, hexagon nuts, and hardened washers, as follows:

   a. Quenched and tempered medium-carbon steel bolts, nuts and washers, complying with ASTM A 325, ASTM F 1852 or ASTM A 490 as noted.
   b. Country of origin to be USA or Canada.

2. Where indicated as galvanized, provide fasteners that are zinc coated, either mechanically deposited complying with ASTMB695, Class 55, or hot-dip galvanized complying with ASTMA153.

F. Direct Tension Indicators: ASTM F 959.

1. Direct tension indicator washers may be used at Contractor's option. Use Type A325 and A490 for A325 and A490 bolts respectively.
2. Use at Contractor's option for Slip Critical connections.

G. Electrodes for Welding: Comply with AWS Code.

1. For high-strength low-alloy steel and existing steel, provide electrodes, welding rods and filler metals equal in strength and compatible in appearance with parent metal joined.
2. Comply with AWS requirements.

H. Anchor Devices:

1. Headed Studs (Not the composite beam shear connectors): ASTM A 108, Grade 1015 thru 1020. Cold finish carbon steel, AWS D1.1, Type B.

I. Anchor Rods:

1. ASTM F1554 Grade 36 hex-headed bolt and carbon-steel nut.
2. Size and grade requirements as shown on drawings.
3. Washers, A36.

J. Paint - Shop Primer:

1. Paint for shop primer shall be VOC compliant, be lead and chromate free, and have not less than 50 percent solids per volume.
2. Color: Light gray, off-white, brown or red.
3. Products/Manufacturers: Provide one of the following:

   a. #10-99 primer/Tnemec
   b. Kem Kromik/Sherwin Williams
   c. 960/Rustoleum

K. Cold Galvanizing (Exposed Steel):

1. Cold galvanizing is a limited substitution for hot-dip galvanizing limitations for this application are listed in Part 3 – EXECUTION, of this Specification.
2. Products:

   a. Zinc Clad 5; Sherwin-Williams, www.sherwin-williams.com/protective.
   b. Tnemec-Zinc, Series 90E-92; Tnemec; www.tenemec.com.
   c. ZRC Cold Galvanizing Compound; ZRC Worldwide; www.zrcworldwide.com.

L. Galvanizing Repair Paint:

1. SSPC - Paint 20 with dry film a minimum of 79 percent zinc by dry-weight.

   a. Zinc Clad II/Sherwin Williams, www.sherwin-williams.com/protective.
   b. Tnemec - Zinc 90E-92, www.tenemec.com.

2. ZRC Cold Galvanizing Compound by ZRC Worldwide, www.zrcworldwide.com.

M. Nonmetallic Shrinkage-Resistant Grout: Premixed, nonmetallic, noncorrosive, nonstaining product containing selected silica sands, Portland cement, shrinkage compensating agents, plasticizing and water-reducing agents, complying with CE-CRD-C621.

1. Products:

   a. Euco N.S.; Euclid Chemical Co.
   b. Masterflow 928; Master Builders.
   c. Sealtight 588 Grout; W. R. Meadows.
   d. Five Star Grout; U.S. Grout Corp.
   e. Sika Grout 212, Sika Corp.

2.3 DETAILS AND CONNECTIONS

A. Details shown are typical; similar details apply to similar conditions, unless otherwise indicated.

B. Verify tie-in dimensions between existing and new construction without causing delay in the work.

C. The Architectural and Structural Drawings are cooperative. Any structural items shown or referred to on the Architectural Drawings are to be included as if shown on the Structural Drawings.

D. Promptly notify Architect whenever members sizes and connections requirements for any portion of structure are not clearly indicated.

E. Weld or bolt shop connections, as indicated.

F. Bolt field connections, except where welded connections or other connections are indicated.

G. Design and detail connections to resist the required loads and reactions. Details shall supplement and be consistent with details shown on the drawings. Proper account of eccentricity shall be taken in the design of connections so that there is no overstressing of any material, either in the connections themselves or in the connected members.

1. The use of oversized and slotted holes in the load direction for bearing bolts is not permitted.

H. Holes for Other Work:

1. Provide holes required for securing other work to structural steel framing and for passage of other work through steel framing members. Show all required holes on the shop drawings.

PART 3 - EXECUTION

3.1 FABRICATION

A. Shop Fabrication and Assembly:

1. Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on approved shop drawings.

a. Items with more stringent requirements than AISC Specifications may be indicated in the Contract Documents.

1) Note: These items are not labeled “more stringent than AISC”.

2. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence that will expedite erection and minimize field handling of materials.
3. Where shop painting is required, complete assembly, including welding of units, before start of shop painting.

B. Connections:

1. Bolted Connections:

a. Install threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts".
b. Connection type: Bearing-type, unless indicated to be slip critical.

1) Limit fastening of bearing-type connections to snug-tight only.

2. Holes for Connections:

a. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame-cut holes or enlarge holes by burning. Drill holes in bearing plates.

1) Remove burrs from faying surfaces of bearing-type connections.

b. The use of burnt holes for bolted connections is prohibited. Violation of this clause will be sufficient cause for the rejection of the whole member into which such holes were burnt.
c. Where an outer face of the bolted parts has a slope of more than 1 to 20 with respect to a plane normal to the bolt axis, a smooth beveled washer shall be used to compensate for the lack of parallelism.

3. Welded Connections:

a. Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work.
b. No welds shall be applied to flanges of tension members perpendicular to the direction of stress.
c. Turn side and end fillet welds around corners for a minimum length of twice the nominal size of the weld. To assure compliance, detail shall be indicated on shop drawings. Length of end returns are not to be included in the calculated welded length.
d. Parts to be joined shall be brought into contact as close as possible. If the separation exceeds 1/16 inch, the size of the weld shall be increased by the amount of separation.
e. Material thicker than 3/4 inch shall be preheated before welding per the requirements of the American Welding Society.
f. Where distortions are likely to occur due to uneven heating or shrinking of the member, a program for special preheating and cooling and a proper sequence for the welding progress shall be worked out by the Contractor to ascertain alignment of the final product and to prevent build-up of initial stresses.

3.2 GALVANIZING

A. Items to be galvanized are indicated on the Drawings.

B. Galvanize items after fabrication.

C. Galvanizing shall be hot dip per ASTM A123 with these minimum coating thicknesses:

Steel Category Thickness Grade	Steel Thickness	Min. Coating
Rolled Sections	Less than 1/4"	85
Rolled Sections	1/4" or more	100
Pipe & Tube Sections	Less than 1/4"	75
Pipe & Tube Sections	1/4" or more	100

D. Use galvanizing repair paint for connections within galvanized construction and for touch-up of damaged galvanized surfaces.

E. Prepare surfaces to be repaired/touched-up in accordance with paint manufacturer's written instructions.

3.3 SHOP PAINTING

A. General:

1. In general, structural steel is covered with one of the following: fire-proofing, prime paint or galvanizing.

   a. Exception: Steel not to be prime painted is indicated on the Drawings.
   b. Areas of steel to receive fire-proofing are shown on the Architectural Drawings.
   c. Areas of steel to remain unpainted are shown on the Structural Drawings.

2. Specifics are:

   a. Paint steel unless galvanized or to receive sprayed-on fire-proofing or indicated to be “un-painted”.

      1) Do not paint the following surfaces:

a) Connection areas to be welded.
b) To receive bolts with slip-critical connections.
c) Top of top flanges of composite beams to receive shear connectors.

b. Galvanize steel indicated as such.

3. Steel located outside or straddling the air-barrier is painted or galvanized. Areas/sections to be galvanized are indicated on the drawings. Typical examples are:

a. Brick-frames, kickers.
b. Envelope-support framing.

B. Cleaning and Preparation:

1. After inspection and before shipping, clean steel work, painted or unpainted. Remove loose rust, loose mill scale, and spatter, slag, or flux deposits. Clean steel in accordance with Steel Structures Painting Council (SSPC).
2. Painted Steel:

a. Clean non-architectural-exposed steel indicated to be painted in accordance with SSPC-SP3, "Power-Tool Cleaning".
b. Clean architectural-exposed steel by one of the following:

1) SSPC-SP6 “Commercial Blast Cleaning”.
2) SSPC-SP11 “Power Tool Cleaning to Bare Metal”.

3. Galvanized Steel:

a. Prepare for hot dip galvanizing by the three step process of:

1) caustic cleaning
2) acid pickling
3) fluxing.

b. Surfaces to be repaired or touched up with galvanizing repair paint shall be cleaned and prepared in accordance with the repair paint manufacturer's written instructions.

4. Cold-Galvanized Steel:

a. Steel permitted to be cold-galvanized shall be prepared in accordance with SSPC-SP6, commercial blast-cleaning, with a minimum surface profile of 2.0 mils.

C. Cold-Galvanizing:

1. Contractor shall submit for approval to Architect the proposed locations to receive cold-galvanizing.

a. Do not fabricate any members subject to proposed cold-galvanizing until receiving written approval from Architect.

2. Cold-galvanizing may be used as a substitute for hot-dip galvanizing for the following conditions:

a. Member is not immersed.
b. Member is exposed to the atmospheric elements only.

1) Member is not in an area subject to road-salts or other corrosive elements.

3. Apply cold-galvanizing in strict compliance with manufacturer's written instructions.
4. Minimum dry-film thickness: 3.5 mils.

D. Painting:

1. Immediately after surface preparation, apply structural steel primer paint in accordance with manufacturer's instructions. Use painting methods that result in full coverage of joints, corners, edges, and exposed surfaces.
2. If for any reason any surface to receive field welds or slip critical bolts is painted, remove such paint completely to within stated limits before field welding or bolting.
3. Application:

a. Apply one prime coat of paint to dry, clean surfaces by brush, spray or roller with no running or sagging.
b. The coverage rate per coat shall not be more than 400 sq.ft. per gal. resulting in a minimum wet film thickness of 4 mils and providing a minimum dry film thickness of 2.5 mils.

3.4 ERECTION

A. Examination:

1. For new construction over and adjacent to existing structures: Use Licensed Surveyor prior to preparation of shop drawings to determine dimensions and any one or more of elevations that may affect steel detailing, fabrication and installation.
2. Prior to erection use Licensed Surveyor to:

a. Verify column grid.
b. Determine elevations of concrete and masonry bearing surfaces.
c. Determine location and installation technique (straight; at a skew, etc.) of anchor rods or similar devices.

3. Report discrepancies with proposed corrective measures to Architect.

a. If corrective measures are required, do not proceed with erection until corrective measures are approved by Architect, and subsequent corrections have been made.

B. Temporary Bracing:

1. The Contractor shall be fully responsible for the design, strength, safety and adequacy of all temporary bracing and all methods of construction. The specifying herein of requirements for bracing or construction methods, or any other requirements of the Specifications shall be construed as the minimum acceptable, and shall not eliminate, lessen or restrict in any manner the responsibility of the Contractor for all construction methods and for the safety and stability of the structural steel work at all stages of erection, until such time as the permanent bracing system becomes effective.
2. Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads.
3. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.
4. Remove temporary members and connections after permanent members are in place, final connections are made, and baseplates are grouted.

C. Temporary Planking:

1. Provide temporary planking and working platforms as necessary to effectively complete work.

D. Setting Bases and Bearing Plates:

1. Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base and bearing plates.
2. Tighten anchor rods after supported members have been positioned and plumbed.
3. Grout solid between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.

    a. Comply with manufacturer's written instructions.

E. Field Assembly:

1. Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces that will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
2. Level and plumb individual members of structure within specified AISC tolerances, unless more stringent requirements are indicated on the drawings.
3. Establish required leveling and plumbing measurements on mean operating temperature of structure. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.
4. Splice members only where indicated and accepted on shop drawings.

F. Field Bolting: Similar procedures as for shop fabrication.

1. Do not enlarge unfair holes in members by burning or by using drift pins. Drill or ream holes that must be enlarged to admit bolts. Refer to Fabrication for additional requirements.

a. Do not use oversized hole in the direction of loading.
b. Increase bolt size to match enlarged hole.

1) Where one bolt in a connection was increased, increase the other bolts in the connection, too.

2. Tighten connection only after the drift pin is removed.

a. Limit bearing-type connection to snug-tight only.

G. Field Welding: Similar procedures as for shop welding.

1. At subfreezing temperatures, preheat all metal located within 3 inches of the weld to a minimum temperature of about 70 degrees fahrenheit. No welding shall be done at temperatures below zero degrees fahrenheit. No welding shall be done during rain, snow, or when the surfaces are covered with ice, unless the operator and the working area are properly protected.

H. Gas Cutting:

1. Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members that are not under stress, as acceptable to Architect. Finish gas-cut sections equal to a sheared appearance when permitted.

I. Touch-Up Painting:

1. Immediately after erection, clean field welds, slip critical bolted connections, and abraded areas. Clean and prepare in accordance with paint manufacturer's written requirements.
2. Apply paint using same material as used for shop painting.

3.5 QUALITY CONTROL

A. Testing Agency:

1. Refer to Division 1 Section "Quality Control Services - General" for Contractor's and Independent Testing Agency's administrative requirements.

B. Quality Control and Testing:

1. Refer to Drawings and Division 1 Section(s) "Quality Control - General" and "Testing and Inspection Services - Building" for requirements.

C. Corrective Work:

1. Correct deficiencies in structural steel work which inspections and laboratory test reports have indicated to be not in compliance with requirements.
2. Perform additional tests, at Contractor's expense, as may be necessary to show compliance of corrected work.
3. Contractor shall submit to the Architect for approval Drawings showing reasons for and details of proposed corrective work, and receive approved Drawings prior to performing the corrective work.
4. Replace with new work where proposed repair methods are not acceptable to Architect.

    a. The option of repair or replace is at the discretion of the Architect.

END OF SECTION
JAC

SECTION 055100 - METAL STAIRS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Preassembled steel stairs with concrete-filled treads.
2. Industrial-type stairs with steel grating treads.
3. Steel tube railings at “Metal-Pan Stairs” only where indicated on Drawings, at all “Metal Bar-Grating Stairs” and at all concrete stairs.

    a. Steel tube railings attached to metal stairs.
    b. Steel tube handrails attached to walls adjacent to metal stairs and concrete stairs.

B. Related Sections:

1. Section 033000 "Cast-in-Place Concrete" for concrete fill for stair treads and platforms.

1.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design metal stairs, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. Structural Performance of Stairs: Metal stairs shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.

1. Uniform Load: 100 lbf/sq. ft. (4.79 kN/sq. m).
2. Concentrated Load: 300 lbf (1.33 kN) applied on an area of 4 sq. in. (2580 sq. mm).
3. Uniform and concentrated loads need not be assumed to act concurrently.
4. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.
5. Limit deflection of treads, platforms, and framing members to L/360 or 1/4 inch (6.4 mm), whichever is less.

C. Structural Performance of Railings: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.

1. Handrails and Top Rails of Guards:

a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
b. Infill load and other loads need not be assumed to act concurrently.

D. Seismic Performance: Metal stairs shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. Seismic Design Category B.

1.4 ACTION SUBMITTALS

A. Product Data: For metal stairs and the following:

1. Grating treads.
2. Paint products.
3. Grout.

B. LEED Submittals:

1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.

C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

D. Samples for Verification: For the following products, in manufacturer's standard sizes:

1. At Industrial-Type Stairs:

a. Grating treads.
b. Abrasive nosings.

E. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified State of Michigan licensed professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified professional engineer and testing agency.

B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for stairs and railings.

1. Test railings according ASTM E 894 and ASTM E 935.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of products.

B. NAAMM Stair Standard: Comply with "Recommended Voluntary Minimum Standards for Fixed Metal Stairs" in NAAMM AMP 510, "Metal Stairs Manual," for class of stair designated, unless more stringent requirements are indicated.

1. Preassembled Stairs: Commercial class.
2. Industrial-Type Stairs: Industrial class.

C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

D. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.3, "Structural Welding Code - Sheet Steel."

1.7 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for metal stairs. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

C. Coordinate locations of hanger rods and struts with other work so that they will not encroach on required stair width and will be within the fire-resistance-rated stair enclosure.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.2 FERROUS METALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Steel Tubing: ASTM A 500 (cold formed) or ASTM A 513.

D. Rolled-Steel Floor Plate: ASTM A 786/A 786M, rolled from plate complying with ASTM A 36/A 36M or ASTM A 283/A 283M, Grade C or D.

E. Steel Bars for Grating Treads: ASTM A 36/A 36M or steel strip, ASTM A 1011/A 1011M or ASTM A 1018/A 1018M.

F. Wire Rod for Grating Crossbars: ASTM A 510 (ASTM A 510M).

G. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

H. Uncoated, Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, either commercial steel, Type B, or structural steel, Grade 25 (Grade 170), unless another grade is required by design loads; exposed.

I. Uncoated, Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, either commercial steel, Type B, or structural steel, Grade 30 (Grade 205), unless another grade is required by design loads.

J. Galvanized-Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating, either commercial steel, Type B, or structural steel, Grade 33 (Grade 230), unless another grade is required by design loads.

2.3 FASTENERS

A. General: Provide zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 12 for exterior use, and Class Fe/Zn 5 where built into exterior walls. Select fasteners for type, grade, and class required.

B. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.

C. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.

1. Provide mechanically deposited or hot-dip, zinc-coated anchor bolts for stairs indicated to be galvanized.

D. Machine Screws: ASME B18.6.3 (ASME B18.6.7M).

E. Lag Screws: ASME B18.2.1 (ASME B18.2.3.8M).

F. Plain Washers: Round, ASME B18.22.1 (ASME B18.22M).

G. Lock Washers: Helical, spring type, ASME B18.21.1 (ASME B18.21.2M).

H. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.4 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Shop Primers: Provide primers that comply with Division 9 Section “Painting” requirements.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

E. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.5 FABRICATION, GENERAL

A. Provide complete stair assemblies, including metal framing, hangers, struts, railings, clips, brackets, bearing plates, and other components necessary to support and anchor stairs and platforms on supporting structure.

1. Join components by welding unless otherwise indicated.
2. Use connections that maintain structural value of joined pieces.

B. Preassembled Stairs: Assemble stairs in shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

E. Form exposed work with accurate angles and surfaces and straight edges.

F. Weld connections to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. Weld exposed corners and seams continuously unless otherwise indicated.
5. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds: no evidence of a welded joint .

G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) screws or bolts unless otherwise indicated. Locate joints where least conspicuous.

H. Fabricate joints that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

2.6 STEEL-FRAMED STAIRS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following :

1. Alfab, Inc.
2. American Stair, Inc.

3. Sharon Companies Ltd. (The).
4. Steel fabricator selected for work in Section 051200.

B. Stair Framing:

1. Fabricate stringers of steel channels.

   a. Provide closures for exposed ends of channel stringers.

2. Construct platforms of steel channel headers and miscellaneous framing members as needed to comply with performance requirements.
3. Weld or bolt stringers to headers; weld or bolt framing members to stringers and headers. If using bolts, fabricate and join so bolts are not exposed on finished surfaces.
4. Where stairs are enclosed by gypsum board or shaft-wall assemblies, provide hanger rods or struts to support landings from floor construction above or below. Locate hanger rods and struts where they will not encroach on required stair width and will be within the fire-resistance-rated stair enclosure.
5. Where masonry walls support metal stairs, provide temporary supporting struts designed for erecting steel stair components before installing masonry.

C. Metal-Pan Stairs: Form risers, subtread pans, and subplatforms to configurations shown from steel sheet of thickness needed to comply with performance requirements but not less than 0.067 inch (1.7 mm).

1. Steel Sheet: Uncoated cold -rolled steel sheet.
2. Directly weld metal pans to stringers; locate welds on top of subtreads where they will be concealed by concrete fill. Do not weld risers to stringers.
3. Shape metal pans to include nosing integral with riser.
4. Provide subplatforms of configuration indicated or, if not indicated, the same as subtreads. Weld subplatforms to platform framing.

   a. Smooth Soffit Construction: Construct subplatforms with flat metal under surfaces to produce smooth soffits.

D. Metal Bar-Grating Stairs: Form treads and platforms to configurations shown from metal bar grating; fabricate to comply with NAAMM MBG 531, "Metal Bar Grating Manual."

1. Fabricate treads and platforms from welded steel grating with openings in gratings no more than 1/2 inch (12 mm) in least dimension.
2. Surface: Plain.
3. Finish: Galvanized.
4. Fabricate grating treads with rolled-steel floor plate nosing and with steel angle or steel plate carrier at each end for stringer connections. Secure treads to stringers with bolts.
5. Fabricate grating platforms with nosing matching that on grating treads. Provide toeplates at open-sided edges of grating platforms. Weld grating to platform framing.

2.7 STAIR RAILINGS

A. Steel Tube Railings: Fabricate railings to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of tube, post spacings, and anchorage, but not less than that needed to withstand indicated loads.

1. Configuration at Metal Pan Stairs:

   a. Rails and Posts: 1-5/8-inch- (41-mm-) diameter top and bottom rails and posts.
   b. Intermediate Rail Infill: 1-5/8-inch- (41-mm-) diameter rails spaced as indicated on the Drawings.

2. Configuration at Metal Bar Grating Stairs:

   a. Rails and Posts: 1-5/8 inch – (41 mm) diameter top and bottom rails and posts.
   b. Intermediate Rails Infill: 1-5/8-inch- (41-mm-) diameter intermediate rails spaced as indicated on the Drawings.

B. Welded Connections: Fabricate railings with welded connections. Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Finish welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds: no evidence of a welded joint .

C. Form changes in direction of railings as follows:

1. As detailed, or if not detailed, by radius bands.

D. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

E. Close exposed ends of railing members with prefabricated end fittings.

F. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.

G. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnecting components and for attaching to other work. Furnish inserts and other anchorage devices for connecting to concrete or masonry work.

1. Connect posts to stair framing by direct welding unless otherwise indicated.
2. For galvanized railings, provide galvanized fittings, brackets, fasteners, sleeves, and other ferrous-metal components.

3. For nongalvanized railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors embedded in exterior masonry and concrete construction.

H. Fillers: Provide fillers made from steel plate, or other suitably crush-resistant material, where needed to transfer wall bracket loads through wall finishes to structural supports. Size fillers to suit wall finish thicknesses and to produce adequate bearing area to prevent bracket rotation and overstressing of substrate.

2.8 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal stairs after assembly.

1. Exterior stair assemblies, and elsewhere where indicated: Galvanized.
2. Interior stair assemblies: Shop primed.

C. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
2. Fill vent and drain holes that will be exposed in finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

D. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed products:

1. Exterior Stairs: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
2. Interior Stairs: SSPC-SP 3, "Power Tool Cleaning."

E. Apply shop primer to uncoated surfaces of metal stair components, except those with galvanized finishes and those to be embedded in concrete or masonry unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal stairs to in-place construction. Include threaded fasteners for concrete and masonry inserts, through-bolts, lag bolts, and other connectors.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal stairs. Set units accurately in location, alignment, and elevation, measured from established lines and levels and free of rack.

C. Install metal stairs by welding stair framing to steel structure or to weld plates cast into concrete unless otherwise indicated.

D. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

E. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

F. Field Welding: Comply with requirements for welding in "Fabrication, General" Article.

G. Place and finish concrete fill for treads and platforms to comply with Section 033000 "Cast-in-Place Concrete."

3.2 INSTALLING RAILINGS

A. Adjust railing systems before anchoring to ensure matching alignment at abutting joints. Space posts at spacing indicated or, if not indicated, as required by design loads. Plumb posts in each direction. Secure posts and rail ends to building construction as follows:

1. Anchor posts to steel by welding directly to steel supporting members.
2. Anchor handrail ends to concrete and masonry with steel round flanges welded to rail ends and anchored with postinstalled anchors and bolts.

B. Attach handrails to wall with wall brackets. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt. Provide bracket with 1-1/2-inch (38-mm) clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads. Secure wall brackets to building construction as follows:

1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
2. For hollow masonry anchorage, use toggle bolts.
3. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.

3.3 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION 055100
DWH

SECTION 075323 - EPDM MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Adhered membrane roofing system.
2. Vapor retarder.
3. Roof insulation.

B. Related Sections include the following:

1. Division 1 Section "Alternates" for alternate for cold weather roofing if weather conditions are not appropriate for roof application when building is ready to receive roofing.
2. Division 6 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
3. Division 7 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.
4. Division 7 Section "Joint Sealants."
5. Division 7 Section “Manufactured Roof Specialties”.
6. Division 7 Section “Roof Accessories”.
7. Division 22 Sections “Storm Drainage Piping Specialties” for roof drains.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.

C. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7.

D. FMG Listing: Provide roofing membrane, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.

1. Fire/Windstorm Classification: Class 1A-75.
2. Hail Resistance: SH.

E. Solar Reflectance Index: Not less than 105 when calculated according to ASTM E 1980 based on testing identical products by a qualified testing agency.

F. Energy Performance: Provide roofing system that is listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.

G. Energy Performance: Provide roofing system with initial solar reflectance not less than 0.76 and emissivity not less than 0.84 when tested according to CRRC-1.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. LEED Submittals:

1. Product Test Reports for Credit SS 7.2: For roof materials, documentation indicating that roof materials comply with Solar Reflectance Index requirement.
2. Product Data for Credit IEQ 4: For adhesives and sealants used inside the weatherproofing system, documentation including printed statement of VOC content.

C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.

1. Base flashings and membrane terminations.
2. Tapered insulation, including slopes.
3. Insulation fastening patterns.

D. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of meeting performance requirements.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.

G. Research/Evaluation Reports: For components of membrane roofing system.

H. Maintenance Data: For roofing system to include in maintenance manuals.

I. Warranties: Special warranties specified in this Section.

J. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.

B. Manufacturer Qualifications: A qualified manufacturer that has UL listing and FMG approval for membrane roofing system identical to that used for this Project.

C. Source Limitations: Obtain components for membrane roofing system approved by roofing membrane manufacturer.

D. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.

E. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roofing system including, but not limited to, the following:

1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

    a. Verify if roofing system warranty is in affect at location of tie-in to existing roof system. All work to be performed as required to maintain any existing roof system warranty.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

    1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.

1. Special warranty includes roofing membrane, base flashings, roofing accessories, roof insulation, fasteners, substrate board, vapor retarder, and other components of membrane roofing system.
2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:

1. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 EPDM ROOFING MEMBRANE

A. EPDM Roofing Membrane: ASTM D 4637, Type I, nonreinforced uniform, flexible sheet made from EPDM, and as follows:

1. Manufacturers:

a. Carlisle SynTec Incorporated; Sure-White EPDM Membrane.
b. Firestone Building Products Company; EcoWhite Platinum EPDM Membrane.

2. Thickness: 90 mils (2.2 mm), nominal.
3. Exposed Face Color: White on black.

2.3 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. Plastic Foam Adhesives: 50 g/L.
b. Gypsum Board and Panel Adhesives: 50 g/L.
c. Multipurpose Construction Adhesives: 70 g/L.
d. Fiberglass Adhesives: 80 g/L.
e. Contact Adhesive: 80 g/L.
f. Single-Ply Roof Membrane Sealants: 450 g/L.
g. Nonmembrane Roof Sealants: 300 g/L.
h. Sealant Primers for Nonporous Substrates: 250 g/L.
i. Sealant Primers for Porous Substrates: 775 g/L.
j. Other Adhesives and Sealants: 250 g/L.

B. Sheet Flashing: 60-mil- (1.5-mm-) thick EPDM, partially cured or cured, according to application.

C. Bonding Adhesive: Manufacturer's standard bonding adhesive to suit specified requirements and comply with VOC limits.

D. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch- (75-mm-) wide minimum, butyl splice tape with release film.

E. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.

F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

G. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

H. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

I. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed flashings at window washing anchors, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.4 SUBSTRATE BOARDS

A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch (13 mm) thick.

1. Product: Subject to compliance with requirements, provide "Dens-Deck - Prime" manufactured by Georgia-Pacific Corporation.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening substrate panel to roof deck.

2.5 VAPOR RETARDER

A. Vapor retarder shall be peel and stick: Carlisle “725 Self-Adhering Air and Vapor Barrier” or Firestone “Basegard SA” self-adhered version. Product shall be suitable for application within the specified roof system.

2.6 ROOF INSULATION

A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, felt or glass-fiber mat facer on both major surfaces.

1. Manufacturers:

a. Apache Products Company.
b. Atlas Roofing Corporation.
c. Celotex Corporation.
d. GAF Materials Corp.
e. Carlisle SynTec Incorporated.
f. Firestone Building Products Company.

C. Tapered Insulation Where Indicated: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches (1:48), unless otherwise indicated.

D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.7 INSULATION ACCESSORIES

A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.

C. Cold Fluid-Applied Adhesive: Manufacturer's standard cold fluid-applied adhesive formulated to adhere roof insulation to substrate.

D. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, ¼ inch (6 mm) thick.

1. Product: Subject to compliance with requirements, provide “Dens-Deck Prime” manufactured by Georgia-Pacific Corporation.

2.8 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads, approximately 3/16 inch (5 mm) thick, and acceptable to membrane roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Division 5 Section "Steel Roof Deck."
4. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
5. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
6. Verify that concrete curing compounds that will impair adhesion of roofing components to roof deck have been removed.
7. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 SUBSTRATE BOARD

A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

1. Fasten substrate board to top flanges of steel deck according to recommendations in FMG's "Approval Guide" for specified Windstorm Resistance Classification.

3.4 VAPOR-RETARDER INSTALLATION

A. Apply vapor retarder in accordance with the manufacturer’s printed instruction and approved shop drawings.

B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into membrane roofing system.

C. Provide elastomeric vapor barrier extension for expansion joints.

3.5 INSULATION INSTALLATION

A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.

C. Install tapered insulation under area of roofing to conform to slopes indicated.

D. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2 inches (50 mm) or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.

1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.

G. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:

1. Set each layer of insulation in a cold fluid-applied adhesive.
2. Adhere insulation according to requirements of FM's "Approval Guide" for specified Windstorm Resistance Classification and the insulation and roofing system manufacturers' written instructions.

H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Stagger joints from joints in insulation below a minimum of 6 inches.

1. Set cover boards in a cold fluid-applied adhesive in accordance with requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.

I. Install roof insulation in vertical locations in roof areas as indicated, and secure with adhesive to substrate surfaces.

3.6 ADHERED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.

B. Start installation of roofing membrane in presence of membrane roofing system manufacturer's technical personnel.

C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

D. Bonding Adhesive: Apply bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.

E. Mechanically or adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

G. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations.

H. Repair tears, voids, and lapped seams in roofing that does not meet requirements.

I. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

3.7 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer’s written instructions.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.

B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.

1. Notify Architect or Owner 48 hours in advance of date and time of inspection.

C. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.10 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075323
DWH

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Work of this Section specifies sheet metal and flexible flashing work related to or used in conjunction with masonry work, roofing work, waterproofing, and the general waterproof integrity of the building structure.

B. This Section includes, but is not limited to, shop and field fabricated flashings used at the perimeter or penetrations of roofing, siding, or waterproofing work where not integral with membrane roofing and waterproofing and metal roofing and siding systems, and in masonry construction at foundation walls, shelf angles, and lintels.

C. Items specified in this Section may be installed by the roofer, masonry subcontractor, or other subcontractors, depending on the project requirements. Carefully coordinate with related Sections to avoid duplication or omission of required items.

D. This Section includes, but is not limited to, sheet metal and flexible flashing of the following types:

Type A;	Concealed Flexible Through Wall Flashing
Type C;	Wall Drip Edges.
Type E;	1 Piece Capflashing.
Type F;	2 Piece Capflashing.
Type J;	Custom Coping.

E. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 4 Sections for installation of through-wall flashing and other integral masonry flashings specified.
2. Division 7 Section "Expansion Joint Cover Assemblies" for manufactured wall, floor and ceiling expansion-joint covers.
3. Division 7 Section "Roof Specialties" for copings, fascia, scuppers, gravel stops, gutters and downspouts, downspout splash pans, and reglets.
4. Division 7 Section "Roof Accessories" for set-on-type pipe portals, curbs, equipment supports, roof hatches, and other manufactured roof specialty and accessory units.
5. Division 7 Roofing Sections for installation of flashing and roofing accessories provided as part of roofing-system work.

6. Division 7 Section "Joint Sealants" for elastomeric sealants.
7. Division 8 Entrance and Storefront and Curtain Wall Sections for flashings provided integral with the work of those Sections.
8. Division 15 Sections for overhead piping safety pans.
9. Division 15 Section for the metal umbrella flashing at curbed openings through roof.

1.3 PERFORMANCE REQUIREMENTS

A. Install sheet metal and flexible flashings and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

1.4 SUBMITTALS

A. General:

1. Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data:

1. For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

C. Shop Drawings:

1. None required.

D. Samples:

1. None required.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Engage an experienced Installer who has completed sheet metal and flexible flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful performance.

1.6 PROJECT CONDITIONS

A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation to ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Stainless-Steel Sheet:

1. ASTM A 167, Type 304, soft annealed, with No. 2D finish, except where harder temper is required for forming or performance; minimum 0.0187 inch (0.5 mm) thick, unless otherwise indicated.

B. Laminated Flashing:

1. Copper-Fabric Laminate:

a. Copper sheet of weight per sq. ft. indicated below, bonded with asphalt between 2 layers of glass fiber cloth.

1) Weight: 5 oz.

2. Products:

a. Subject to compliance with requirements, provide one of the following:

1) "Copper Fabric", Afco Products Inc.
2) "Type FCC-Fabric Covered Copper", Phoenix Building Products.
3) "Copper Fabric Flashing", Sandell Manufacturing Co., Inc.
4) "York Copper Fabric Flashing", York Manufacturing, Inc.
5) “C-FAB Copper Fabric Flashing”, Hohmann & Barnard, Inc.

C. Termination Bar:

1. Stainless Steel Bar:

a. 0.125 inch by 1-inch (min.), Type 304 stainless steel with ¼-inch holes spaced at 8 inches center-to-center.

2. Products:

a. Subject to compliance with requirements, provide one of the following:

1) T1 Termination Bar, Hohmann & Barnard, Inc.
2) T-Bar (Custom), Heckmann Building Products, Inc.
3) Stainless Steel Termination Bar, Advanced Building Products, Inc.

2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Stainless-Steel Welding Rods:

1. Type recommended by stainless-steel sheet manufacturer for type of metal sheets furnished.

B. Solder:

1. For Stainless Steel: ASTM B 32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.

C. Fasteners:

1. Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.

D. Asphalt Mastic:

1. SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil (0.4-mm) dry film thickness per coat.

E. Mastic Sealant:

1. Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

F. Elastomeric Sealant:

1. Single or multi-component nonsag urethane, as specified in Division 7 Section "Joint Sealants".

G. Adhesives:

1. Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.

H. Paper Slip Sheet:

1. 5-lb/square (0.244 kg/sq. m) red rosin, sized building paper conforming to FS UU-B-790, Type I, Style 1b.

I. Polyethylene Underlayment:

1. ASTM D 4397, minimum 6-mil- (0.15-mm-) thick black polyethylene film, resistant to decay when tested according to ASTM E 154.

J. Metal Accessories:

1. Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

K. Roofing Cement:

1. ASTM D 4586, Type I, asbestos free, asphalt based.

2.3 FABRICATION, GENERAL

A. Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.

B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.

D. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.

E. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.

1. Size cleats and attachment devices as recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

F. Expansion Provisions:

1. Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

G. Sealed Joints:

1. Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.

H. Separation of Materials:

1. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.

2.4 FLASHING FABRICATIONS

A. General:

1. Fabricate items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and material.

B. Type A; Concealed Flexible Through Wall Flashing:

1. Copper-Fabric Laminate.

C. Type C; Drip Edges:

1. Stainless Steel: 0.0156 inch (0.4 mm) thick.

D. Type E; 1 Piece Capflashing:

1. Stainless Steel: 0.0187 inch (0.5 mm) thick.

E. Type F; 2 Piece Capflashing:

1. Stainless Steel: 0.0187 inch (0.5 mm) thick.
2. Where receiver portion extends more than 2 inches into masonry, provide ribs formed in dovetail or sawtooth pattern at 3-inch (75-mm) intervals along length of flashing to provide a 3-way integral mortar bond and weep-hole drainage.

F. Type J; Custom Copings:

1. Stainless Steel: 0.0187 inch (0.5 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions under which flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Unless otherwise indicated, install flashing and trim to comply with performance requirements, manufacturer's installation instructions, SMACNA's "Architectural Sheet Metal Manual", and details shown. Anchor units of Work securely in place, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.
2. Install exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems acceptable to the Owner's Representative. Install flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating flashing system.

B. Expansion Provisions:

1. Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

C. Soldered Joints:

1. Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm), except reduce pre-tinning where pre-tinned surface would show in completed Work.

D. Welded Joints:

1. Welded joints are to be used for stainless steel only.
2. Clean surfaces to be welded, removing oils and foreign matter. Weld and grind joint smooth. Comply with applicable requirements of SMACNA.

E. Sealed Joints:

1. Unless otherwise shown, use mastic sealant when sealant will be completely concealed within the joint and elastomeric sealant when sealant will be exposed or used in an expansive joint condition.
2. Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with elastomeric sealant and form metal to completely conceal sealant.
3. Use joint adhesive for nonmoving joints specified not to be soldered.

F. Separations:

1. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.
2. Underlayment:

    a. Where installing stainless steel or aluminum directly on cementitious or wood substrates, install a slip sheet of red-rosin paper and a course of polyethylene underlayment.

3. Bed flanges of Work in a thick coat of roofing cement where required for waterproof performance.

G. Flashings in Masonry; General:

1. Refer to standard masonry detail drawing(s) for additional requirements.
2. Install embedded flashing in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.
3. Prepare masonry surfaces so that they are smooth and free from projections that could puncture flashing.
4. Place through-wall flashing on bed of mortar and cover with mortar. Seal penetrations in flashing with / adhesive / sealant / tape / metal cap soldered / in place as appropriate with the flashing material used before covering with mortar.
5. Install flashing system as follows, unless otherwise shown on the Drawings:

    a. At lintels and shelf angles, extend flashing full length of lintel or shelf angle to next masonry joint and exposed metal to opening width. Extend flashing from exterior face of outer wythe of masonry, through the outer wythe, turned up a minimum of 4 inches, and through the inner wythe to within 1/2 inch of the interior face of the wall in exposed masonry. Where interior surface of inner wythe is concealed by furring, carry flashing completely through the inner wythe and turn up approximately 2 inches, unless otherwise indicated.
    b. At heads and sills, extend flashing system as specified above unless otherwise indicated but turn up ends not less than 2 inches to form an end dam.

c. Install flashing in masonry veneer walls as specified above but carry flashing up face of sheathing at least 8 inches and behind air infiltration barrier/building paper.
d. Interlock end joints of ribbed sheet metal flashings by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer and set overlap in mastic.
e. Preform sheet metal flashings at exterior face of masonry to form drip.
f. Cut off concealed flashing back 1/2" from face of wall.

H. Capflashings:

1. Coordinate installation of capflashings with installation of assemblies to be protected by capflashing. Install capflashings in joints provided in masonry, concrete, or stone, as applicable. Waterproof joint by means of elastomeric sealant. Lap capflashing joints a minimum of 2 inches (50 mm) and bed with sealant.

I. Equipment Support Flashing:

1. Coordinate equipment support flashing installation with roofing and equipment installation. Weld or seal flashing to equipment support member.

3.3 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

END OF SECTION
DWH