RAYMOND L. SMITH BUILDING

NEW WAVE POOL

CONCRETE, PLUMBING & ELECTRICAL PACKAGE

20-17-02

SEPTEMBER 22, 2017
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Reference Drawings:

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Edinburgh Design Drawing (Wave tank manufacturer):
- Sheet 1 of 4  MTU-GA01  MTU flume tank
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MICHIGAN TECHNOLOGICAL UNIVERSITY
RAYMOND L. SMITH BUILDING (ME-EM)
NEW WAVE POOL - CONCRETE, PLUMBING AND ELECTRICAL PACKAGE
20-17-02

INVITATION TO BID

PROJECT: Wave pool concrete, plumbing and electrical work in the Raymond L. Smith (ME-EM) Building

DUE DATE: Until 3:00P.M. Local time (EDT) on October 9th, 2017, the Owner will receive sealed proposals for the work as herein set forth at the offices of:

Attn. Lori Weir - Facilities Management
100 Facilities Building - Waterfront
1400 Townsend Drive
Michigan Technological University
Houghton, MI 49931

at which time and place all proposals will be publicly opened and read aloud.

DOCUMENTS: Bidding documents consisting of proposal forms, plans, specifications, and other pertinent data can be viewed and downloaded from the Facilities Management web site at the following address: http://www.mtu.edu/facilities/planning/bids/
Please call Project Engineer, Jim Rathbun at 906-487-2305, if you have technical questions.

SITE INSPECTIONS: Bidders are to attend a mandatory Pre-Bid Walk-through 2 PM Wednesday, October 4th, 2017 at the 1st floor elevator lobby of the Raymond A. Smith Building (MEEM) on the Michigan Tech campus, Houghton, Michigan.

PROPOSAL GUARANTEE: All bidders submitting bids in excess of $50,000 must provide a certified check or bank draft payable to Michigan Technological University - or - a satisfactory Bid Bond executed by the Bidder and surety company, in an amount equal to but not less than five percent (5%) of the maximum proposal amount.

CONTRACT SECURITY: The successful bidders will be required to furnish a satisfactory performance bond and labor and material payment bond in amounts each of one-hundred percent (100%) of the accepted bid.

EQUAL EMPLOYMENT OPPORTUNITY: All bidders shall comply with all current Federal and State Equal Employment Opportunity requirements.

Michigan Technological University reserves the right to reject any or all bids and to waive any informality or irregularity in any bid received.

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer, which includes providing equal opportunity for protected veterans and individuals with disabilities.
BID PROPOSAL FORM 20-17-02

Attn: Lori Weir - Facilities Management
Michigan Technological University
1400 Townsend Drive
Houghton, MI  49931-1295

Having carefully read the specifications and drawings dated September 22, 2017 for Wave pool concrete and plumbing & electrical work in the Raymond L. Smith (ME-EM) Building, the undersigned agrees to perform the work in accordance with Invitation to Bid No. 20-17-02

The undersigned also agrees to complete all work for this project by December 20th, 2017 or sooner

A) Our bid to place concrete, demo electrical & plumbing tie-ins in the Raymond L. Smith (ME-EM) in accordance with Drawing and Specifications dated 9/22/17:

$ ____________________________

(Bid price in numbers and words)

Bidder acknowledges receipt of the following addenda:

Addendum No. ________ Dated: ______________
Addendum No. ________ Dated: ______________
Addendum No. ________ Dated: ______________

Name: __________________________ Date: __________
(Signature)
Name: __________________________
(Print)
Title: __________________________

Firm: __________________________

Sealed proposals will be received at Facilities Management, Bldg. 44, on the waterfront of Michigan Technological University, Houghton, Michigan until 3:00 P.M. on October 9th, 2017.
(Return one copy to Facilities Management. Retain one copy for your files.)
### Agreement between Contractor and Owner for Construction (DRAFT)

<table>
<thead>
<tr>
<th>Owner:</th>
<th>Michigan Tech University, 1400 Townsend Dr., Houghton, MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project:</td>
<td>Wave pool concrete, electrical and plumbing work - Raymond L. Smith (ME-EM) Building</td>
</tr>
<tr>
<td>MTU Project Number:</td>
<td>20-17-02</td>
</tr>
<tr>
<td>Contract for:</td>
<td>Installation of three pool walls, waterproofing, electrical demolition and plumbing work in preparation for new wave tank in the Raymond A. Smith building.</td>
</tr>
<tr>
<td>Contractor:</td>
<td>TBD</td>
</tr>
<tr>
<td>Contract Start Date:</td>
<td>October 16th, 2017</td>
</tr>
<tr>
<td>Contract Completion Date:</td>
<td>December 20th, 2017 or Date of Final Payment</td>
</tr>
</tbody>
</table>

This Agreement, is authorized and made to be effective as of this day of ____________ between Michigan Technological University, a Michigan constitutional corporation located in Houghton, Michigan, (the “University”) and < >, (the “Contractor”), a corporation located at < >, for contract services to be provided by the Contractor, to the University for, and in connection with, the following described project located at the University’s campus in Houghton, Michigan. The Contractor and the Owner, agree as follows:

**ARTICLE 1 - THE CONTRACT DOCUMENTS:**

The Contract Documents consists of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Specifications, Construction Plans/Drawings, etc. as listed in this Agreement and Modifications issued after execution of this Agreement; these form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereof and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents other than Modifications, appears in Article 6.

**ARTICLE 2 - SCOPE OF THE WORK:**

The Contractor shall furnish all of the materials and perform all of the Work shown on Drawings and described in the Specifications for Wave pool concrete and plumbing work in the Raymond L. Smith (ME-EM) Building - Project 20-17-02, prepared by Michigan Tech Facilities Management, 1400 Townsend Dr., Houghton, MI, 49931.
ARTICLE 3 - TIME OF COMPLETION:

The Work to be performed under this Contract shall begin on or about October 19, 2017 or Date of Notice to Proceed, and shall be substantially completed on or before the Completion Date, December 20th 1st, 2018 or Date of Final Payment.

ARTICLE 4 - PROGRESS PAYMENTS:

Michigan Tech shall make payments as provided in Articles 1.2.14 of the General Requirements and 012900 Payment Procedures and conditions set forth and agreed upon herein:

Based upon Applications for Payment submitted to Michigan Tech by the Contractor and Certificates for Payment issued by Michigan Tech, Michigan Tech shall make payments on the Total Contract Amount to the Contractor as provided below and elsewhere in the Contract Documents.

The period covered by each Application for Payment shall be one month ending on the 14th of each month.

Each Application for Payment and Conditional Waiver and Release on Progress Payment shall be based upon schedule of values consistent with format of AIA Documents G702, G703. The schedule of values (G703) shall allocate the entire Total Contract Amount among the various portions of the Work and supported by such data to substantiate its accuracy as Michigan Tech may require. This schedule of values, unless objected to by Michigan Tech, shall be used as a basis for reviewing the Contractor’s Application for Payment.

Applications for Payment shall indicate the percentage of completion of each portion of Work as of the end of the period covered by the Application for Payment. The amount of each Application for Payment (progress payment) shall be computed by:

1) Multiply the percentage complete of each portion of the work by the share of the Total Contract Amount allocated to that portion of the Work in the schedule of values, less retainage of ten (10%). Pending final determination of cost to Michigan Tech of changes in the Work, changes for amounts not in the dispute may be included per Section 1.2.8 of the General Requirements. The Total Contract Amount must be adjusted to reflect the changes in the Work by Change Order, then payment shall be allocated as to the completed portion of the Work in the adjusted schedule of values, less retainage of ten (10%).

2) The portion of the Total Contract Amount that is materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by Michigan Tech, suitably stored off the site at a location agreed upon
in writing), may be included in the Application for Payment less retainage ten (10%).

3) The amount of the Application for Payment requested shall not include any previous payments made by Michigan Tech.

4) The amount of the Application for Payment requested shall not include any previous amounts that Michigan Tech has withheld or a nullified Application for Payment.

5) Michigan Tech shall review the Application for Payment and sign it certifying it, thus it will become a Certificate of Payment.

6) Provided an Application for Payment and Conditional Waiver and Release on Progress Payment are received and approved by Michigan Tech, Michigan Tech shall make payment to the Contractor not later than thirty (30) days after receipt of the Application for Payment.

ARTICLE 5 - ACCEPTANCE AND FINAL PAYMENTS:

Final Payment, constituting the entire unpaid balance of the Total Contract Amount, shall be made by Michigan Tech to the Contractor when (1) the Contract has been fully performed by the Contractor except for the Contractor’s responsibility to correct nonconforming Work as provided in Subparagraph 1.2.12. of the General Conditions and to satisfy other requirements, if any, which necessarily survive final payment; and (2) a Final Certificate for Payment has been issued by Michigan Tech.

1) The Contractor may request in writing that Michigan Tech issue Substantial Completion. Upon receipt of written notice that the Work is ready for inspection and acceptance, Michigan Tech shall promptly inspect the Work.

2) When the Work has been Substantially Completed and accepted, Michigan Tech shall issue upon request by the contractor, Substantial Completion and a Final Completion Checklist as necessary. Upon completion of the Final Completion Checklist and upon request by the Contractor, Michigan Tech shall complete a Certificate of Completion. Michigan Tech shall make payments up to ninety-five percent (95%); less such amounts as determined by Michigan Tech for incomplete Work, unsettled claims, and any Work that is materially delayed through no fault of the Contractor; of the Total Contract Amount of the balance due for that portion of the Work Substantially Completed and accepted.

3) The Contractor may request in writing that Michigan Tech issue a Certificate of Final Completion and Final Payment upon completion of the Final Completion Checklist. Upon receipt of written notice that the Work is ready for final inspection and acceptance, Michigan Tech shall promptly inspect the Work.

4) When Michigan Tech finds the work is sufficiently complete per the Final Completion Checklist and Contract Documents in their entirety, Michigan Tech shall promptly issue the
Certificate of Final Completion that states that the Work provided in this Contract is complete, and that the Final Payment is due the Contractor, as noted in the Certificate of Substantial Completion. Final payment shall be due thirty (30) days after the Contract is fully performed.

ARTICLE 6 - THE CONTRACT DOCUMENTS:

The Contract Documents, together with this Agreement, form the Contract, and they are as fully a part of the Contract as attached:

- Specifications for this project dated 09/22/17 as listed in the Table of Contents
- Any Addendum issued prior to the bid date.

The Contractor’s signature on this Agreement indicates that the Contractor has read and will comply with each of these documents.

ARTICLE 7 - THE CONTRACT AMOUNT:

The **Contract Lump Sum** is as noted below.

The amount shown below shall be both in words and in figures. In case of discrepancy, the amount shown in words shall govern.

**Place concrete, demo electrical & plumbing tie-ins in the Raymond L. Smith (ME-EM) in accordance with Drawing and Specifications dated 9/22/17:**

$__________________________________________ (Bid price in numbers and words)
IN WITNESS, WHEROF, each of the parties has caused this Contract to be executed by its duly authorized representatives on the date first mentioned above.

FOR THE CONTRACTOR

____________________________________/____________________
Signature                              Date

Title

FOR MICHIGAN TECHNOLOGICAL UNIVERSITY

____________________________________Date____________________
Kerri Sleeman
Executive Director – Facilities Management

DRAFT CONTRACT
005200-5
9/22/17
010000 - GENERAL REQUIREMENTS

1. **INSTRUCTION TO BIDDERS**

1.1. **PREPARATION OF PROPOSALS:** All proposals shall include supplying all materials, equipment, and labor, and shall be submitted on the attached proposal form. The forms are to be filled out in ink or typewritten, with the bidder’s authorized agent’s signature in longhand. Each proposal shall be submitted in an opaque sealed envelope marked with the project name, Bid No., and bidders name.

1.2. **BID FORM:** No telephonic, telegraphic or digital facsimile (FAX) bid or telephonic, telegraphic or digital facsimile (FAX) modification of a bid will be considered. No bids received after the time fixed for receiving them will be considered. Late bids will be filed unopened.

1.3. **BID GUARANTEE:** Each proposal for which the base bid exceeds $50,000.00 shall be accompanied by either a certified or cashier’s check on an open, solvent bank or a bid bond with an authorized surety company in the amount of 5% of the base bid, payable to Michigan Technological University, as a guarantee of good faith. If the successful bidder fails to furnish satisfactory bonds and insurance as required by the General Conditions within 7 days after notice of award, such guarantee shall be forfeited to the Owner as liquidated damages and the Owner shall be entitled at its sole option to immediately cancel, revoke, withdraw, or rescind its award. The guarantees of the three lowest bidders will be retained until the bond and insurance of the Contractor have been approved by the University. The guarantees of all other bidders will be returned within 10 days after the bid opening.

1.4. **REJECTION OR WITHDRAWAL:** The Owner reserves the right to accept or reject any or all proposals, in whole or in part, and also herein reserves the right to waive any informalities or irregularities in any or all proposals and to make such award as it deems, in its sole discretion, to be in the best interest of the Owner. No bid may be withdrawn within 60 days after opening date without forfeiting bid security.

1.5. **CONTRACT:** Upon acceptance of any proposal by the Owner, a purchase order will be issued incorporating the accepted proposal and upon the Contractor furnishing satisfactory proof of compliance with all bond and insurance requirements will constitute the Contract. The Contract shall not be binding upon the Owner until the Contractor has furnished the Owner’s Facilities Management Department satisfactory certification of compliance with the insurance and bond requirements under General Conditions and the Owner may withdraw or cancel its purchase order at any time prior to receipt of all such certifications.

1.6. **TAXES:** The Contractor shall include all applicable Michigan sales and use taxes currently imposed by Legislative enactments and as administered by the Michigan Department of Treasury, all applicable local or state permit, license or inspection fees, and all Federal taxes or fees applicable, and no additional payment over and above the bid amount shall be allowed for the same.

1.7. **EMPLOYEES AND SUPERINTENDENCE:** The

1.8. **GENERAL CONDITIONS**

1.2. **DEFINITIONS**

**UNIVERSITY OR OWNER - Michigan Technological University**

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**EXECUTIVE DIRECTOR OF FACILITIES MANAGEMENT - Kerri A. Sleeman**

**DIRECTOR OF ENGINEERING SERVICES - Gregg Richards**

**CONTRACTOR - The Bidder whose proposal is accepted by the University.**

**CONTRACT DOCUMENTS - This document, a purchase order, drawings, and specifications.**

1.2.2. **CONFLICT AND OMISSIONS:** The intent of the Contract Documents is to provide everything necessary for the proper execution of the work. In case of conflict among or ambiguity in the Contract Documents the Contractor shall immediately notify the Director of Engineering Services and the work shall not proceed until a decision has been agreed upon by all parties concerned. Any adjustment or interpretation by the Contractor without such agreement shall be at his own risk and expense. No work stoppage by the Contractor will extend the time for completion.

1.2.3. **ROYALTIES, PATENTS, NOTICES, AND FEES:** The Contractor shall give all notices and pay all royalties and fees, shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, and shall comply with all laws, ordinances, and codes applicable to any portion of the work.

1.2.4. **EXAMINATION OF PREMISES:** The Contractor shall become familiar with local and on-site conditions affecting the job and the cost thereof, shall take independent measurements and make an examination and determination of all physical conditions affecting the work, and be responsible for the correctness of same even if they differ from those anticipated or indicated in the Contract. The Contractor shall be held to have made such examinations prior to bid submission and no allowances will be made in his behalf nor will any additional expenses be recoverable by reason of any error, omission, or misunderstanding on the part of the Contractor even if such actual conditions differ from those anticipated or indicated in the Contract. If any part of the Contractor's work depends for proper results upon existing work or the work of another contractor the Contractor shall examine such work and notify, before commencing work, the Director of Engineering Services of all defects or conditions that will affect the results. Failure to so notify will constitute acceptance of the conditions and render the Contractor responsible and liable for the results of any such defects or conditions which would have been revealed by complete examination and testing.

1.2.5. **MOVING MATERIALS:** If at any time it becomes necessary for the operation of the University to move materials temporarily located which are to enter into the final construction the Contractor furnishing the material shall, when so directed and without expense to the Owner, move them to another location.

1.2.6. **MATERIALS AND WORKMANSHIP:** All materials and workmanship shall be first-class in every respect and, unless otherwise specified, all materials and equipment shall be new and of the latest design. Should any disputes arise as to the quality and fitness of workmanship, equipment, materials or items, the decisions shall rest strictly with the University, and shall be based upon the requirements of the Contract Documents. The Contractor shall, if requested by the University, furnish evidence as to kind and quality of materials, at no additional cost to the University.
Contractor shall enforce good order among his employees and shall not employ on the work any negligent, disorderly, intemperate or unfit person, or anyone not skilled in the work assigned. All work shall be performed in a skillful and workmanlike manner. The Contractor, or an authorized representative, shall be at the site at all times, and shall have the plans and specifications available.

1.2.8. EXTRA WORK AND CHANGES IN WORK: The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Owner shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order from the Owner and no claim for an addition to the Contract sum shall be valid unless as ordered.

When so directed, the Contractor shall promptly submit his itemized estimate and proposal for such extra work or changes, as well as separate unit prices on work for both additions to and deductions from the Contract.

Adjustments in the Contract sum for any such extra work or change shall be determined by one or more of the following methods:

Method Number 1: By an acceptable estimate and lump sum proposal from the Contractor.

Method Number 2: By unit prices stated in the Contract or subsequently agreed upon.

Method Number 3: By actual cost of all labor and materials and a percentage or fixed fee for all other charges, such as overhead, profit, insurance, taxes and bonds. On any change which involves a net credit to the Owner, no allowance for overhead and profit shall be figured.

If none of the foregoing methods is agreed upon, the Contractor, upon receipt of an order as hereinbefore stated, shall proceed with the work. In such case and also under Method Number 3, the Contractor shall keep and present in such form as the Owner may direct, a correct account of the cost, together with vouchers. In any case, the Owner shall certify to the amount including the specified allowance for overhead and profit, due the Contractor.

The allowable fee for added work by Contractor's own forces shall not exceed 15% of additional cost and his fee on work performed by Subcontractors shall not exceed 7 1/2% of additional cost. Quotations by Subcontractors at all times shall be subject to these same limitations.

1.2.9. OTHER CONTRACTS: The Owner may let other contracts in connection with the work and the Contractor shall properly connect and coordinate all work with the work of such other contractors. The Owner shall not be liable for any damages or increased cost occasioned by the failure of other contractors to execute their work as may be anticipated by these

Contract Documents. No contractor shall commit any act which will interfere with the performance of the work by any other contractor.

1.2.10. INSURANCE: No work connected with this Contract shall be started until the Contractor has submitted evidence, satisfactory to the Owner, depicting insurance coverage in accordance with the following:

1. Worker's Disability Insurance

The Contractor will procure and shall maintain, during the life of this contract, Worker's Disability Insurance in work on the project under this Contract. In case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Disability Insurance for all of the latter's employees engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Disability Insurance.

In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Worker's Disability Statute, the Contractor shall provide and shall cause each Subcontractor to provide Employer's General Liability Insurance for the protection of all such employees not otherwise protected.

2. General Liability Insurance

The Contractor shall carry, from the beginning of this Contract until completion of the same, general liability in the amount of $1,000,000 for each occurrence and $2,000,000 aggregate.

3. Property Insurance

The Contractor shall carry, from the beginning of this Contract until completion of the same, $100,000 for each property accident other than the property covered by this Contract.

4. Builders' Risk Insurance

The Contractor will assume all risk of loss for the first $100,000 on any single occurrence of damage to property of Owner or any third party, including the subject of this contract. This may be effected by purchase of insurance or by self-insurance, and must be primary and non-contributory. The Owner will assume all risk of loss for property damage in excess of $100,000 for any single occurrence.

5. Worker's Compensation/Employer's Liability

The Contractor shall carry, from the beginning of this Contract until completion of the same, Worker's Compensation Employer's Liability in accordance with Statutory required by the State and $500,000 per accident.

6. Automobile Liability

The Contractor shall carry, from the beginning of this Contract until the completion of the same, $1,000,000 in automobile insurance for each occurrence and the
PARTY A

State

Partial payments shall not relieve the Contractor from full responsibility for any claim which may result from any cause, including fire or any other casualty, until completion of the Contract and final payment. Any casualties shall not relieve the Contractor from performing the Contract.

The Contractor will indemnify and hold harmless the University from and against all claims, judgments, liability and expense of any nature due to bodily injury, personal injury or damage to property arising out of, on account of or in connection with contractors (or any employee, subcontractor or agent of contractor) performance of the work or activity pursuant to the contract.

1.2.11. BONDS: The successful Contractor of a project for which the base bid exceeds $50,000.00 shall furnish in form and with sureties acceptable to the Owner, a performance bond and a labor and material bond, each in the amount of 100% of the Contract sum, as security for the faithful performance of all Work under the Contract, and payment of all charges in connection therewith. The cost of the aforesaid bonds shall be paid by the Contractor and included in the Contract Sum. No work connected with the Project shall be started until the Contractor has placed bonds, in proper form, on file with the University.

1.2.12. NONCOMPLIANCE

WITH CONTRACT-TERMINATION: The Owner, at its option, may order suspension of the Work in whole or in part for such time as it deems necessary because of the failure of the Contractor to comply with the contractual requirements. The contract completion date shall not be extended on account of any such suspension order by the Owner. In the event the Owner orders an suspension of the work, the Contractor shall not be entitled to any costs or damages resulting from such suspension; the Owner shall not in any manner be liable or responsible for such costs or damages. The rights of the Owner provided in this clause are in addition to any other rights or remedies provided under this Contract or by law.

In addition to all other rights and remedies contained herein, or at law or equity, the Owner may terminate this Contract when any default is not stopped immediately and corrected within a reasonable length of time after notification by the Owner. In the event of such termination the Owner may complete the contracted work and the Contractor and his surety will be liable for any excess cost occasioned by the Owner. In such case the Owner may take possession of and utilize in completing the work such necessary materials and equipment as may be on the Site.

1.2.13. GUARANTEE: The Contractor shall provide a written guarantee warranting all work under this Contract against faulty workmanship and defective materials, and to make good, at his own expense and promptly on request by the Owner, all defective work and all damage to other work caused by such defective work, for 1 year from the date of signing of the Owner's Certificate of Substantial Completion form. The provisions of this express warranty shall not affect or impair any of the Owner's rights under any other applicable, implied, or expressed warranties.

1.2.14. PAYMENT: Payment for the work will be made in one sum at the completion of the contract except that partial payments aggregating 90% of the value of the completed work may be made at monthly intervals. If the contractor expects to request partial payments he shall submit a schedule of costs and quantities of the various parts of the work aggregating the total contract sum. When applying for partial or full payments, the Contractor shall submit a statement based upon this schedule, itemized and supported as the Director of Facilities Management may require and a Sworn Statement and Conditional Waiver and Release on Progress Payment setting forth the amounts due each subcontractor, supplier, and laborer.

The Contract will not be considered complete until the work has been finally accepted by the Director of Facilities Management and the following have been furnished: (1) the required guarantee, and (2) a sworn statement that all payrolls, material bills, and other indebtedness connected with the work have been paid, including such lien waivers as the M may request.

No presence, inspection, supervision, testing, or monitoring by the Owner or by any agent or representative thereof shall relieve the Contractor of responsibility for compliance with the terms and performance pursuant to this Contract and the Contract Documents; nor shall any such conduct of the Owner or its agents or representatives constitute or be interpreted as constituting a waiver of any rights whatsoever or serve to stop them from requiring full performance by the Contractor.

1.2.15. NON-DISCRIMINATION CLAUSE: In connection with the performance of work under this Contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, sex, height, weight, or marital status. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, age, sex, height, weight, or marital status. Such action shall include, but not be limited to, the following: employment upgrading; demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

2. 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 race, religion, color, national origin, age, sex, height, weight, or marital status.

3. The Contractor or his collective bargaining representative 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 said labor union or worker's representative of the Contractor's commitments under this section.

4. The Contractor will comply with all published rules, regulations, directives, and orders of the Michigan Civil Rights Commission relevant to Article 6, 1976 PA 453, as amended, which may be in effect prior to the taking of bids for any individual State project.

5. The Contractor will furnish and file compliance reports
6. In the event that the Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this agreement, the Civil Rights Commission may, as part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which the Board may order the cancellation of the Contract found to have been violated, and/or declare the contractor ineligible for future contracts with the State and its political and civil subdivisions, departments, officers, and including the governing boards of institutions of higher education, until the contractor complies with said order of the Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Civil Rights Commission to participate in such proceedings.

7. The Contractor will include, or incorporate by reference, the provisions of the foregoing paragraphs "1" thru "6" in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Michigan Civil Rights Commission and will provide in every subcontract or purchase order that said provisions will be binding upon each subcontractor or seller.

1.2.16 PERMITS, FEES AND NOTICES: The Contractor Secure and pay for all permits, fees, and licenses required by State or Local governments necessary for the proper execution and completion of the work. The Contractor shall specifically secure Houghton County permits for Electrical, Mechanical and Plumbing work and schedule work inspections as required by the Michigan Civil Rights Commission, and/or its agent, for purposes of investigation to ascertain compliance with this Contract and with rules, regulations, and orders of the Michigan Civil Rights Commission relevant to Article 6, 1976 PA 453, as amended.

At the time work is commenced on the project, the Contractor shall prepare a progress schedule showing the dates for the commencement and completion of the various stages of construction. This schedule shall be coordinated with the Owner's required use of the facilities and other contractors' construction schedules, and shall be arrived at in consultation with the Director of Engineering Services and approved by all affected parties.

The Contractor shall furnish sufficient forces and construction plant and equipment to insure protection and progress of the work in accordance with the schedule.

Any changes in the work schedule are to be approved in advance by the Director of Engineering Services.

1.2.19. TEMPORARY CONSTRUCTION FACILITIES: All temporary construction facilities shall be neatly constructed and arranged on the Site in an orderly manner.

Suitable weather tight storage sheds, with raised floors, of capacity required to contain all materials which might be damaged by storage in the open shall be provided.

Construction equipment and other facilities such as ladders, ramps, etc., shall be strong, substantial, safe, and suitable for the purpose intended and shall comply with all University, Federal, State, and local requirements so as to maintain adequate and safe temporary access to all existing facilities. Temporary walkways, bridges, etc., shall be built with proper handrails, curbs, etc.

The Contractor will assume all risk of loss for any damage or destruction to the Contractor's temporary office, equipment, shanties, protective fence, scaffolding, staging, and all other miscellaneous materials and items owned or rented by the Contractor or any subcontractor used in the performance of this contract.

A temporary dust-proof enclosure of the work area, including existing machines and equipment, must be erected and maintained throughout the length of the project where required in the various Divisions herein.

1.2.20. CLEANLINESS OF THE WORK: The work and any public or private property occupied by the Contractor shall be kept in a neat and orderly condition at all times. Waste materials, rubbish, and debris shall be removed daily.

At the completion of the work all the Contractor's temporary buildings, equipment, tools, surplus or waste materials, and rubbish of every nature shall be removed from all occupied public and private premises and such premises shall be restored, as nearly as practicable, to the original condition. Such restoration shall be subject to the approval of the Director of Engineering Services.

Debris removed from the site must be disposed of in a licensed landfill as required by the Solid Waste Management Act, 1978 PA 614, as amended, being MCLA 299.402; MSA 13.29(1) and the administrative rules applying to the Act contained in the Michigan Administrative Code R 299.4101. The Contractor shall provide the Director of Engineering Services with written, dated and verified receipt of proper disposal.
verification that all debris removed has been disposed of in a licensed landfill. Any cost incurred by the Owner as a result of the failure of the Contractor to comply with this paragraph will be a charge against the Contractor.

All exposed surfaces of the work shall be left clean and free from all mud, grease, stains, or other extraneous materials.

The streets and service roads occupied or used by the Contractor shall be continuously kept clean of waste materials and refuse resulting from the work operations. Should the Contractor be negligent in the duties of maintaining proper cleanliness, the Owner will take steps to cause the required cleaning to be done and will deduct the cost thereof from any monies due the Contractor.

The elevators, if used, shall not be overloaded and suitable protection for the walls, floor, and ceiling shall be provided during use. Any damage to the elevators must be repaired to the Facilities Management Manager of Planning, Engineering, and Construction satisfaction.

1.2.21. FIRE PROTECTION DURING CONSTRUCTION: The Contractor shall have on the Site at all times fire protection equipment as required by applicable codes and ordinances and requirements of the Owner's insurance carriers. Prior to start of work, the Contractor shall be knowledgeable and proficient in Hot Work safety and in the Owner’s Hot Work policies, procedures and requirements. The Contractor shall faithfully follow the Owner’s Hot Work Policy, which regulates any temporary operation involving open flames or producing heat and/or sparks. The Contractor shall designate a Fire Safety Supervisor and Fire Watch for each Hot Work operation. The Fire Safety Supervisor shall not permit a hot work operation to proceed unless and until the provisions and required precautions checklist of the Owner’s Hot Work permit are adequately addressed. The Fire Watch shall monitor the Hot Work area during and after the hot work operation to take measures to prevent fires and to respond to fires if they start.

During all construction operations in occupied building space, the Contractor shall construct and maintain a one-hour fire resistance separation between the part of the building under construction and the occupied part of the building, per the Life Safety Code NFPA 101, Section 1-3.11, 1997 Edition.

1.2.22. PARKING AND USE OF ROADS: Immediately after the award of the Contract, the Contractor shall consult with the Director of Engineering Services to determine authorized parking and access to the Site, routing of all construction vehicles, and re-routing of other traffic during construction, and shall organize the work in relation thereto.

At the beginning of the field work, the Contractor shall post signs limiting construction parking, if available, to the construction area. Parking for worker's cars is not guaranteed and is the Contractor's responsibility.

During construction, when use of roads or sidewalks is restricted by construction work, the Contractor shall erect temporary barricades, post notices and warning lights, and when required during working hours, direct traffic to prevent congestion. The Contractor shall maintain such as long as temporary work requires and then remove from the public areas.

1.2.23. SAFETY PRECAUTIONS: During the progress of the work, the Contractor shall maintain adequate facilities for the protection and safety of all persons and property. All local, state, and federal laws, ordinances, rules, and regulations pertaining to the kind, use, and loading of all apparatus and equipment shall be complied with. Work shall be done to conform with "General Safety Rules and Regulations for the Construction Industry" published by the Department of Labor, Construction Safety Standards Commission, Lansing, Michigan 48926.

The contractor will immediately report all accidents involving persons and property to the University Public Safety Dept. A copy of the accident report must be filed with the Public Safety Dept.

The contractor shall conduct safety meetings during the progress of work. A copy of the minutes of these meetings must be submitted to the University. Contractor shall acknowledge Owner’s Safety Requirements.

1.2.24. SUBSTITUTIONS:

1. The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

2. No substitution directly related to an "or equal" clause or similar language in the contract documents will be considered unless written request for approval has been submitted by the Bidder and has been received by the University at least ten days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance, and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment, or work that incorporation of the substitute would require shall be included. A burden of proof of the merit of the proposed substitute is upon the proposer. The University's decision of approval or disapproval of a proposed substitution shall be final.

3. If the University approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

After receipt of bids, the University will consider a request for substitution only for the following reasons:

1. Products listed are no longer available.

2. Where the specified product or method cannot be provided within the Contract Time. However, the request will not be considered if the product or method cannot be provided as a result of the Contractor's failure to pursue the work promptly or to coordinate the various activities properly.

3. Where the specified product or method cannot receive necessary approval by a governing authority and the requested substitution can be approved.

Where a substantial advantage is offered to the University, in terms of cost, time, energy conservation, or other consideration of merit, after deducting offsetting responsibilities the University may be required to bear. These additional responsibilities may include such considerations as additional compensation to the Architect for redesign and evaluation services, the increased cost of other work by the University or separate contractors, an
similar considerations.

4. When the specified product or method cannot be provided in a manner which is compatible with other materials of the work, and where the contractor certifies that the substitution will overcome the incompatibility

5. When the specified product or method cannot be properly coordinated with other materials in the work, and where the Contractor certifies that the proposed substitution can be properly coordinated.

6. When the specified product or method cannot receive a warranty as required by the Contract Documents and where the Contractor certifies that the proposed substitution receive the required warranty.

1.2.25. SUBCONTRACTS: The Contractor shall, as soon as practicable after the execution of the contract, notify the Owner in writing of the names of proposed subcontractors for the work. If the Contractor submits a list of proposed subcontractors prior to the execution of the contract, the Owner must be notified in writing of any change of subcontractor after the contract is executed. The Contractor will not employ any subcontractor that the Owner may, within a reasonable time, object to as incompetent or unfit.

The Contractor agrees to be fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for persons directly employed by him.

Nothing contained in the contract documents shall create any contractual relationship between any subcontractor and the Owner.

Should material or workmanship, or parties furnishing same prove objectionable under the provisions of the contract, or should violations of the contract exist at the building or elsewhere, and continue after the contractor has received from the Owner a reasonable warning, then, upon request of the Owner, such objectionable parties shall be dismissed, removed, and excluded from the building or work. Such work shall be remedied and continued by others satisfactory to the Owner.

1.2.26. RELATIONS OF CONTRACTOR AND SUBCONTRACTOR: The Contractor agrees to bind every subcontractor and every subcontractor agrees to be bound by the terms of the Contract Documents as applicable to his work, unless specifically noted to the contrary in a subcontract approved in writing by the Owner.

1.2.27. UNIVERSITY RULES AND REGULATIONS: The Contractor shall comply with all laws, ordinances, rules, regulations, and orders of the Owner, and be responsible for and shall direct his employees to conduct themselves so as not to interfere with or disrupt the University educational activities. The Contractor, Subcontractors, and their employees and suppliers shall not use or interfere with the Owner's existing accesses, drives, walks, and roads except as specifically indicated or by prior arrangement with the Owner. The Contractor shall confine his activities, equipment, and personnel to the area within the construction limits, except for minor operations as noted and by prior arrangement with the permission of the Owner. Existing areas disturbed outside the scope of the work shall be restored to their original state.

1.2.28. PREVAILING WAGE: Rates of wages and fringe benefits to be paid to each class of mechanics employed by the contractor and all subcontractors, shall be not less than the wage and fringe benefit rates prevailing in the locality in which the work is to be performed. Every Contractor and Subcontractor shall keep an accurate record showing the name and occupation of, and the actual wages and benefits paid to each construction mechanic employed by him in connection with said contract. This record shall be available for reasonable inspection by the Michigan Department of Labor and the University. Contractor responsibilities under the law: 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. Every contractor and subcontractor shall keep an accurate certified payroll record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic employed by him in connection with said contract. This record shall be available for reasonable inspection by the contracting agent or the department. Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees. The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work. The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor. A construction mechanic shall only be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and training and the rate is included in the contract. Enforcement: A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the Wage and Hour Division. The department will investigate and attempt to resolve the complaint informally. Executive Order Number 2003-001 requires that contractors doing business with the State of Michigan be in compliance with state and federal law. A violation of Act 166 of 1965, as amended, the Prevailing Wages on State Projects act or Act 390 of 1978, as amended, the Payment of Wages and Fringe Benefits Act, may result in the debarment of a contractor from being awarded a contract for the provision of goods and services to the State of Michigan for a period of up to eight (8) years.

1.2.29. COMPLIANCE WITH ALL APPLICABLE LAWS, RULES AND REGULATIONS: Notwithstanding any other specific provision herein, contractor (and any subcontractor) shall, at its sole expense, comply with all applicable federal, state, local and other laws, ordinances, rules and regulations in any manner applicable to the performance of the work or contractors' activities in furtherance of or in connection with the work. Contractor will indemnify and hold harmless the University from and against any and all costs, claims, expenses or orders (including any penalties or fines assessed to University) incurred as a result of contractor's failure to comply or contractor's failure to perform any obligation imposed by the contract documents.
MICHIGAN TECHNOLOGICAL UNIVERSITY
RAYMOND L. SMITH BUILDING (ME-EM)
NEW WAVE POOL – CONCRETE, PLUMBING AND ELECTRICAL PACKAGE
20-17-02

SECTION 010001

SUPPLEMENTARY GENERAL CONDITIONS

PART 1 PROTECTION - Contractor shall properly protect all new and existing work from damage. Proper safety provisions shall be made at all times for the protection of all persons and property. Contractor shall contact "Miss Dig" for all underground construction work as required by Michigan Public Act No. 53, 1974 and amended by P.A. 204, 1975.

PART 2 SHOP DRAWINGS:

Shop drawings as required to review configuration of all components and utilities as well as build outs of equipment room. Drawings required for proper installation and service are to be provided to owner for review.

PART 3 DEFINITIONS

A. Furnish: This term means procurement or fabrication of materials, equipment or components; or the performance of services to the extent indicated. Where used with respect to materials, equipment, or components, the term shall include delivery to and unloading at the Project site but is not intended to include the installation of the item, either temporary or final.

B. Install: This term means the placement of materials, equipment, or components including the receiving, unloading, transporting, storage, and installing; and the performance of such testing and finish work as is compatible with the degree of installation specified.

C. Provide: This term means to Furnish and Install, complete and in place, including all accessories, finishes, tests, and services as required to render the item so specified completely ready for use.

PART 4 AS-BUILT DRAWINGS - each contractor shall record, legibly and to scale, all field change and deviations from the contract drawings as they occur. This record shall be kept on a set of contract drawings. This set of drawings shall be turned over to the University prior to final payment.

PART 5 OPERATION AND MAINTENANCE MANUALS: Submit available manuals.

PART 6 SCHEDULE OF VALUES: Not required.

PART 7 DOCUMENT CLARIFICATION - All inquiries regarding project specifications and drawings shall be made to Jim Rathbun, the University's engineer for the project, at 906-487-2305.

PART 8 CONTRACT COMPLETION - Completion of the Contract shall be on or before December 20th, 2017.

SUPPLEMENTAL GENERAL CONDITION
010001-1
9/22/17
PART 9 SECTION REMOVED

PART 10 ASBESTOS -. This is not an asbestos abatement project The Contractor shall not start any work in any area that has not been inspected for asbestos by the Owner’s Occupational Safety and Health Services, or a qualified representative of the Owner, and found to be safe. If asbestos is found, safety measures as recommended by the Owner’s Occupational Safety and Health Services, or a qualified representative of the Owner, shall be implemented by the Owner before work is started. The Contractor is prohibited from using or supplying any asbestos containing materials for this project. Asbestos containing material (ACM) is present in the pipe insulation used the Raymond L. Smith (ME-EM) Building. No work or attachments are to be made to these elements.

PART 11 SUMMARY OF WORK

The project consists of, but is not limited to, the following items:

A. Saw cut floor and remove concrete as required for new drains, pump boxes valve boxes and sanitary sewer connections. Tie-in new floor drains to existing sanitary sewer.

B. Install concrete anchors to existing slab, tie-in new rebar and re-pour slab around new floor drains.

C. Install all re-bar, anchors, set forms and pour concrete to create three walls of a new wave pool. Please note tolerances in setting forms. Fourth wall and all pool equipment will be provided and set by the wave pool supplier.

D. Install removable flood barrier walls surrounding the south side of the pool. All supports and anchorages are to be designed by the flood wall supplier. Flood wall must include a three foot section where the panels can be removed to provide a clear floor area for carts and access. All panels shall be removable.

E. Apply Sikagard 62 water proofing, primers and sealers on new pool walls per manufacturer’s requirements.

F. Install new piping to domestic water for pool water supply.

G. Remove all electrical devices: outlets, disconnects, breaker boxes, conduit, etc. on the north wall of the sub-basement wall. Remove all devices from the main 480V Panel (Located on the opposite side of the movable partition) and plug all unused holes.

H. Design and install new lighting over the pool and work area (up to the two columns in the room – approximate area 20 ft by 40 ft). New LED lighting shall provide 65 foot candles at a height of 1 meter AFF. New fixtures are to be hung from the ceiling, in three rows of continuous fixtures. Use wraparound style lights, similar to existing. Remove existing light fixtures (or move as required) to accommodate new lighting. All old lighting fixtures that remains shall be relamped with direct drive LED fixtures.
I. The freight elevator in the building may be used for equipment moves, but contractor use will be restricted to 10 minutes before and after class change due to high student demand. Contractor should plan to use the elevator prior to 7:50am.

J. Access and use of the lifting hatch and hoist in the area will be facilitated by crews from the ME-EM Building. Use must be scheduled 48 hours in advance.

K. Provide all required barricades, construction warning tape, cones and warning signs as required for safe work area. This includes the loading dock and lifting hatch on the basement level during material lifts.

L. Protect all adjacent wall, ceiling and floor finishes. Clean the work area at the end of each work day.

M. Restore all public space wall finishes to “as new” condition.

N. All unused and obsolete equipment is to be removed and properly disposed.

END OF SECTION
010002 PAYMENT PROCEEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor’s construction schedule.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
   a. Application for Payment forms with continuation sheets.
   b. Submittal schedule.
   c. Items required to be indicated as separate activities in Contractor’s construction schedule.

2. Submit the schedule of values to Michigan Tech at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use Project Specifications table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:
   a. Project name and location.
   b. Michigan Tech.
   c. Michigan Tech’s project number.
   d. Contractor’s name and address.
   e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Documents G702, G703.

3. Provide a breakdown of the Total Contract Amount in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Specifications table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Total Contract Amount.

   a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Total Contract Amount and subcontract amount.

4. Round amounts to nearest whole dollar; total shall equal the Total Contract Amount.

   a. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

   b. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor’s option.

5. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders result in a change in the Total Contract Amount.
1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Michigan Tech and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Michigan Tech and the Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Michigan Tech will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders issued before last day of construction period covered by application.

E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Michigan Tech by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. Waivers of Lien: With each Application for Payment, submit waivers of lien as indicated in the Agreement.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Schedule of unit prices.
5. Submittal schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.
10. Initial progress report.
H. Application for Payment at Substantial Completion: After Michigan Tech issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Total Contract Amount.

I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Total Contract Amount.
4. Completion of the Final Completion Checklist.
5. Evidence that claims have been settled.
6. Final liquidated damages settlement statement.

END OF SECTION 010002
TO OWNER:

APPLICATION NO:

FROM CONTRACTOR:

PROJECT:

PERIOD TO:

VIA ARCHITECT:

PERIOD TO:

PROJECT NOS:

APPLICATION AND CERTIFICATION FOR PAYMENT

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

1. ORIGINAL CONTRACT SUM $ 0.00
2. Net change by Change Orders $ 0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2) $ 0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) $ 0.00
5. RETAINAGE:
   a. 10 % of Completed Work $ 0.00
   b. % of Stored Material (Column F on G703) $ 0.00
   Total Retainage (Lines 5a + 5b or Column I of G703) $ 0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total) $ 0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) $ 0.00
8. CURRENT PAYMENT DUE $ 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less 6) $ 0.00

ARCHITECT’S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED . . . . . . . $ (Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: ______________________ Date: ______________________

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.
AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION OF WORK</th>
<th>SCHEDULED VALUE FROM PREVIOUS APPLICATION (D + E)</th>
<th>WORK COMPLETED THIS PERIOD</th>
<th>MATERIALS PRESENTLY STORED (NOT IN D OR E)</th>
<th>TOTAL COMPLETED AND STORED TO DATE (D+E+F)</th>
<th>% (G ÷ C) BALANCE TO FINISH (C - G)</th>
<th>RETAINAGE (IF VARIABLE RATE)</th>
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**GRAND TOTALS**

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Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity.
010008 Certificate of Substantial Completion

<table>
<thead>
<tr>
<th>Project:</th>
<th>Owner:</th>
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<tbody>
<tr>
<td>Wave pool concrete and plumbing work in the Raymond L. Smith (ME-EM)Building</td>
<td>Michigan Technological University 1400 Townsend Drive Houghton, MI 49931</td>
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<tr>
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<th>Contract Date:</th>
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<tr>
<td>Contract for: Wave pool concrete and plumbing work in the Raymond L. Smith (ME-EM)Building</td>
<td>Contractor:</td>
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</table>

**Substantial Completion Date and Final Completion Checklist:**

The Work performed under this Contract as reviewed by the Contractor is substantially complete by the Contractor’s knowledge, information, and belief; the condition of the work is sufficiently complete per Contract Documents and the Owner can occupy for intended use.

The Contractor hereby requests that Michigan Tech issue Substantial Completion notification for the project noted above.

If necessary, any Remaining Items to be completed and/or corrected are included on the 010010 Final Completion Checklist. The list does not alter the responsibility of the Contractor to complete Work per Contract Documents.

By signing below, the Contractor acknowledges that they will complete and/or correct the Remaining Items as documented on the Final Completion Checklist by the date listed as Completion Date on the Agreement, or as modified by subsequent Change Orders.

Contractor Signature ____________________________ By ____________________________ Date ______________

**Owner’s Issuance of agreement for Substantial Agreement:**

Michigan Technological University’s representative hereby agrees that the project is substantially completed, and that this date shall be the Date of Commencement of Warranties for all items as established by the Contract Documents, including any listed in the Final Completion Checklist.

Owners Signature ____________________________ By ____________________________ Date ______________
MICHIGAN TECHNOLOGICAL UNIVERSITY
RAYMOND L. SMITH BUILDING (ME-EM)
NEW WAVE POOL – CONCRETE, PLUMBING & ELECTRICAL PACKAGE
20-17-02

010010 Final Completion Checklist

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<td>Houghton, MI 49931</td>
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</tbody>
</table>

Project Number: 20-17-02

Contract for: Wave pool concrete and plumbing work in the Raymond L. Smith (ME-EM) Building

Contract Date:

General Items:
1. Provide product warranties for all supplied items:
2. Provide extra material as follows:
3. Provided Guaranty (attached).
4. Provide Consent of Surety for final payment (attached).
5. Provide Sworn Statement (attached).
6. Provide Full Unconditional Waiver of Lien from Contractor and major suppliers (attached).

List of Remaining Items to be completed and/or corrected:

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<thead>
<tr>
<th>Space</th>
<th>Items to Complete</th>
<th>Date of Completion</th>
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GUARANTY

010012 GUARANTY

The CONTRACTOR, as a condition precedent to final payment, shall execute this Guaranty to the OWNER, guaranteeing for five (5) year from the date of final payment, to keep in good order and repair any defect in all the work completed under the Agreement. This includes work which may develop during said period due to improper materials, defective equipment, improper materials workmanship, or arrangements and in any work which may be affected in correcting any repairs or defects. This Guaranty will be binding upon the CONTRACTOR, his subcontractors and/or material suppliers and will be without any expense to the OWNER.

OWNER: ____________________________
Print
Signature ____________________________
Date ____________________________

CONTRACTOR: ____________________________
Print
Signature ____________________________
Date ____________________________
CONSENT OF SURETY TO FINAL PAYMENT

AIA Document G707

(Instructions on reverse side)

TO OWNER: (Name and address)

ARCHITECTS PROJECT NO.: (Name and address)

CONTRACT FOR: (Name and address)

PROJECT: (Name and address)

CONTRACT DATED: (Insert date)

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:

(Surety)

Attest:

(Seal):

CAUTION: You should sign an original AIA document that has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced. See Instruction Sheet for Limited License for Reproduction of this document.
A. GENERAL INFORMATION

1. Purpose

This document is intended for use as a companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims, on construction projects, where the Contractor is required to furnish a bond. By obtaining the Surety's approval of final payment to the Contractor and its agreement that final payment will not relieve the Surety of any of its obligations, the Owner may preserve its rights under the bond.

2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, this is a companion document to AIA Document G706.

3. Use of Current Documents

Prior to using an AIA document, the user should consult the AJA, an AIA component chapter or a current AJA Documents List to determine the current edition of each document.

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B. CHANGES FROM THE PREVIOUS EDITION

Changes in the location of various items of information were made. Without revision in the: substantial use of the text document.
STATE OF MICHIGAN

County of ____________________________, ss.

Being duly sworn, deposes and says:

That ____________________________ is the (contractor) (subcontractor) for an improvement to the following described real property situated in County, Michigan, described as follows:

(Insert legal description of property)

That the following is a statement of each subcontractor and supplier and laborer with whom the (contractor) (subcontractor) has (contracted) (subcontracted) for performance under the contract with the owner or lessee thereof, and that the amounts due to the persons as of the date hereof are correctly and fully set forth opposite their names, as follows:

<table>
<thead>
<tr>
<th>Name of subcontractor, supplier, or laborer</th>
<th>Type of improvement furnished</th>
<th>Total contract price</th>
<th>Amount already paid</th>
<th>Amount currently owing</th>
<th>Accrued fringe benefits contributions (if applicable)</th>
<th>Balance to complete</th>
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That the contractor has not procured material from, or subcontracted with, any person other than those set forth on the reverse side and owes no money for the improvement other than the sums set forth on the reverse side.

Deponent further says that he or she makes the foregoing statement as the (contractor) (subcontractor) or as __________________________ of the (contractor) (subcontractor) for the purpose of representing to the owner or lessee of the premises described on the reverse side and his or her agents that the property described on the reverse side is free from claims of construction liens, or the possibility of construction liens, except as specifically set forth on the reverse side.

WARNING: AN OWNER OR LESSEE OF THE PROPERTY DESCRIBED ON THE REVERSE SIDE MAY NOT RELY ON THIS SWORN STATEMENT TO AVOID THE CLAIM OF A SUBCONTRACTOR, SUPPLIER, OR LABORER WHO HAS PROVIDED A NOTICE OF FURNISHING TO THE DESIGNEE OR TO THE OWNER OR LESSEE IF THE DESIGNEE IS NOT NAMED OR HAS DIED.

________________________________________
Deponent

Subscribed and sworn to before me this_______day of______________________________, 20____

________________________________________
Notary Public

________________________________________ County, Michigan

My Commission Expires: ____________________
010018 FULL UNCONDITIONAL WAIVER

My/our contract with ______________________________________________________________ to provide

(Other contracting party)

_________________________________________________________ for the improvement of the property described as

Wave pool concrete and plumbing work in The Raymond L. Smith (ME-EM) Building having been fully paid and satisfied, with respect to our rights under the Payment / Lien Bond covering said Project and all of our rights to pursue payment under the Payment/Lien Bond No. issued by <<<<name of prime contractor>>> as principal and <<<<name of payment bond surety>>> as surety, together with any rights, demands, or causes of action we may have against <<<<name of prime contractor>>> or <<<<name of payment bond surety>>>, by signing this waiver, all my/our construction lien rights against such property are hereby waived and released.

_________________________________________________________
(Printed Name of Lien Claimant)

_________________________________________________________
(Signature of lien claimant)

Signed on:_________________________ Address:_________________________

_________________________________________________________

Telephone: ________________

DO NOT SIGN BLANK OR INCOMPLETE FORMS. RETAIN A COPY.

END OF SECTION 010018
MICHIGAN TECHNOLOGICAL UNIVERSITY
RAYMOND L. SMITH BUILDING (ME-EM)
NEW WAVE POOL - CONCRETE, PLUMBING & ELECTRICAL PACKAGE
20-17-02

010020 Certificate of Final Completion

<table>
<thead>
<tr>
<th>Project:</th>
<th>Owner:</th>
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<tbody>
<tr>
<td>Wave pool concrete and plumbing work in the Raymond L. Smith (ME-EM) Building</td>
<td>Michigan Technological University</td>
</tr>
</tbody>
</table>

| 1400 Townsend Drive |
| Houghton, MI 49931 |

| Project Number: | Contract for: | Contractor: |
| 20-17-02 | Construction | |

| Contract Date: |
| TBD or Date of Notice to Proceed |

Substantial Completion Date ________________
Final Completion Checklist Date ________________

The Contractor certifies that the Work and all other requirements have been completed in accordance with the Contract for Construction, including, but not limited to:
1. submission and approval of all remaining change order proposals, claims, and Applications for Payment
2. submission of “as-built” plans and specifications, shop drawings, and other record documents
3. completion of all discrepancies: List of Remaining Items noted on the Final Completion Checklist at the time of Substantial Completion:
   a. submission of all final closeout deliverables/document
   b. submission of Guaranty
   c. submission of Consent of Surety for Final Payment
   d. submission of Sworn Statement
   e. submission of Full Unconditional Waiver of Lien

The Contractor further certifies that:
4. no liens have been attached against the Project
5. no suits are pending by reason of Work on the Contract
6. all Workers’ compensation claims are covered by Workers’ Compensation Insurance as required by law
7. all insurance required of the Contractor beyond final payment, if any, is in effect and will not be cancelled or allowed to be expired without notice to the Owner

CERTIFICATE OF FINAL COMPLETION
010020 - 1
9/22/17
MICHIGAN TECHNOLOGICAL UNIVERSITY
RAYMOND L. SMITH BUILDING (ME-EM)
NEW WAVE POOL - CONCRETE, PLUMBING & ELECTRICAL PACKAGE
20-17-02

8. All public liability claims are adequately covered by insurance and that the Contractor shall save, protect, defend, indemnify, and hold the Owner harmless from and against any and all claims which arise as a direct or indirect result of any transaction, event occurrence, or omission related to performance of the Work contemplated under said Contract.

Upon execution below, this project will be considered complete. This consideration does not relieve the Contractor from its post-construction responsibilities, including correction of discrepancies noted during the first year after Substantial Completion, warranty issues, latent defects, and other requirements of the Contract or State law.

Name of Contractor: ____________________________

Notary Public: ____________________________

Personally appeared before me this ______ day of ______, ______, known (or made known) to me to be the ____________________________(title)

of ____________________________ (firm),

who, being by me duly sworn, subscribed to the foregoing affidavit in my presence.

By: ____________________________

Authorized Representative

My Commission Expires:

______________________________ (date)

Owner ____________________________

Owner Signature ____________________________

Final Completion Date ____________________________

End of Section 010020
010022 CONTRACT CHANGE ORDER

<table>
<thead>
<tr>
<th>CONTRACTOR:</th>
<th>CHANGE ORDER No.</th>
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<tr>
<td></td>
<td>PROJECT Wave pool concrete and plumbing work in the Raymond L. Smith (ME-EM) Building</td>
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<td></td>
<td>PROJECT No.: 20-17-02</td>
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<table>
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<tr>
<th>OWNER: Michigan Technological University</th>
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<tr>
<td>1400 Townsend Dr., Houghton, MI, 49931</td>
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<th>DATE OF ISSUE:</th>
<th>EFFECTIVE DATE:</th>
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The Contractor is hereby directed to make the following changes in the Contract Documents.

**Description:**

**Reason for Change Order:**

**Attachments:** (List documents supporting change and justifying cost and time)

<table>
<thead>
<tr>
<th>CHANGE IN CONTRACT PRICE:</th>
<th>CHANGE IN CONTRACT TIMES:</th>
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<tbody>
<tr>
<td>Original Contract Price:  $</td>
<td>Original Contract Times: (calendar days or dates)</td>
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<tr>
<td>Net changes from previous C. O.'s No. _____ to _____</td>
<td>Net changes from previous C. O.'s No. _____ to _____</td>
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<td>$</td>
<td>(calendar days)</td>
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<tr>
<td>Contract Price Prior to this Change Order:</td>
<td>Contract Times prior to this Change Order:</td>
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<td>$</td>
<td>(calendar days or dates)</td>
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</table>

| Net Increase (decrease) of this Change Order: | Net Increase (decrease) of this Change Order: |
| $                                               | (calendar days) |

| Contract Price with all Approved Change Orders: | Contract Times with all Approved Change Orders: |
| $                                               | (calendar days or dates) |

**RECOMMENDED:** (Owner's Representative)

By:  
Date:  

**APPROVED:** (Owner): Michigan Tech University

By:  
Date:  

**REVIEWED:** (Funding Agency)

By:  
Date:  

**ACCEPTED:** (Contractor)

By:  
Date:  

**REVIEWED:** (Funding Agency)

By:  
Date:  

MICHIGAN TECHNOLOGICAL UNIVERSITY
RAYMOND L. SMITH BUILDING (ME-EM)
NEW WAVE POOL - CONCRETE, PLUMBING & ELECTRICAL PACKAGE
20-17-02

CHANGE ORDER 010022 - 1
9/22/17
PART 1 GENERAL

1.1 PROJECT 011000 SUMMARY OF WORK

A. Project Name: Raymond L. Smith (ME-EM) Building – Wave pool concrete and plumbing work
B. Owner's Name: Michigan Technological University.

1.2 CONTRACT DESCRIPTION

A. A single prime contract based on a Stipulated Price.

1.3 DESCRIPTION OF WORK

The project consists of, but is not limited to, the following items:

A. Saw cut floor and remove concrete as required for new drains, pump boxes, valve boxes and sanitary sewer connections. Tie-in new floor drains to existing sanitary sewer.

B. Install concrete anchors to existing slab, tie-in new rebar and re-pour slab around new floor drains.

C. Install all re-bar, anchors, set forms and pour concrete to create three walls of a new wave pool. Please note tolerances in setting forms. Fourth wall and all pool equipment will be provided and set by the wave pool supplier.

D. Install removable flood barrier walls surrounding the south side of the pool. All supports and anchorages are to be designed by the flood wall supplier. Flood wall must include a three foot section where the panels can be removed to provide a clear floor area for carts and access. All panels shall be removable.

E. Apply Sikagard 62 water proofing, primers and sealers on new pool walls per manufacturer's requirements.

F. Install new piping to domestic water for pool water supply.

G. Remove all electrical devices: outlets, disconnects, breaker boxes, conduit, etc. on the north wall of the sub-basement wall. Remove all devices from the main 480V Panel (Located on the opposite side of the movable partition) and plug all unused holes.

H. Design and install new lighting over the pool and work area (up to the two columns in the room – approximate area 20 ft by 40 ft). New LED lighting shall provide 65 foot candles at a height of 1 meter AFF. New fixtures are to be hung from the ceiling, in three rows of continuous fixtures. Use wraparound style lights, similar to existing. Remove existing light fixtures (or move as required) to accommodate new lighting. All old lighting fixtures that remains shall be relamped with direct drive LED fixtures.
I. The freight elevator in the building may be used for equipment moves, but contractor use will be restricted to 10 minutes before and after class change due to high student demand. Contractor should plan to use the elevator prior to 7:50am.

J. Access and use of the lifting hatch and hoist in the area will be facilitated by crews from the ME-EM Building. Use must be scheduled 48 hours in advance.

K. Provide all required barricades, construction warning tape, cones and warning signs as required for safe work area. This includes the loading dock and lifting hatch on the basement level during material lifts.

L. Protect all adjacent wall, ceiling and floor finishes. Clean the work area at the end of each work day.

M. Restore all public space wall finishes to "as new" condition.

N. All unused and obsolete equipment is to be removed and properly disposed.

1.4 ITEMS TO BE SALVAGED BY CONTRACTOR – None

1.5 WORK BY OWNER

A. Owner will remove lowering hatch covers and operate the lift as required. 48 hour notice is required for use of the hatch.

1.5 OWNER OCCUPANCY

A. Michigan Tech will occupy the adjacent areas during the entire construction period.
B. Cooperate with Michigan Tech to minimize conflict and to facilitate Michigan Tech's operations.
C. Time Restrictions: The freight elevator in the building may be used for equipment moves, but contractor use will be restricted to 10 minutes before and after class change due to high student demand. Contractor should plan to use the elevator prior to 7:50am.

1.6 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to actual construction area. Work in adjacent areas will be only as necessary for the project, and must be coordinate with Michigan Tech's project manager.
B. Arrange use of site and premises to:
   1. Limit use of the Corridor outside the work area.
   2. Keep all areas outside of the construction area clean and protect existing finishes in all areas. Contractor will be responsible for damages to these areas caused by construction activities.
   3. Parking is limited, and parking permits will be required at the site (there will not be a...
C. Provide access to and from site as required by law and by Michigan Tech:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit
   3. Tobacco Free site: The entire site is tobacco free. See the Michigan Tech website for specific details.

E. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the building is unoccupied.
   2. Prevent accidental disruption of utility services to other facilities.

1.7 WORK SEQUENCE

A. Coordinate system tie-ins, service interruptions, communication system tests and signal tests with Michigan Tech Public Safety and Police Services.

END OF SECTION 011000

SUMMARY OF WORK
011000-3
9/22/17
013300 SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY
A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS
A. Action Submittals: Written and graphic information and physical samples that require Michigan Tech's responsive action.

B. Informational Submittals: Written and graphic information and physical samples that do not require Michigan Tech's responsive action. Submittals may be rejected for not complying with requirements.

1.3 ACTION SUBMITTALS
A. Prior to ordering materials and construction, provide an Action Submittal for items specified throughout the contract documents that include the phrase 'as approved by Michigan Tech,' if the exact item as specified cannot be obtained and a similar item must be provided. This is not intended to be a substitution procedure, substitutions must follow requirements of section 012500.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS
A. Electronic copies of digital data files of the specified items can be provided by Michigan Tech for Contractor's use in preparing submittals.

B. Processing Time: Provide submittals within one week after award of contract to insure sufficient lead time for materials in time to meet the construction schedule. Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Michigan Tech's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Michigan Tech will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 7 days for review of each resubmittal.

C. Electronic Submittals (preferred method of transmittal): Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Michigan Tech.
Containing the following information:
   a. Project name.
   b. Date.
   c. Name of General Contractor.
   d. Name of firm or entity that prepared submittal.
   e. Names of subcontractor, manufacturer, and supplier.
   f. Category and type of submittal.
   g. Submittal purpose and description.
   h. Specification Section number and title.
   i. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
   j. Specification paragraph number or drawing designation and generic name for each of multiple items.
   k. Drawing number and detail references, as appropriate.
   l. Location(s) where product is to be installed, as appropriate.
   m. Related physical samples submitted directly.
   n. Indication of full or partial submittal.
   o. Transmittal number, numbered consecutively.
   p. Transmittal and submittal distribution record.
   q. Related physical samples submitted directly.
   r. Other necessary identification.
   s. Remarks.
   t. Signature of transmitter.

D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.
   1. Indicate name of firm or entity that prepared each submittal on label or title block.
   2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor’s review and approval markings and action taken by Michigan Tech.
   3. Include the following information for processing and recording action taken:
      a. Project name.
      b. Date.
      c. Name of General Contractor.
      d. Name of firm or entity that prepared submittal.
      e. Names of subcontractor, manufacturer, and supplier.
      f. Category and type of submittal.
      g. Submittal purpose and description.
      h. Specification Section number and title.
      i. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
      j. Specification paragraph number or drawing designation and generic name for each of multiple items.
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      n. Indication of full or partial submittal.
      o. Transmittal number, numbered consecutively.
      p. Transmittal and submittal distribution record.
      q. Remarks.
r. Signature of transmitter

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Michigan Tech observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

E. Options: Identify options requiring selection by Michigan Tech.

F. Deviations: Identify deviations from the Contract Documents on submittals.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect’s action stamp.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Michigan Tech’s action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:
   1. Submit electronic submittals via email as PDF electronic files.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. Mark each copy of each submittal to show which products and options are applicable.
   2. Include the following information, as applicable:
      a. Manufacturer’s catalog cuts.
      b. Manufacturer’s product specifications.
      c. Standard color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
      h. Availability and delivery time information.
   3. Submit Product Data before or concurrent with Samples.
   4. Submit Product Data in the following format:
      a. PDF electronic file.
C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents.
2. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
4. Submit Shop Drawings in the following format:
   a. PDF electronic file.
   b. Four opaque (bond) copies of each submittal. Michigan Tech will return two copy(ies).

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit one full set(s) of available choices where color, pattern,
texture, or similar characteristics are required to be selected from manufacturer's product line. Michigan Tech will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

   a. Number of Samples: Submit one sets of Samples. Michigan Tech will retain.
      1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Application for Payment and Schedule of Values: Comply with requirements specified in Section 010001 Payment Procedures.

F. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017000 Closeout Procedures.

G. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

I. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

J. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Michigan Tech.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Michigan Technological University.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017000 Closeout Procedures.

3.2 Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.3 MICHIGAN TECH'S ACTION

A. General: Michigan Tech will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Michigan Tech will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. Informational Submittals: Michigan Tech will review each submittal and will not return it, or will return it if it does not comply with requirements. Michigan Tech will forward each submittal to appropriate party.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
   B. Form accessories.
   C. Form stripping.

1.02 RELATED REQUIREMENTS
   A. Section 03 2000 - Concrete Reinforcing.
   B. Section 03 3000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS
   B. ACI 301 - Specifications for Structural Concrete; 2016.
   C. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).
   D. ACI 347R - Guide to Formwork for Concrete; 2014.

PART 2 PRODUCTS

2.01 FORMWORK - GENERAL
   A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.
   B. Design and construct to provide resultant concrete that conforms to design with respect to shape, lines, and dimensions.
   C. Chamfer outside corners of beams, joists, columns, and walls.
   D. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.
   E. Use the following form types:
      1. Walls: Prefabricated smooth pan forms.
      2. Tolerances on the pool walls are critical. No more than 3/16” variation is allowed in a 10 foot length of finish wall. Walls are to be square and straight. Walls must be smooth and all pin holes and voids must be filled on the inside of the pool.

2.02 FORMWORK ACCESSORIES
   A. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.02 ERECTION - FORMWORK
   A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads. NOTE: Contractor is to choose formwork and provide bracing to meet tolerances on the design drawings. Wall flatness and smoothness are critical to the wave pool performance.

C. Align joints and make watertight. Keep form joints to a minimum.

3.03 APPLICATION - FORM RELEASE AGENT
A. Apply form release agent on formwork in accordance with manufacturer’s recommendations.

3.04 FORM REMOVAL
A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

END OF SECTION
SECTION 03 2000
CONCRETE REINFORCING

PART 1 GENERAL

1.01 RELATED REQUIREMENTS
A. Section 03 1000 - Concrete Forming and Accessories.
B. Section 03 3000 - Cast-in-Place Concrete.

1.02 REFERENCE STANDARDS
A. ACI 301 - Specifications for Structural Concrete; 2016.
B. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).
H. CRSI (P1) - Placing Reinforcing Bars; 2011.

1.03 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.

1.04 QUALITY ASSURANCE
A. Perform work of this section in accordance with ACI 301.

PART 2 PRODUCTS

2.01 REINFORCEMENT
A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Plain billet-steel bars.
   2. Epoxy coated in accordance with ASTM A775/A775M.

2.02 FABRICATION
A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.
B. Welding of reinforcement is not permitted.
C. Fabricate and handle epoxy-coated reinforcing in accordance with ASTM D3963/D3963M.

PART 3 EXECUTION

3.01 PLACEMENT
A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
B. Maintain concrete cover around reinforcing as follows:
   1. Walls (exposed to weather or backfill): 1.5 inch (38 mm).
3.02 FIELD QUALITY CONTROL

A. <01 4000> Michigan Tech Project manager must inspect installed reinforcement for conformance to contract documents before concrete placement.

END OF SECTION
SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Concrete formwork.
B. Concrete reinforcement.
C. Joint devices associated with concrete work.
D. Concrete curing.

1.02 RELATED REQUIREMENTS
A. Section 03 1000 - Concrete Forming and Accessories: Forms and accessories for formwork.
B. Section 03 2000 - Concrete Reinforcing.

1.03 REFERENCE STANDARDS
C. ACI 301 - Specifications for Structural Concrete; 2016.
E. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).
F. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).
P. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation; 2013.

1.04 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Mix Design: Submit proposed concrete mix design.
1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.
   1. Maintain one copy of each document on site.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 FORMWORK

A. Comply with requirements of Section 03 1000.
B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
   2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
   3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 REINFORCEMENT

A. Comply with requirements of Section 03 2000.
B. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Finish: Epoxy coated in accordance with ASTM A775/A775M, unless otherwise indicated.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
C. Water: Clean and not detrimental to concrete.

2.04 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
B. Waterproofing Admixture: Admixture formulated to reduce permeability to liquid water, with no adverse effect on concrete properties.
   1. Admixture Composition: Hydrophobic polymer waterproofing and corrosion inhibitor, functioning by closing concrete pores and chemical bonding.
   2. Permeability of Cured Concrete: No measurable leakage when tested in accordance with COE CRD-C 48 at 350 feet (106 m) of head; provide test reports.

2.05 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
   1. Manufacturers:
      a. Kaufman Products Inc; SureBond: www.kaufmanproducts.net.
B. Epoxy Bonding System (Dowels):
   1. Manufacturers:
      a. Hilti - HIT 100 system.
b. Substitutions: See Section 01 6000 - Product Requirements.

C. Waterstops: Bentonite and butyl rubber, complying with NSF 61 and NSF 372.
   1. Configuration: As indicated on drawings.
   2. Manufacturers:
      a. SikaSwell S2.
      b. Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION
   A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
   B. Verify that forms are clean and free of rust before applying release agent.
   C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
   D. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R, ______.
   E. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
      1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
      2. Use latex bonding agent only for non-load-bearing applications.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS
   A. Fabricate and handle epoxy-coated reinforcing in accordance with ASTM D3963/D3963M.
   B. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.04 PLACING CONCRETE
   A. Place concrete in accordance with ACI 304R.

3.05 CONCRETE FINISHING
   A. Repair surface defects, including tie holes, immediately after removing formwork.

3.06 CURING AND PROTECTION
   A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
   B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.07 FIELD QUALITY CONTROL
   A. Provide free access to concrete operations at project site and cooperate with appointed firm.
   B. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
   C. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
   D. Compressive Strength Tests: ASTM C39/C39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards (76 cu m) or less of each class of concrete placed.
3.08 DEFECTIVE CONCRETE
   A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
   B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
   C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.09 SCHEDULE - CONCRETE TYPES AND FINISHES
   A. Pool Walls: 3,000 pounds per square inch (20.7 MPa) 28 day concrete, form finish with honeycomb filled surface.

END OF SECTION
SECTION 07 1400
FLUID-APPLIED WATERPROOFING

PART 1  GENERAL
1.01  SECTION INCLUDES
   A. Fluid-Applied Waterproofing:
      1. Polyurethane waterproofing.

1.02  RELATED REQUIREMENTS
   A. Section 22 1006 - Plumbing Piping Specialties: Roof drain and plumbing vent flashing flanges.

1.03  ABBREVIATIONS

1.04  REFERENCE STANDARDS

1.05  SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data for membrane, surface conditioner, flexible flashings, joint cover sheet, and joint and crack sealants.
   C. Warranty:
      1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
      2. Submit installer's certification that installation complies with warranty conditions for the waterproofing membrane.

1.06  WARRANTY
   A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2  PRODUCTS
2.01  MANUFACTURERS
   A. Polyurethane Waterproofing:

2.02  MEMBRANE AND FLASHING MATERIALS

2.03  ACCESSORIES
   A. Sealant for Joints and Cracks in Substrate: Type compatible with waterproofing material and as recommended by waterproofing manufacturer.

PART 3  EXECUTION
3.01  EXAMINATION
   A. Verify existing conditions before starting work.
   B. Verify substrate surfaces are free of frozen matter, dampness, loose particles, cracks, pits, projections, penetrations, or foreign matter detrimental to adhesion or application of waterproofing system.
   C. Verify that substrate surfaces are smooth, free of honeycomb or pitting, and not detrimental to full contact bond of waterproofing materials.
   D. Verify items that penetrate surfaces to receive waterproofing are securely installed.

3.02  PREPARATION
   A. Protect adjacent surfaces from damage not designated to receive waterproofing.
   B. Do not apply waterproofing to surfaces unacceptable to waterproofing manufacturer.
C. Fill non-moving joints and cracks with a filler compatible with waterproofing materials.
D. Seal moving cracks with sealant and non-rigid filler, using procedures recommended by sealant and waterproofing manufacturers.

3.03 INSTALLATION
A. Install waterproofing to specified minimum thickness in accordance with manufacturers instructions and NRCA (WM) applicable requirements.
B. Apply primer or surface conditioner at a rate recommended by manufacturer, and protect conditioner from rain or frost until dry.
C. Extend waterproofing material and flexible flashing into drain clamp flange, apply adequate coating of liquid membrane to ensure clamp ring seal, and coordinate with drain installation requirements specified in Section 22 1006.
D. Seal membrane and flashings to adjoining surfaces.

3.04 FIELD QUALITY CONTROL
A. Carefully inspect all surfaces for pin holes, cracks or possible leak locations. After pool is completely installed and filled, inspect for leaks. Provide one year follow-up for leak repairs and patching. Upon completion of horizontal membrane installation, dam installation area in preparation for flood testing.
  1. If leaking is found, remove water, repair leaking areas with new waterproofing materials as directed by Architect; repeat flood test, and repair damage to building.

END OF SECTION
SECTION 07 1613
POLYMER MODIFIED CEMENT WATERPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Two-component, non-sag, polyurethayne elastomeric sealant.
   B. Waterproofing for positive hydrostatic pressure applications.
      1. Inside surfaces of swimming pools, fountain pools, drainage trenches, and skating rinks.

1.02 SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Manufacturer's data sheets on each product to be used, including:
      1. Preparation instructions and recommendations.
      2. Storage and handling requirements and recommendations.
      3. Installation methods.
      4. Details of joints and intersections.

1.03 QUALITY ASSURANCE
   A. Installer Qualifications: Company specializing in performing work of the type specified in this section with minimum three years of documented experience and approved by manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING
   A. Deliver products to project site in manufacturer's original packaging, marked with manufacturer's product identification.
   B. Store products in manufacturer's unopened packaging until ready for installation.
   C. Keep stored products dry; store under cover and elevated above grade.

1.05 FIELD CONDITIONS
   A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 MATERIALS
   A. Crack Repair Material, Joint Tape, and Reinforcing: Type and application as recommended by waterproofing manufacturer.
   B. Water: Clean, clear, non-alkaline potable water, free of salts and other harmful elements.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Examine surfaces where waterproofing is to be applied for conditions detrimental to satisfactory performance.
   B. Do not begin installation until substrates have been properly prepared. Contractor is responsible for final cleaning or stripping of floor to for proper adhesion of all waterproofing products.

3.02 PREPARATION
   A. Remove defective concrete and rebuild to original profiles.
   B. Plug active leaks according to waterproofing manufacturer's instructions.
   C. Patch holes and non-moving cracks and joints.
D. Clean and prepare surfaces thoroughly prior to installation; schedule cleaning and preparation so that residue will not fall on newly coated, uncured surfaces.

E. Application of waterproofing constitutes acceptance of substrates.

F. Protect other work from fallout, overspray, and spatter from waterproofing application; provide temporary enclosures and covers as necessary to do so.

3.03 INSTALLATION

A. Install waterproofing in accordance with manufacturer's instructions and recommendations unless more stringent requirements are indicated.

B. Perform installation only during ambient and substrate conditions recommended by manufacturer; provide temporary enclosures and/or temporary heating as necessary to do so.

C. Fill voids and holes prior to application of first coat.

D. Apply the number of coats and at the rates recommended by manufacturer for the specific application but not less than specified minimum thickness; apply at least two coats.

E. Extend waterproofing to all surfaces in areas indicated to form continuous waterproofed surfaces.
   1. Waterproof floor to a clean line 6 inches past the pool's walls (South of the pool wall). Extend waterproofing material the full height of the new poured walls.

F. Cure waterproofing by recommended methods for recommended period prior to making waterproofed area available for use or occupancy; protect from too rapid drying, severe weather exposure, and water accumulation.
   2. Do not use covers that could stain waterproofing surfaces.
   3. Do not use chemical curing agents unless explicitly approved by waterproofing manufacturer.
   4. Do not expose waterproofing to sunlight for minimum of 72 hours after placement.

G. Do not backfill, fill water or liquid holding structures, or apply finish coatings until time period recommended by manufacturer has passed.

3.04 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION
SECTION 22 1005
PLUMBING PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Pipe, pipe fittings, specialties, and connections for piping systems.
   1. Sanitary sewer.
   2. Domestic water.

1.02 REFERENCE STANDARDS
D. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2016.

1.03 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

1.04 QUALITY ASSURANCE
A. Perform work in accordance with applicable codes.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS
A. Potable Water Supply Systems: Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 SANITARY SEWER PIPING, BURIED BEYOND 5 FEET (1500 MM) OF BUILDING
A. PVC Pipe: ASTM D2665 or ASTM D3034.
   1. Fittings: PVC.

2.03 DOMESTIC WATER PIPING, ABOVE GRADE
A. Copper Tube: ASTM B88 (ASTM B88M), Type K (A), Drawn (H).
   1. Mechanical Press Sealed Fittings: Double pressed type, NSF 61 and NSF 372 approved or certified, utilizing EPDM, non toxic synthetic rubber sealing elements.
PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that excavations are to required grade, dry, and not over-excavated.

3.02 PREPARATION
A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
B. Remove scale and dirt, on inside and outside, before assembly.
C. Prepare piping connections to equipment with flanges or unions.

3.03 INSTALLATION
A. Install in accordance with manufacturer’s instructions.
B. Provide access where valves and fittings are not exposed.
C. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.

3.04 SERVICE CONNECTIONS
A. Provide new sanitary sewer services. Before commencing work check invert elevations required for sewer connections, confirm invert and ensure that these can be properly connected with slope for drainage and cover to avoid freezing. Use of proper sized Fernco strap-on fitting is permitted - follow all manufactures selection criteria and installation instructions.

END OF SECTION
SECTION 26 0501
MINOR ELECTRICAL DEMOLITION

PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Electrical demolition.

PART 3 EXECUTION
2.01 EXAMINATION
   A. Verify that abandoned wiring and equipment serve only abandoned facilities.
   B. Beginning of demolition means installer accepts existing conditions.

2.02 PREPARATION
   A. Disconnect electrical systems in walls, floors, and ceilings to be removed.
   B. Coordinate utility service outages with utility company.
   C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
   D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.

2.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK
   A. Remove, relocate, and extend existing installations to accommodate new construction.
   B. Remove abandoned wiring to source of supply.
   C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
   D. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets that are not removed.
   E. Repair adjacent construction and finishes damaged during demolition and extension work.
   F. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

END OF SECTION
SECTION 26 0534
CONDUIT

PART 1  GENERAL

1.01  SECTION INCLUDES
   A. Galvanized steel rigid metal conduit (RMC).
   B. Intermediate metal conduit (IMC).
   C. Electrical metallic tubing (EMT).
   D. Conduit fittings.

1.02  REFERENCE STANDARDS
   A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2015.
   B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S); 2015.
   C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit (EIMC); 2005.
   D. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.
   E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
   F. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
   G. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
   H. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.
   I. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.

PART 2  PRODUCTS

2.01  CONDUIT APPLICATIONS
   A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
   B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
   C. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).

2.02  CONDUIT REQUIREMENTS
   A. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
   B. Provide products listed, classified, and labeled as suitable for the purpose intended.
   C. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03  GALVANIZED STEEL RIGID METAL CONDUIT (RMC)
   A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
   B. Fittings:
      1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
      2. Material: Use steel or malleable iron.
3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.04 INTERMEDIATE METAL CONDUIT (IMC)
A. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.
B. Fittings:
   1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.
   3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.05 ELECTRICAL METALLIC TUBING (EMT)
A. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
B. Fittings:
   1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.
   3. Connectors and Couplings: Use compression (gland) or set-screw type.
      a. Do not use indenter type connectors and couplings.

END OF SECTION
SECTION 26 5100
INTERIOR LIGHTING

PART 1  GENERAL

1.01  SECTION INCLUDES
   A. Interior luminaires.

1.02  RELATED REQUIREMENTS
   A. Section 26 0537 - Boxes.

1.03  REFERENCE STANDARDS
   C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
   F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
   G. UL 1598 - Luminaires; Current Edition, Including All Revisions.

1.04  SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Shop Drawings:
   C. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
      1. LED Luminaires:
         a. Include estimated useful life, calculated based on IES LM-80 test data.

1.05  QUALITY ASSURANCE
   A. Conform to requirements of NFPA 70.

PART 2  PRODUCTS

2.01  LUMINAIRE TYPES
   A. Furnish products as indicated in luminaire schedule included on the drawings.

2.02  LUMINAIRES
   A. Manufacturers:
      2. Eaton.
   B. Provide products that comply with requirements of NFPA 70.
   C. Provide products that are listed and labeled as complying with UL 1598, where applicable.
   D. Provide products listed, classified, and labeled as suitable for the purpose intended.
E. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

F. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.

G. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

H. LED Luminaires:
   1. Components: UL 8750 recognized or listed as applicable.
   2. Tested in accordance with IES LM-79 and IES LM-80.
   3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that field measurements are as shown on the drawings.
   B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.
   C. Verify that suitable support frames are installed where required.
   D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.
   E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION
   A. Coordinate locations of outlet boxes provided under Section 26 0537 as required for installation of luminaires provided under this section.
   B. Perform work in accordance with NECA 1 (general workmanship).
   C. Install products in accordance with manufacturer's instructions.
   D. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).
   E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
   F. Install accessories furnished with each luminaire.
   G. Bond products and metal accessories to branch circuit equipment grounding conductor.
   H. Install lamps in each luminaire.

END OF SECTION
REQUIREMENTS OF
THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT 166 OF 1965

The State of Michigan determines prevailing rates pursuant to the Prevailing Wages on State Projects Act, Public Act 166 of 1965, as amended. The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects for which the state or a school district is the contracting agent and which is financed or financially supported by the state. By law, prevailing rates are compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. The official prevailing rate schedule provides an hourly rate which includes wage and fringe benefit totals for designated construction mechanic classifications. The overtime rates also include wage and fringe benefit totals. Please pay special attention to the overtime and premium pay requirements. Prevailing wage is satisfied when wages plus fringe benefits paid to a worker are equal to or greater than the required rate.

State of Michigan responsibilities under the law:
• The department establishes the prevailing rate for each classification of construction mechanic requested by a contracting agent prior to contracts being let out for bid on a state project.

Contracting agent responsibilities under the law:
• If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re-determination of rates must be requested by the contracting agent.
• Rates for classifications needed but not provided on the Prevailing Rate Schedule, must be obtained prior to contracts being let out for bid on a state project.
• The contracting agent, by written notice to the contractor and the sureties of the contractor known to the contracting agent, may terminate the contractor's right to proceed with that part of the contract, for which less than the prevailing rates have been or will be paid, and may proceed to complete the contract by separate agreement with another contractor or otherwise, and the original contractor and his sureties shall be liable to the contracting agent for any excess costs occasioned thereby.

Contractor responsibilities under the law:
• Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
• Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic. This record shall be available for reasonable inspection by the contracting agent or the department.
• Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees.
• The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
• A construction mechanic shall only be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:
A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the State of Michigan. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with Section 5 of Act 166, the investigation will be concluded and a referral may be made to the local prosecuting attorney.
**General Information Regarding Fringe Benefits**

Certain fringe benefits **may** be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic, is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week). The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

<table>
<thead>
<tr>
<th>Benefit Type</th>
<th>Calculation Details</th>
<th>Hourly Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacation</td>
<td>40 hours × $14.00 per hour = $560/2080</td>
<td>$0.27</td>
</tr>
<tr>
<td>Dental insurance</td>
<td>$31.07 monthly premium × 12 mos. = $372.84/2080</td>
<td>$0.18</td>
</tr>
<tr>
<td>Vision insurance</td>
<td>$5.38 monthly premium × 12 mos. = $64.56/2080</td>
<td>$0.03</td>
</tr>
<tr>
<td>Health insurance</td>
<td>$230.00 monthly premium × 12 mos. = $2,760.00/2080</td>
<td>$1.33</td>
</tr>
<tr>
<td>Life insurance</td>
<td>$27.04 monthly premium × 12 mos. = $324.48/2080</td>
<td>$0.16</td>
</tr>
<tr>
<td>Tuition</td>
<td>$500.00 annual cost/2080</td>
<td>$0.24</td>
</tr>
<tr>
<td>Bonus</td>
<td>4 quarterly bonus/year × $250 = $1000.00/2080</td>
<td>$0.48</td>
</tr>
<tr>
<td>401k Employer Contribution</td>
<td>$2000.00 total annual contribution/2080</td>
<td>$0.96</td>
</tr>
</tbody>
</table>

**Total Hourly Credit**

$3.65

Other examples of the types of fringe benefits allowed:

- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate:

- Legally required payments, such as:
  - Unemployment Insurance payments
  - Workers’ Compensation Insurance payments
  - FICA (Social Security contributions, Medicare contributions)

- Reimbursable expenses, such as:
  - Clothing allowance or reimbursement
  - Uniform allowance or reimbursement
  - Gas allowance or reimbursement
  - Travel time or payment
  - Meals or lodging allowance or reimbursement
  - Per diem allowance or payment

- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
  - Industry advancement funds
  - Financial or material loans
OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE RATE COMMERCIAL SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

<table>
<thead>
<tr>
<th></th>
<th>Monday thru Friday</th>
<th>Saturday</th>
<th>Sunday &amp; Holidays</th>
<th>Four 10s</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 8 Hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9th Hour</td>
<td></td>
<td>1</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>10th Hour</td>
<td></td>
<td>2</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Over 10 hours</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overtime for Monday thru Friday after 8 hours:
- the 1st character is for time worked in the 9th hour (8.1 - 9 hours)
- the 2nd character is for time worked in the 10th hour (9.1 - 10 hours)
- the 3rd character is for time worked beyond the 10th hour (10.1 and beyond)

Overtime on Saturday:
- the 4th character is for time worked in the first 8 hours on Saturday (0 - 8 hours)
- the 5th character is for time worked in the 9th hour on Saturday (8.1 - 9 hours)
- the 6th character is for time worked in the 10th hour (9.1 - 10 hours)
- the 7th character is for time worked beyond the 10th hour (10.01 and beyond)

Overtime on Sundays & Holidays
- The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days
- The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked between Monday and Friday without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.

2. Overtime Indicators Used in the Overtime Provision:
- H - means TIME AND ONE-HALF due
- X - means TIME AND ONE-HALF due after 40 HOURS worked
- D - means DOUBLE PAY due
- Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked
- N - means NO an optional 4-day 10-hour per day workweek cannot be worked without paying overtime after 8 hours worked

3. EXAMPLES:
   HHHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (characters 1 - 3); for all hours worked on Saturday, 1½ rate is due (characters 4 - 7). Work done on Sundays or holidays must be paid double time (character 8). The N (character 9) indicates that 4 ten-hour days is not an acceptable workweek at regular pay.

   XXXXHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday (characters 1-3); for hours worked on Saturday, 1½ rate is due (characters 4 – 7). Work done on Sundays or holidays must be paid double time (character 8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek.
### ENGINEERS - CLASSES OF EQUIPMENT LIST

#### UNDERGROUND ENGINEERS

**CLASS I**
- Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8’ digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.

**CLASS II**
- Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6” discharge or larger gas or diesel powered by generator of 300 amps or more, inclusive of generator), Side Boom Tractor (smaller than type D-4 or equivalent), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8’ digging capacity and smaller), Vac Truck.

**CLASS III**
- Air Compressors (600 cfm or larger), Air Compressors (2 or more less than 600 cfm), Boom Truck (non-swinging, non-powered type boom), Concrete Breaker (self-propelled or truck mounted, includes compressor), Concrete Paver (1 drum, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4” up to 6” discharge, gas or diesel powered, excluding submersible pump), Pumpcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).

**CLASS IV**
- Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4”, exclude submersible), Pumps (2 or more up to 4” discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6’ wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.

### HAZARDOUS WASTE ABATEMENT ENGINEERS

**CLASS I**
- Backhoe, Batch Plant Operator, Clamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer, Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher), Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blasting Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.

**CLASS II**
- Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.
CARPENTER CRAFT JURISDICTION

Michigan recognizes the Carpenters for any and all work related to weatherization that has historically been the work of the Carpenter. This work shall include, but not be limited to: all work defined under the Federal Weatherization Assistance Program.

The jurisdiction of Carpenters, as to all work that has historically and traditionally been performed consisting of the milling, fashioning, joining, assembling, erecting, fastening or dismantling of all materials of wood, plastic, metal, fiber, cork, or composition and all other substitute materials, as well as the handling, cleaning, erecting, installing and dismantling of all machinery, equipment and all materials used by Carpenters.

The jurisdiction, therefore, extends over the following divisions and subdivisions of the trade: Carpenters and Joiners, Millwrights, Pile Drivers, Bridge, Dock and Wharf Carpenters, Underpinners, Timbermen, and Core-drillers, Shipwrights, Boat Builders, Ship-hand, Stair Builders, Millmen, Wood and Resilient Floor Decorators, Floor Finishers, Carpet-layers, Shinglers, Siders, Insulators, Acoustic and Drywall Applicators, Sharers and House Movers, Loggers, Lumber and Sawmill Workers, Reed and Rattan Workers, Shingle Weavers, Casket and Coffin Makers, Railroad Carpenters and Car Builders, regardless of material used and all those engaged in the operation of woodworking or other machinery required in fashioning, milling or manufacturing of products used in the trade, and the handling, erecting and installing materials on any of the above divisions or sub-divisions, burning, welding and rigging incidental to the trade. When the term “Carpenter and Joiner” is used, it shall mean all the subdivisions of the trade. The trade autonomy of Carpenters therefore extends over the divisions and subdivisions of the trade, which are set forth as follows:

(a) The framing, erecting and prefabrication of roofs, partitions, floors and other parts of buildings of wood, metal, plastic or other substitutes; application of all metal flashing used for hips, valleys and chimneys; the erection of Stran Steel section or its equal. The building and setting of all forms and centers for brick and masonry. The fabrication and erection of all forms for concrete and decking, the dismantling of same (as per International Agreement) when they are to be re-used on the job or stored for re-use. The cutting and handling of all falsework for fireproofing and slabs. Where power is used in the setting or dismantling of forms, all signaling and handling shall be done by carpenters. The setting of templates for anchor bolts for structural members and for machinery, and the placing, leveling and bracing of these bolts. All framing in connection with the setting or metal columns. The setting of all bulkheads, footing forms and the setting of and fabrication of, screeds and stakes for concrete and mastic floors where the screed is notched or fitted, or made up of more than one member. The making of forms for concrete block, bulkheads, figures, posts, rails, balusters and ornaments, etc.

(b) The handling and erecting of rough material and drywall, the handling, assembly, setting and leveling of all fixtures, display cases, all furniture such as tables, chairs, desks, coat racks, etc., all de-mountable or moveable partitions such as Von wall, E Wall, Steel Case, Herman Miller, Haworth, American Seating, Westinghouse, Lazy Boy, rosewood, etc. All rebuilding, remodeling and setting up of all kinds of partitions, finished lumber, metal and plastic trim to be erected by Carpenters shall be handled from the truck or vehicle delivering same to the job by Carpenters.
CARPENTER CRAFT JURISDICTION

(c) The building and moving of all scaffolding runways and staging where carpenters' tools are used, the building from the ground up of all scaffolds over fourteen (14) feet in height including metal and specially designed scaffolding. The building and construction of all hoists and derricks made of wood; the making of mortar boards, boxes, trestles, all shoring, razing and moving of buildings. Lift type trucks are to be considered a tool of the trade. Metal siding and metal roofing fall within the scope of jurisdiction for the carpenters.

(d) The cutting or framing and fireproofing of the openings for pipes, conduits, ducts, etc., where they pass through floors, partitions, walls, roofs or fixtures composed in whole or in part of wood. The laying out of making and installation of all inserts and sleeves for pipes, ducts, etc., where carpenters' tools and knowledge are required. The making and installing of all wooden meter boards, crippling and backing for fixtures. The welding of studs and other fastenings to receive material being applied by carpenters.

(e) The installation of all grounds, furring or stripping, ceilings and sidewalks, application of all types of shingling and siding, etc.

(f) The installation of all interior and exterior trim or finish of wood, aluminum, kakamein, hollow or extruded metal, plastic, doors, transoms, thresholds, Mullions and windows. The setting of jambs, bucks, window frames of wood or metal where braces or wedges are used. The installation of all wood, metal or other substitutes of casing, molding, chair rail, wainscotting, china closets, base of mop boards, wardrobes, metal partitions as per National Decisions or specific agreements, etc. The complete laying out, fabrication and erection of stairs. The making and erecting of all fixtures, cabinets, shelving, racks, louvers, etc. The mortising and application of all hardware in connection with our work. The sanding and refinishing of all wood, cork or composition floors to be sanded or scraped, filled, sized and buffed, either by hand or power machines. The assembling and setting of all seats in theaters, halls, churches, schools, auditorium, grandstands and other buildings. All bowling alley work.

(g) The manufacture, fabrication and installation of all screens, storm sash, storm doors and garage doors; the installation of wood, canvas, plastic or metal awnings or eye shades, door shelters, jalousies, etc. The laying of wood, wood block and wood composition in floors.

(h) The installation of all materials used in drywall construction, such as plasterboard, all types of asbestos boards, transite and other composition board. The application of all material which serves as base for acoustic tile, except plaster. All acoustical applications as per National Agreement or specific agreement.

(i) The building and dismantling of all barricades, hand rails, guard rails, partitions and temporary partitions. The erection and dismantling of all temporary housing on construction projects.

(j) The installation of rock wool, cork and other insulation material used for sound or weatherproofing. The removal of caulking and placing of staff bead and brick mold and all Oakum caulking, substitutes, etc., and all caulking in connection with carpentry work.

(k) The installation of all chalk boards/marker boards.
CARPENTER CRAFT JURISDICTION

(l) The operation of all hand operated winches used to raise wooden structures.

(m) The erection of porcelain enameled panels and siding.

(n) The unloading and distribution of all furnished, prefabricated and built-up sections such as door bucks, window frames, cupboards, cabinets, store fixtures, counters and show cases or comparably finished or prefabricated materials, to the job sites or points of installation as used in the construction, alteration and remodeling industry.

(o) The handling of doors, metal, wood or composite, partitions and other finished bulk materials used for trim from the point of delivery.

(p) All processing of these materials and handling after processing.

(q) The making up of panels and fitting them into walls, all bracing and securing, all removal of panels from the casting including all braces, whalers, hairpins, etc.

(r) The handling and setting of all metal pans and sections from the stock piles of reasonable distance as required by job needs shall be performed by carpenters. The stripping of such metal pans, panels or sections is to be performed by carpenters.

(s) The sharpening of all carpenter hand or power tools, or those used by carpenters.

(t) The layout, fabrication, assembling of and erection and dismantling of all displays made of wood, metal, plastic, composition board or any substitute material; the covering of same with any type of material, the crating and un-crating, the handling from the point of unloading and back to the point of loading of all displays and other materials or components.

(u) The same shall apply to all other necessary component parts used for display purposes such as turntables, platforms, identification towers and fixtures, regardless of how constructed, assembled or erected or dismantled.

(v) The make-up, handling, cutting and sewing of all materials used in buntings, flags, banners, decorative paper, fabrics and similar materials used in the display decorative industry for draperies and back drops. The decorative framing of trucks, trailers and autos used as floats or moving displays. The slatting of walls to hand fabrics and other decorative materials, drilling of all holes to accommodate such installations. Setting up and removal of booths constructed of steel or aluminum tubing as stanchions, railings, etc., handling and placing of furniture, appliances, etc., which are being used to complete the booth at the request of the exhibitor. Fabricating and application of leather, plastic and other like materials used for covering of booths. The handling of all materials, fabricating of same. The loading and unloading, erecting and assembling at the exhibit of show area, also in or out of storage when used in booth decorations.
CARPENTER CRAFT JURISDICTION

(w) A display shall be construed as any exhibit or medium of advertising, open to private or public showing, which is constructed of wood, metal, plastic or any other substitute to accomplish the objectives of advertising or displaying.

(x) Handling, fitting, draping, measuring and installation of fixtures and other hardwares for draperies, all manner of making, measuring, repairing, sizing, hanging and installation of necessary fixtures and hardware for shades and Venetian blinds.

(y) Work consisting of cutting and/or forming of all materials in preparation for installing of floors, walls and ceilings; the installation of all resilient floor and base; wall and ceiling materials to include cork, linoleum, prefabricated, laminated, rubber, asphalt, vinyl, metal, plastic, seamless floors and all other similar materials in sheet, interlocking liquid or tile form; the installation of all artificial turf, the installation, cutting and/or fitting of carpets; installation of padding, matting, linen crash and all preformed resilient floor coverings; the fitting of all devices for the attachment of carpet and other floor, wall and ceiling coverings; track sewing of carpets, drilling of holes for sockets and pins, putting in dowels and slats; and all metal trimmings used; the installation of all underlayments, sealants in preparation of floors, walls and ceilings, the unloading and handling of all materials to be installed and the removal of all materials in preparing floors when contracted for by the employer, shall be done only by employees covered under this Agreement.

(z) The installation of all sink-tops and cabinets, to include all metal trim and covering for same. All cork, linoleum, congo-wall, linewall, veos tile, plexiglass, vinawall tile, composition tile, plastic tile, aluminum tile and rubber in sheets or tile form and the application thereof. All bolta-wall and bolta-wall tile and similar products.

(aa) The handling and placing of all pictures and frames and the assembly of bed frames and accessories. The hanging and placing of all signage.

(bb) The installation of all framework partitions and trim materials for toilets and bathrooms made of wood, metal, plastics or composition materials; fastening of all wooden, plastic or composition cleats to iron or any other material for accessories.

(cc) The erection of cooling towers and tanks.

(dd) The setting, lining, leveling and bracing of all embedded plates, rails and angles. The setting of all stay in place forms.

(ee) Environmental: Clean room, any type of environmental chamber, walk in refrigerated coolers and all refrigerated rooms or buildings.
(ff) All unloading, handling, signaling and driving of piles, whether wood, steel, pipe, beam pile, composite, concrete or molded in place, wood and steel sheeting, cofferdam work, trestle work, dock work, floating derricks, caisson work, foundation work, bridge work, whether old or new, crib work, pipe line work and submarine work. Cutting of all wood, steel or concrete pile, whether by machine or hand; welding and cutting, peeling, and heading of all wood pile, steel sheeting and wood sheeting. The erecting and dismantling of all pile driving rigs, also derricks whether on land or water; also the moving, shoring and underpinning of all buildings. The loading and unloading of all derricks, cranes and pile driving materials. The tending, maintenance and operation of all valves pertaining to the operation of driving of pile. All diving and tending essential to the completion of jurisdictional claims.

All work done in the established yards of the Company and all work not enumerated above, shall be handled and manned as the Employer decides.

The pile driver will unload all material shipped in by rail from the point that the rail car is spotted.

All cleaning and preparation of all piling prior to driving.

The welding and attachment of all boot plates, pile points, splice plates, connectors, rock crosses, driving crosses, driving rigs, point reinforcements and overboots.

The construction, reconstruction, repair, alteration, demolition and partial or complete removal of all marine work including, but not limited to, docks, piers, wharves, quays, jetties, cribs, causeways, breakwaters, lighthouses and permanent buoys, etc. (mixing and placing of concrete excepted).

The driving and pulling of all wood, steel and concrete foundation piles and sheet piling.

The heading, pointing, splicing, cutting and welding of all piles.

The placing of all wales, bolts, studs, lagging, rods and washers including the cutting, drilling, boring or breaking of all holes or openings thereof.

The removal of all materials and/or obstructions of any nature (rip-rap included) that retard or interfere with the driving of piles or with the placing of wales, bolts and rods.
CARPENTER CRAFT JURISDICTION

This is to be subject to the discretion of the contractor who may choose to use blasting specialists or other demolition specialists.

The handling on the job of all materials used in the work.

The manning of all floating equipment (towing equipment excepted) engaged in the work enumerated, including deck engines, except machinery manned by Operating Engineers.

The placing of all rip-rap, fill stone, bedding stone, cover stone and concrete blocks in connection with marine construction. Work normally performed by Employers, such as soil tests, shoring, underpinning of buildings, cribbing, driving of sheet piling, marine divers, tenders, underwater construction workers and similar operations shall continue to be included in the jurisdiction of this Agreement.

All burning, cutting, welding and fabrication of pipe, H-beams, sheet pile (metal or wood), done on the job site or in the yard of the Employer shall be done by pile drivers. The driving of bearing piles, sheet piling with heavy equipment, caissons, pile caps, auger drilling and boring, the setting up for load testing for any type of piling, all layout and spotting for piling, caisson and boring work, all earth retention, ditch boarding, installing tiebacks.

ASBESTOS ABATEMENT CARPENTERS

(gg) All erection and maintenance of barriers and partitions used in the removing of asbestos or any abatement work. The abatement of any materials previously installed by the carpenter such as transite, ceiling and floor tiles. All operating and maintaining of current equipment used in any abatement work.
State of Michigan

WHPWRequest@michigan.gov

Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package Robert A. Smith building
Project Number: 20-17-02

Houghton County

Official 2017 Prevailing Wage Rates for State Funded Projects

Issue Date: 9/20/2017
Contract must be awarded by: 12/19/2017

Page 1 of 26

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Updated</th>
<th>Last</th>
<th>Straight Time and a Double Overtime Provision</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<td>Hourly</td>
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<tr>
<td>Asbestos &amp; Lead Abatement Laborer</td>
<td>Asbestos &amp; Lead Abatement Laborer</td>
<td>MLDC</td>
<td>$41.30</td>
<td>$55.23</td>
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<tr>
<td></td>
<td></td>
<td>9/7/2017</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Trainee 600 hours + 1 calendar year</td>
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<td>3/27/2017</td>
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<td></td>
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<tr>
<td>Boilermaker</td>
<td>Boilermaker</td>
<td>BO169</td>
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<td>$81.08</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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<td>$40.31</td>
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<td></td>
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<td></td>
<td>2nd 6 months</td>
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<td></td>
<td></td>
<td></td>
<td>3rd 6 months</td>
<td>$42.57</td>
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<td></td>
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<td>4th 6 months</td>
<td>$43.69</td>
</tr>
<tr>
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<td></td>
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<td>5th 6 months</td>
<td>$44.81</td>
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<td>6th 6 months</td>
<td>$48.63</td>
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<td>7th 6 months</td>
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<tr>
<td></td>
<td></td>
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<td>8th 6 months</td>
<td>$51.58</td>
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Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package
Project Number: 20-17-02
County: Houghton

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.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>BR6</th>
<th>BR6-2</th>
<th>BR6TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricklayer</td>
<td>Marble, Tile and Terrazzo Finisher</td>
<td>BR6</td>
<td>$36.55 $45.79 $55.03</td>
<td>H H D X H H D D Y</td>
</tr>
<tr>
<td></td>
<td>Make up day allowed comment</td>
<td></td>
<td>$42.71 $55.03 $67.35</td>
<td>H X H X H D H D Y</td>
</tr>
<tr>
<td></td>
<td>Four 10s allowed Monday-Thurs. Make up days: Friday &amp; Saturday.</td>
<td>6/2/14</td>
<td>6/2/14</td>
<td>6/2/14</td>
</tr>
<tr>
<td></td>
<td>Bricklayer, stone mason, mosaic worker, plasterer, tuck pointer, pointer, caulker &amp; cleaner</td>
<td>BR6-2</td>
<td>$42.71 $55.03 $67.35</td>
<td>H X H X H D H D Y</td>
</tr>
<tr>
<td></td>
<td>Make up day allowed comment</td>
<td></td>
<td>$42.71 $55.03 $67.35</td>
<td>H X H X H D H D Y</td>
</tr>
<tr>
<td></td>
<td>Saturday All time over 12 hours pr day - double</td>
<td>6/2/14</td>
<td>6/2/14</td>
<td>6/2/14</td>
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</table>

**Apprentice Rates:**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Hours</th>
<th>Hours</th>
</tr>
</thead>
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<tr>
<td>0 - 749 hours</td>
<td>$32.85</td>
<td>$40.24</td>
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<td>750 - 1499 hours</td>
<td>$34.09</td>
<td>$42.10</td>
</tr>
<tr>
<td>1500 - 2249 hours</td>
<td>$35.32</td>
<td>$43.95</td>
</tr>
<tr>
<td>2250 - 2999 hours</td>
<td>$36.55</td>
<td>$45.79</td>
</tr>
<tr>
<td>3000 - 3749 hours</td>
<td>$37.78</td>
<td>$47.63</td>
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<td>3750 - 4499 hours</td>
<td>$39.01</td>
<td>$49.48</td>
</tr>
<tr>
<td>4500 - 5249 hours</td>
<td>$40.25</td>
<td>$51.34</td>
</tr>
<tr>
<td>5250 - 6000 hours</td>
<td>$41.48</td>
<td>$53.19</td>
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<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>BR6TL</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Marble, Tile and Terrazzo Layer</td>
<td>Make up day allowed comment</td>
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</tr>
<tr>
<td></td>
<td>Four 10s allowed Monday-Thurs. Make up days: Friday &amp; Saturday.</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package
Project Number: 20-17-02
County: Houghton

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 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017  

### Classification

<table>
<thead>
<tr>
<th>Name Description</th>
<th>Updated Hourly</th>
<th>Half Time Provision</th>
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<tbody>
<tr>
<td><strong>Carpenter</strong></td>
<td><strong>Carpenter, Drywall Taper &amp; Finisher, &amp; Floor CA1510-C</strong></td>
<td><strong>$43.55</strong></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make up day allowed \ comment</td>
<td>7/5/2017</td>
<td></td>
</tr>
<tr>
<td>Saturday</td>
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<td></td>
</tr>
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#### Apprentice Rates:

<table>
<thead>
<tr>
<th>Month</th>
<th>Last Updated Hourly</th>
<th>Half Time Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 6 months</td>
<td>$34.05</td>
<td>$41.17</td>
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<td>2nd 6 months</td>
<td>$35.24</td>
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<td>$36.43</td>
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<td>6th 6 months</td>
<td>$39.99</td>
<td>$50.08</td>
</tr>
<tr>
<td>7th 6 months</td>
<td>$41.18</td>
<td>$51.87</td>
</tr>
<tr>
<td>8th 6 months</td>
<td>$42.36</td>
<td>$53.64</td>
</tr>
</tbody>
</table>

#### Diver CA1510-D

| Make up day allowed \ comment | 7/5/2017 | | |
| Saturday | | | |

| Make up day allowed \ comment | 7/5/2017 | | |
| Saturday | | | |

#### Millwright CA1510-MW

| Make up day allowed \ comment | 7/5/2017 | | |
| Saturday | | | |

#### Apprentice Rates:

<table>
<thead>
<tr>
<th>Month</th>
<th>Last Updated Hourly</th>
<th>Half Time Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 6 months</td>
<td>$37.47</td>
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<td>2nd 6 months</td>
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<td>$47.98</td>
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<tr>
<td>3rd 6 months</td>
<td>$40.27</td>
<td>$50.08</td>
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<tr>
<td>4th 6 months</td>
<td>$41.68</td>
<td>$52.19</td>
</tr>
<tr>
<td>5th 6 months</td>
<td>$43.08</td>
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<td>8th 6 months</td>
<td>$47.28</td>
<td>$60.59</td>
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**Official Request #:** 1138  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**County:** Houghton  

---

**Official Rate Schedule**

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<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half</th>
<th>Overtime Provision</th>
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</thead>
<tbody>
<tr>
<td>Pile driver</td>
<td>CA1510-P</td>
<td>$43.75</td>
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<td>$67.69</td>
<td>X X H X X H H D Y</td>
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<tr>
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<td>comment</td>
<td>7/5/2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saturday</td>
<td></td>
<td></td>
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<td>Apprentice Rates:</td>
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<td></td>
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<tr>
<td>1st 6 months</td>
<td>$34.17</td>
<td>$41.35</td>
<td>$48.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd 6 months</td>
<td>$35.37</td>
<td>$43.15</td>
<td>$50.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd 6 months</td>
<td>$36.57</td>
<td>$44.95</td>
<td>$53.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th 6 months</td>
<td>$37.76</td>
<td>$46.74</td>
<td>$55.71</td>
<td></td>
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</tr>
<tr>
<td>5th 6 months</td>
<td>$38.96</td>
<td>$48.53</td>
<td>$58.11</td>
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<tr>
<td>6th 6 months</td>
<td>$40.16</td>
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<td>$60.51</td>
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</tr>
<tr>
<td>7th 6 months</td>
<td>$41.36</td>
<td>$52.14</td>
<td>$62.91</td>
<td></td>
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<tr>
<td>8th 6 months</td>
<td>$42.55</td>
<td>$53.92</td>
<td>$65.29</td>
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Cement Mason

<table>
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<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BR6-CM</td>
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<td>$55.03</td>
<td>$67.35</td>
<td>H H D X H H D D Y</td>
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<td>Make up day allowed</td>
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<td>6/2/2014</td>
<td></td>
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<td>Monday-Thurs.</td>
<td>Make up days: Friday and Saturday.</td>
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<td>Apprentice Rates:</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0 - 749 hours</td>
<td>$34.09</td>
<td>$42.10</td>
<td>$50.11</td>
<td></td>
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</tr>
<tr>
<td>750 - 1499 hours</td>
<td>$35.32</td>
<td>$43.95</td>
<td>$52.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500 - 2249 hours</td>
<td>$36.55</td>
<td>$45.79</td>
<td>$55.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2250 - 2999 hours</td>
<td>$37.78</td>
<td>$47.63</td>
<td>$57.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000 - 3749 hours</td>
<td>$39.01</td>
<td>$49.48</td>
<td>$59.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3750 - 4500 hours</td>
<td>$40.25</td>
<td>$51.34</td>
<td>$62.43</td>
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</tbody>
</table>

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 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

### Page 5 of 26

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and Half Hourly</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
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<tbody>
<tr>
<td><strong>Cement Mason</strong></td>
<td>PL16-16</td>
<td></td>
<td>$33.04</td>
<td>$43.99</td>
<td>$54.93</td>
<td>H H H H H H H Y</td>
</tr>
<tr>
<td>Four 10s allowed Monday-Thursday with Friday or Saturday inclement weather make up days. Saturday hours for inclement weather make up shall be paid straight rate unless over 40 hours worked.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make up day allowed</td>
<td>comment</td>
<td>8/18/2016</td>
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<tr>
<td>Apprentices Rates:</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1st year</td>
<td>$25.38</td>
<td>$32.49</td>
<td>$39.61</td>
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<tr>
<td>2nd year</td>
<td>$27.57</td>
<td>$35.78</td>
<td>$43.99</td>
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<tr>
<td>3rd year</td>
<td>$29.76</td>
<td>$39.07</td>
<td>$48.37</td>
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</tr>
</tbody>
</table>

| **Electrician** | EC-1070 | | $36.60 | $47.73 | $58.85 | H H H H H H H D Y |
| Sound and Communications Technician | | 4 10 hour days allowed M-Th |
| Make up day allowed | comment | 8/25/2016 |
| Apprentices Rates: | | | |
| 1st Period | $27.70 | $34.37 | $41.04 |
| 2nd Period | $29.93 | $37.72 | $45.50 |
| 3rd Period | $31.04 | $39.38 | $47.72 |
| 4th Period | $32.15 | $41.04 | $49.94 |
| 5th Period | $33.27 | $42.73 | $52.18 |
| 6th Period | $34.38 | $44.40 | $54.40 |

---

Official Request #: 1138  
Requestor: Michigan Technological University  
Project Description: Wave Pool Concrete work, plumbing and Electrical package  
Project Number: 20-17-02  
County: Houghton

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.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Updated Hourly</th>
<th>Half Time</th>
<th>Double Overtime</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyman Electrician - Inside wireman for work above $160,000</td>
<td>EC-906z2H</td>
<td></td>
<td>8/30/2016</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

A 4 ten schedule may be worked if 4 consecutive days, M-Th

Make up day allowed

Apprentice Rates:

2nd period indentured before 10/12/15 | $32.77 | $43.20 | $53.63
3rd period indentured before 10/12/15 | $36.26 | $48.44 | $60.61
4th period indentured before 10/12/15 | $39.73 | $53.64 | $67.55
5th period indentured before 10/12/15 | $41.47 | $56.25 | $71.03
6th period indentured before 10/12/15 | $43.21 | $58.86 | $74.51
1st period indentured after 10/12/15 | $25.83 | $32.79 | $39.75
2nd period indentured after 10/12/15 | $27.56 | $35.39 | $43.21
3rd period indentured after 10/12/15 | $31.04 | $40.60 | $50.17
4th period indentured after 10/12/15 | $34.52 | $45.83 | $57.13
5th period indentured after 10/12/15 | $37.99 | $51.03 | $64.07
6th period indentured after 10/12/15 | $41.47 | $56.25 | $71.03

Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package
Project Number: 20-17-02
County: Houghton

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.
### Journeyman Electrician - Inside wireman for work below 160,000

A 4 ten schedule may be worked if 4 consecutive days, M-Th

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight</th>
<th>Time and a Double</th>
<th>Overtime Provision</th>
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<tbody>
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<td></td>
<td></td>
<td>8/30/2016</td>
<td>$48.94</td>
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<td>$80.32</td>
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**Make up day allowed**

**Comment** 4/8/2013

<table>
<thead>
<tr>
<th>Apprentice Rates:</th>
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<tbody>
<tr>
<td>1st period indentured before 10/12/15</td>
</tr>
<tr>
<td>2nd period indentured before 10/12/15</td>
</tr>
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<td>3rd period indentured before 10/12/15</td>
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<td>4th period indentured before 10/12/15</td>
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<td>5th period indentured before 10/12/15</td>
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<td>6th period indentured before 10/12/15</td>
</tr>
<tr>
<td>1st period indentured after 10/12/15</td>
</tr>
<tr>
<td>2nd period indentured after 10/12/15</td>
</tr>
<tr>
<td>3rd period indentured after 10/12/15</td>
</tr>
<tr>
<td>4th period indentured after 10/12/15</td>
</tr>
<tr>
<td>5th period indentured after 10/12/15</td>
</tr>
<tr>
<td>6th period indentured after 10/12/15</td>
</tr>
</tbody>
</table>

#### Elevator Constructor

**Elevator Constructor Mechanic**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight</th>
<th>Time and a Double</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>4/8/2013</td>
<td>$70.77</td>
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**Comment** 4/8/2013

<table>
<thead>
<tr>
<th>Apprentice Rates:</th>
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</thead>
<tbody>
<tr>
<td>1st year</td>
</tr>
<tr>
<td>2nd year</td>
</tr>
<tr>
<td>3rd year</td>
</tr>
<tr>
<td>4th year</td>
</tr>
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</table>
### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

### Glazier

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half Hourly</th>
<th>Double Daily Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glazier</td>
<td>GL-826</td>
<td>6/3/2016</td>
<td>$44.78</td>
<td>$60.87</td>
<td>$76.95</td>
<td>H H H H H D Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 tens allowed on consecutive days</td>
<td></td>
<td></td>
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</tbody>
</table>

**Apprentice Rates:**

1st 6 months: $31.91, 2nd 6 months: $33.52, 3rd 6 months: $35.12, 4th 6 months: $36.74, 5th 6 months: $38.35, 6th 6 months: $39.96, 7th 6 months: $41.57, 8th 6 months: $43.17

### Heat and Frost Insulator

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half Hourly</th>
<th>Double Daily Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat and Frost Insulator</td>
<td>as127</td>
<td>11/3/2014</td>
<td>$42.97</td>
<td>$55.93</td>
<td>$68.89</td>
<td>H H H D D D Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Make up day allowed</td>
<td></td>
<td></td>
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</tbody>
</table>

**Apprentice Rates:**

1st year: $30.01, 2nd year: $32.60, 3rd year: $35.19, 4th year: $37.79

### Spray Insulation - Qualified Senior Sprayer

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half Hourly</th>
<th>Double Daily Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray Insulation</td>
<td>Qualified Senior Sprayer</td>
<td>3/31/2017</td>
<td>$29.04</td>
<td>$42.35</td>
<td>X X X H H H H H N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>application of all products</td>
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**Official Request #:** 1138  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**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.
### Ironworker

For work over $10 million: Structural, Ornamental, Machinery Rigger & Reinforcing Ironworker; installation of sheet metal siding

A 4-10 work week allowed Monday thru Thursday. Friday may be used as a make-up day. Hours in excess of 40 must be paid time and one half.

*Make up day allowed*

<table>
<thead>
<tr>
<th>Last Updated</th>
<th>Straight Time</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hourly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR-8-A</td>
<td>$50.07</td>
<td>$69.76</td>
<td>$89.45</td>
<td>H</td>
</tr>
<tr>
<td></td>
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</table>

### Apprentice Rates:

*9/29/2014*

<table>
<thead>
<tr>
<th>Hours</th>
<th>Rate per Hour</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>0 - 1,000 hours</td>
<td>$25.39</td>
<td>$37.75</td>
<td>$50.11</td>
<td></td>
</tr>
<tr>
<td>1,001 - 2,000 hours</td>
<td>$37.71</td>
<td>$51.22</td>
<td>$64.73</td>
<td></td>
</tr>
<tr>
<td>2,001 - 3,000 hours</td>
<td>$39.01</td>
<td>$53.17</td>
<td>$67.33</td>
<td></td>
</tr>
<tr>
<td>3,001 - 4,000 hours</td>
<td>$40.31</td>
<td>$55.12</td>
<td>$69.93</td>
<td></td>
</tr>
<tr>
<td>4,001 - 5,000 hours</td>
<td>$41.61</td>
<td>$57.07</td>
<td>$72.53</td>
<td></td>
</tr>
<tr>
<td>5,001 - 6,000 hours</td>
<td>$42.92</td>
<td>$59.04</td>
<td>$75.15</td>
<td></td>
</tr>
<tr>
<td>6,001 - 7,000 hours</td>
<td>$44.22</td>
<td>$60.98</td>
<td>$77.75</td>
<td></td>
</tr>
</tbody>
</table>

For work under $10 Million: Structural, Ornamental, Machinery Rigger & Reinforcing Ironworker; pre-engineered metal buildings

A 4-10 work week allowed Monday thru Thursday. Friday may be used as a make-up day. Hours in excess of 40 must be paid time and one half.

*Make up day allowed*

<table>
<thead>
<tr>
<th>Last Updated</th>
<th>Straight Time</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hourly</td>
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<td></td>
</tr>
<tr>
<td>IR-8-B</td>
<td>$46.73</td>
<td>$64.76</td>
<td>$82.79</td>
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</tbody>
</table>

### Apprentice Rates:

*9/29/2014*

<table>
<thead>
<tr>
<th>Hours</th>
<th>Rate per Hour</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1,000 hours</td>
<td>$25.39</td>
<td>$37.75</td>
<td>$50.11</td>
<td></td>
</tr>
<tr>
<td>1,001 - 2,000 hours</td>
<td>$37.71</td>
<td>$51.22</td>
<td>$64.73</td>
<td></td>
</tr>
<tr>
<td>2,001 - 3,000 hours</td>
<td>$39.01</td>
<td>$53.17</td>
<td>$67.33</td>
<td></td>
</tr>
<tr>
<td>3,001 - 4,000 hours</td>
<td>$40.31</td>
<td>$55.12</td>
<td>$69.93</td>
<td></td>
</tr>
<tr>
<td>4,001 - 5,000 hours</td>
<td>$41.61</td>
<td>$57.07</td>
<td>$72.53</td>
<td></td>
</tr>
<tr>
<td>5,001 - 6,000 hours</td>
<td>$42.92</td>
<td>$59.04</td>
<td>$75.15</td>
<td></td>
</tr>
<tr>
<td>6,001 - 7,000 hours</td>
<td>$44.22</td>
<td>$60.98</td>
<td>$77.75</td>
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<tr>
<td>Classification</td>
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<td>Description</td>
<td>Updated</td>
<td>Last Hourly</td>
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<tr>
<td>----------------</td>
<td>------</td>
<td>-------------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Laborer</td>
<td>Class A Laborer - construction laborer on building and heavy construction work, storm, and sanitary sewers on all construction sites and streets which are not included in the road builder rates, tool crib attendant, civil engineer helper, rodman, oxi-gun operator, propane or acetylene cutting torch operator, motor driven buggies, chipping hammers, tamping machines, green cutting, sand blasters, mason tenders, mortar mixers, marterial mixers, vibrator operators, concrete mixers, laborers with concrete crew, mixer to pour, including pour time from trucks.</td>
<td>L1329-B-A</td>
<td>5/3/2017</td>
<td>$34.03 $44.35 $54.66 X X X X X X D Y</td>
</tr>
<tr>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 - 1,000 hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,001 - 2,000 hours</td>
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<td>2,001 - 3,000 hours</td>
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</tr>
<tr>
<td></td>
<td>3,001 - 4,000 hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laborer</td>
<td>Class B Laborer - Cement gun nozzleman, blasters, miners, drillers, buster operators, layers of all non-metallic pipe</td>
<td>L1329-B-B</td>
<td>5/3/2017</td>
<td>$34.45 $44.98 $55.50 X X X X X X D Y</td>
</tr>
<tr>
<td>Laborer</td>
<td>Class C Laborer - caisson worker &amp; airtrack</td>
<td>L1329-B-C</td>
<td>5/3/2017</td>
<td>$34.82 $45.53 $56.24 X X X X X X D Y</td>
</tr>
<tr>
<td>Laborer</td>
<td>Class D Laborer - Watchmen, Fire Watch and Hole Watch</td>
<td>L1329-B-D</td>
<td>5/3/2017</td>
<td>$31.96 $41.24 $50.52 X X X X X X D Y</td>
</tr>
<tr>
<td>Laborer</td>
<td>Class E Laborer - Digester, Tanks &amp; Kilns</td>
<td>L1329-B-E</td>
<td>5/3/2017</td>
<td>$36.20 $47.60 $59.00 X X X X X X D Y</td>
</tr>
</tbody>
</table>

Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package
Project Number: 20-17-02
County: Houghton

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.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Hourly</th>
<th>Half Time</th>
<th>Double Time Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer - Hazardous</td>
<td>LHAZ-Z11-A</td>
<td>$32.91</td>
<td>$46.37</td>
<td>$59.82</td>
<td>H H H H H H D Y</td>
<td></td>
</tr>
<tr>
<td>Class A</td>
<td></td>
<td>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 &quot;D&quot; is required. Make up day allowed comment 11/7/2014 4 10s allowed M-Th or T-F; inclement weather makeup day Friday</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1,000 work hours</td>
<td></td>
<td>$27.93</td>
<td>$38.90</td>
<td>$49.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,001-2,000 work hours</td>
<td></td>
<td>$28.93</td>
<td>$40.40</td>
<td>$51.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,001-3,000 work hours</td>
<td></td>
<td>$29.92</td>
<td>$41.88</td>
<td>$53.84</td>
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<tr>
<td>3,001-4,000 work hours</td>
<td></td>
<td>$31.91</td>
<td>$44.86</td>
<td>$57.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class B</td>
<td>LHAZ-Z11-B</td>
<td>$33.91</td>
<td>$47.87</td>
<td>$61.82</td>
<td>H H H H H H D Y</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels &quot;A&quot;, &quot;B&quot; or &quot;C&quot; is required. Make up day allowed comment 11/7/2014 4 10s allowed M-Th or T-F; inclement weather makeup day Friday</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apprentice Rates:</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>0-1,000 work hours</td>
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<td>$28.68</td>
<td>$40.02</td>
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<td>$30.77</td>
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<td>3,001-4,000 work hours</td>
<td></td>
<td>$32.86</td>
<td>$46.29</td>
<td>$59.72</td>
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</tr>
</tbody>
</table>

Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package
Project Number: 20-17-02
County: Houghton

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.

Page 11 of 26
## Official Prevailing Wage Rates for State Funded Projects

### Official Request #: 1138

Requestor: Michigan Technological University  
Project Description: Wave Pool Concrete work, plumbing and Electrical package  
Project Number: 20-17-02  
County: Houghton

---

### 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.

---

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half</th>
<th>Double Time Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer Underground - Open Cut, Class VI</td>
<td>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 &amp; the installation and repair of water service pipe and appurtenances.</td>
<td>LAUC-Z5-6</td>
<td>9/7/2017</td>
<td>$31.70</td>
<td>$40.98</td>
<td>$50.26 X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

| 0-1,000 work hours | $27.69 | $34.96 | $42.24 |
| 1,001-2,000 work hours | $28.49 | $36.16 | $43.84 |
| 2,001-3,000 work hours | $29.29 | $37.36 | $45.44 |
| 3,001-4,000 work hours | $30.90 | $39.78 | $48.66 |

| Laborer Underground - Open Cut, Class I | Construction Laborer | LAUC-Z5-1 | 9/7/2017 | $33.95 | $44.36 | $54.76 X X X X X X D Y |

**Apprentice Rates:**

| 0-1,000 work hours | $29.38 | $37.50 | $45.62 |
| 1,001-2,000 work hours | $30.29 | $38.86 | $47.44 |
| 2,001-3,000 work hours | $31.21 | $40.24 | $49.28 |
| 3,001-4,000 work hours | $33.04 | $42.99 | $52.94 |

| Laborer Underground - 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-Z5-2 | 9/5/2017 | $34.09 | $44.57 | $55.04 X X X X X X D Y |

**Apprentice Rates:**

| 0-1,000 work hours | $29.48 | $37.65 | $45.82 |
| 1,001-2,000 work hours | $30.40 | $39.03 | $47.66 |
| 2,001-3,000 work hours | $31.33 | $40.42 | $49.52 |
| 3,001-4,000 work hours | $33.17 | $43.18 | $53.20 |
## Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time Hourly</th>
<th>Time and a Half Hourly</th>
<th>Double Time Hourly</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer Underground - Open Cut, Class III</td>
<td>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.</td>
<td>LAUC-Z5-3</td>
<td>$34.22</td>
<td>$44.76</td>
<td>$55.30</td>
<td>X X X X X X D Y</td>
</tr>
<tr>
<td>Apprentice Rates:</td>
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<td>0-1,000 work hours</td>
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<tr>
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<tr>
<td>2,001-3,000 work hours</td>
<td>$31.44</td>
<td>$40.59</td>
<td>$49.74</td>
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</tr>
<tr>
<td>3,001-4,000 work hours</td>
<td>$33.29</td>
<td>$43.36</td>
<td>$53.44</td>
<td></td>
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</tr>
<tr>
<td>Laborer Underground - Open Cut, Class IV</td>
<td>Trench or excavating grade man.</td>
<td>LAUC-Z5-4</td>
<td>$34.27</td>
<td>$44.84</td>
<td>$55.40</td>
<td>X X X X X X D Y</td>
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<td>0-1,000 work hours</td>
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<tr>
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<td>$31.48</td>
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<td>3,001-4,000 work hours</td>
<td>$33.34</td>
<td>$43.44</td>
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<tr>
<td>Laborer Underground - Open Cut, Class V</td>
<td>Pipe Layer</td>
<td>LAUC-Z5-5</td>
<td>$34.32</td>
<td>$44.91</td>
<td>$55.50</td>
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<td>Apprentice Rates:</td>
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<tr>
<td>0-1,000 work hours</td>
<td>$29.66</td>
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<td>$30.59</td>
<td>$39.32</td>
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<td>$31.52</td>
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<td>3,001-4,000 work hours</td>
<td>$33.39</td>
<td>$43.52</td>
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</table>

Official Request #: 1138  
Requestor: Michigan Technological University  
Project Description: Wave Pool Concrete work, plumbing and Electrical package  
Project Number: 20-17-02  
County: Houghton

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.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Hourly</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer Underground - Open Cut, Class VII</td>
<td>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.</td>
<td>$29.81</td>
<td>$38.15</td>
<td>$46.48</td>
<td>X X X X X X D Y</td>
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<tr>
<td></td>
<td>Apprentice Rates:</td>
<td>9/7/2017</td>
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<tr>
<td>0-1,000 work hours</td>
<td>$26.27</td>
<td>$32.84</td>
<td>$39.40</td>
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<tr>
<td>1,001-2,000 work hours</td>
<td>$26.98</td>
<td>$33.90</td>
<td>$40.82</td>
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<td>2,001-3,000 work hours</td>
<td>$27.69</td>
<td>$34.96</td>
<td>$42.24</td>
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<td>3,001-4,000 work hours</td>
<td>$29.10</td>
<td>$37.08</td>
<td>$45.06</td>
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<tr>
<td>Laborer Underground - Tunnel, Shaft &amp; Caisson</td>
<td>Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman.</td>
<td>$36.82</td>
<td>$48.70</td>
<td>$60.57</td>
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<tr>
<td></td>
<td>Apprentice Rates:</td>
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<tr>
<td>0-1,000 work hours</td>
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<td>$49.97</td>
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<td>1,001-2,000 work hours</td>
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<td>$42.34</td>
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<td>2,001-3,000 work hours</td>
<td>$33.64</td>
<td>$43.93</td>
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<td>3,001-4,000 work hours</td>
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<td>$47.11</td>
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<tr>
<td>Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder</td>
<td>$36.91</td>
<td>$48.83</td>
<td>$60.75</td>
<td>X X X X X X D Y</td>
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<tr>
<td></td>
<td>Apprentice Rates:</td>
<td>9/7/2017</td>
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</tr>
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<td>0-1,000 work hours</td>
<td>$31.58</td>
<td>$40.84</td>
<td>$50.09</td>
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<tr>
<td>1,001-2,000 work hours</td>
<td>$32.65</td>
<td>$42.45</td>
<td>$52.23</td>
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<td>3,001-4,000 work hours</td>
<td>$35.84</td>
<td>$47.23</td>
<td>$58.61</td>
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<tr>
<td>Classification</td>
<td>Name Description</td>
<td>Last Updated</td>
<td>Straight Hourly</td>
<td>Time and a Half</td>
<td>Double Time</td>
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<tr>
<td>Class III -</td>
<td>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).</td>
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<tr>
<td></td>
<td>LAUCT-Z2-3</td>
<td>9/7/2017</td>
<td>$37.01</td>
<td>$48.98</td>
<td>$60.95</td>
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<tr>
<td>Class IV -</td>
<td>Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.</td>
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<td>LAUCT-Z2-4</td>
<td>9/7/2017</td>
<td>$37.17</td>
<td>$49.22</td>
<td>$61.27</td>
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<tr>
<td>Apprentice Rates:</td>
<td>0-1,000 work hours</td>
<td>$31.66</td>
<td>$40.96</td>
<td>$50.25</td>
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<tr>
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<td>1,001-2,000 work hours</td>
<td>$32.73</td>
<td>$42.57</td>
<td>$52.39</td>
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<tr>
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<td>2,001-3,000 work hours</td>
<td>$33.80</td>
<td>$44.17</td>
<td>$54.53</td>
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<td>3,001-4,000 work hours</td>
<td>$35.94</td>
<td>$47.38</td>
<td>$58.81</td>
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</tbody>
</table>
### 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)

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight Time and Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAUCT-Z2-5</td>
<td></td>
<td>9/7/2017</td>
<td>$37.43 $49.62 $61.79 X X X X X X D Y</td>
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</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $31.97 $41.43 $50.87
- 1,001-2,000 work hours: $33.06 $43.06 $53.05
- 2,001-3,000 work hours: $34.16 $44.71 $55.25
- 3,001-4,000 work hours: $36.34 $47.98 $59.61

### Class VI - Dynamite man and powder man.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight Time and Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAUCT-Z2-6</td>
<td></td>
<td>9/7/2017</td>
<td>$37.74 $50.08 $62.41 X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $32.20 $41.77 $51.33
- 1,001-2,000 work hours: $33.31 $43.43 $53.55
- 2,001-3,000 work hours: $34.42 $45.10 $55.77
- 3,001-4,000 work hours: $36.63 $48.41 $60.19

### 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.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight Time and Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAUCT-Z2-7</td>
<td></td>
<td>9/7/2017</td>
<td>$30.01 $38.48 $46.95 X X X X X X D Y</td>
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</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $26.41 $33.09 $39.75
- 1,001-2,000 work hours: $27.13 $34.17 $41.19
- 2,001-3,000 work hours: $27.85 $35.25 $42.63
- 3,001-4,000 work hours: $29.29 $37.41 $45.51

---

**Official Request #:** 1138  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**County:** Houghton  

**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.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape Laborer</td>
<td>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 &amp; one half. Holidays paid at double time.</td>
<td>10/13/2015</td>
<td>$28.25</td>
<td>$39.04</td>
<td>X</td>
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<td>$49.82</td>
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<td>10/13/2015</td>
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<td>Skilled Landscape Laborer: small power tool operator, lawn sprinkler installers' tender, material mover, truck driver on when seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs. Sundays paid at time &amp; one half. Holidays paid at double time.</td>
<td>10/13/2015</td>
<td>$24.05</td>
<td>$32.74</td>
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<td>10/13/2015</td>
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<tr>
<td>Operating Engineer - DIVER</td>
<td>Diver/Wet Tender/Tender/Rov Pilot/Rov Tender</td>
<td>4/2/2014</td>
<td>$52.80</td>
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<tr>
<td>Operating Engineer - Marine Construction</td>
<td>Diver/Wet Tender, Engineer (hydraulic dredge)</td>
<td>1/23/2017</td>
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<td>Make up day allowed</td>
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<td>Subdivision of county: all Great Lakes, islands therein, &amp; connecting &amp; tributary waters</td>
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<tr>
<td>Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender</td>
<td>1/23/2017</td>
<td>$70.82</td>
<td>$91.57</td>
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<tr>
<td></td>
<td>Holiday pay = 2.5 times the straight hourly rate</td>
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<td>Make up day allowed</td>
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<td>Subdivision of county: All Great Lakes, islands therein, &amp; connecting &amp; tributary waters</td>
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</tbody>
</table>

Official Request #: 1138
Requestor: Michigan Technological University
Project Description: Wave Pool Concrete work, plumbing and Electrical package
Project Number: 20-17-02
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 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

<table>
<thead>
<tr>
<th>Classification</th>
<th>Last Updated</th>
<th>Straight Time</th>
<th>a Double Overtime</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLF-2B Friction, Lattice Boom or Crane License Certification</td>
<td>9/20/2017</td>
<td>$72.32</td>
<td>$93.82</td>
<td>$115.32</td>
</tr>
</tbody>
</table>

Holiday pay = 2.5 times the straight hourly rate  
**Make up day allowed:** 1/23/2017

**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**  
**$66.27** | **$84.75** | **$103.22** | X | X | H | H | H | H | D | Y | H | H | H | D | Y |

Holiday pay = 2.5 times the straight hourly rate  
**Make up day allowed:** 1/23/2017

**Subdivision of county:** All Great Lakes, islands therein, & connecting & tributary waters

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**  
**$60.07** | **$75.45** | **$90.82** | X | X | H | H | H | H | D | Y | H | H | H | D | Y |

Holiday pay = 2.5 times the straight hourly rate  
**Make up day allowed:** 1/23/2017

**Subdivision of county:** All Great Lakes, islands therein, & connecting & tributary waters

Operating Engineer General Construction and Underground  
**Crane 120' boom & jib**  
**EN-324UP-120GU**  
**$52.20** | **$66.73** | **$81.26** | X | X | H | H | H | H | D | N |

*Double time after 12 hours Mon-Sat*  
**April 28, 2017**

**Crane 140' boom & jib**  
**EN-324UP-140GU**  
**$52.45** | **$67.11** | **$81.76** | X | X | H | H | H | H | D | N |

*Double time after 12 hours Mon-Sat*  
**April 28, 2017**

**Crane with 400' or longer main boom & jib**  
**EN-324UP-400GU**  
**$56.24** | **$72.75** | **$89.25** | X | X | H | H | H | H | D | N |

*Double time after 12 hours Mon-Sat*  
**April 28, 2017**

---

**Official Request #: 1138**  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**County:** Houghton

---

**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 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

---

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A-</td>
<td>EN-324UP-AGU</td>
<td>Regular equipment operator, crane, dozer, front end loader, pumpcrete, squeeze crete, job mechanic, welder, concrete pump, excavator, milling &amp; pulverizing machines, &amp; scraper (self-propelled &amp; tractor drawn).</td>
<td>4/28/2017</td>
<td>$51.70</td>
<td>$65.98</td>
<td>$80.26</td>
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<tr>
<td>Apprentice Rates:</td>
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<td></td>
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<tr>
<td>1st 6 months</td>
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| Class B- | EN-324UP-BGU | Air-Trac Drill, boom truck (non-swing), concrete mixers, material hoist and tugger, pumps 6" and over, beltcrete, sweeping machine, trencher, head grease man, winches, well points and freeze systems. | 4/28/2017 | $48.45 | $61.11 | $73.76 | X X H H H H D N |

| Class C- | EN-324UP-CGU | Fork Truck, air compressor, conveyer, concrete saw, farm tractor(without attachments), generator, guard post driver, mulching machines, pumps under 6", welding machines, | 4/28/2017 | $47.87 | $60.24 | $72.60 | X X H H H H D N |

| Class D- | EN-324UP-DGU | Oiler, fireman, heater operator, brock concrete breaker, elevators (other than passenger), end dump & skid steer | 4/28/2017 | $46.93 | $58.83 | $70.72 | X X H H H H D N |

| Crane 220' boom & jib | EN-324UP-GU | | 4/28/2017 | $52.70 | $65.98 | $80.26 | X X H H H H D N |

---

**Official Request #:** 1138  
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**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**County:** Houghton

---

**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.
### Classification Last  Straight Time and  a Double  Overtime

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Updated</th>
<th>Hourly</th>
<th>Half Time</th>
<th>Time and Double</th>
<th>Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanic w/ truck &amp; tools</td>
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<td>4/28/17</td>
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<td>Crane 120' boom &amp; jib</td>
<td>EN-324UP-120S</td>
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<td>$67.33</td>
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<td>Double time after 12 hours Mon-Sat</td>
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<tr>
<td>Crane 140' boom &amp; jib</td>
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<tr>
<td>Crane 220' boom &amp; jib</td>
<td>EN-324UP-220S</td>
<td>4/28/17</td>
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<td>$68.08</td>
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<tr>
<td>Crane with 300' boom &amp; jib</td>
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<td></td>
<td>Double time after 12 hours Mon-Sat</td>
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<tr>
<td>Crane with 400' boom &amp; jib</td>
<td>EN-324UP-400S</td>
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<td>$56.64</td>
<td>$73.35</td>
<td>$90.05</td>
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<tr>
<td>Make up day allowed</td>
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<tr>
<td></td>
<td>Double time after 12 hours Mon-Sat</td>
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<tr>
<td>Compressor, Welder &amp; Forklift</td>
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<td>Double time after 12 hours Mon-Sat</td>
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<td>Mechanic w/ truck &amp; tools</td>
<td>EN-324UP-MS</td>
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<td>comment</td>
<td>Double time after 12 hours Mon-Sat</td>
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Official Request #: 1138

Requestor: Michigan Technological University

Project Description: Wave Pool Concrete work, plumbing and Electrical package

Project Number: 20-17-02

County: Houghton

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 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

## Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time</th>
<th>Time and a Half</th>
<th>Double Time Provision</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator</td>
<td>EN-324UP-OS</td>
<td>$52.10</td>
<td>4/28/2017</td>
<td>$66.58</td>
<td>$81.06</td>
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<tr>
<td></td>
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<td></td>
<td>Double time after 12 hours Mon-Sat</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Apprentice Rates:

1st 6 months: $42.50  
2nd 6 months: $43.95  
3rd 6 months: $45.39  
4th 6 months: $46.84  
5th 6 months: $48.29  
6th 6 months: $49.74

### Apprentice Rates:

1st 1000 hours: $23.45  
2nd 1000 hours: $24.42  
3rd 1000 hours: $25.40  
4th 1000 hours: $26.37  
5th 1000 hours: $27.35  
6th 1000 hours: $28.32  
7th 1000 hours: $29.30  
8th 1000 hours: $30.27

### Painter

<table>
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<tr>
<th>Painter</th>
<th>PT-1011</th>
<th>$31.25</th>
<th>$41.01</th>
<th>$50.76</th>
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<tbody>
<tr>
<td></td>
<td>comment</td>
<td>7/17/2015</td>
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</table>

## Requestor:

Michigan Technological University

Project Description: Wave Pool Concrete work, plumbing and Electrical package

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County: Houghton

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<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and Half Hourly</th>
<th>Double Overtime</th>
<th>Overtime Provision</th>
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<tbody>
<tr>
<td>Bridge Painter (under 30 feet)</td>
<td>PT-1011B</td>
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<td><strong>Apprentice Rates:</strong></td>
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<tr>
<td>1st 1,000 hours</td>
<td>$26.23</td>
<td>$33.48</td>
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<tr>
<td>2nd 1,000 hours</td>
<td>$27.44</td>
<td>$35.29</td>
<td>$43.14</td>
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<td>3rd 1,000 hours</td>
<td>$28.64</td>
<td>$37.09</td>
<td>$45.54</td>
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<tr>
<td>4th 1,000 hours</td>
<td>$29.85</td>
<td>$38.90</td>
<td>$47.96</td>
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<tr>
<td>5th 1,000 hours</td>
<td>$31.06</td>
<td>$40.72</td>
<td>$50.38</td>
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<tr>
<td>6th 1,000 hours</td>
<td>$32.27</td>
<td>$42.54</td>
<td>$52.80</td>
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<tr>
<td>7th 1,000 hours</td>
<td>$33.48</td>
<td>$44.35</td>
<td>$55.22</td>
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<tr>
<td>8th 1,000 hours</td>
<td>$34.68</td>
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<td>$57.62</td>
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<td>Drywall Finisher, Soundproofing, &amp; Plural</td>
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<td>$37.67</td>
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<td>Component Applicator</td>
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<td><strong>Apprentice Rates:</strong></td>
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<td>4th 1,000 hours</td>
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<td>5th 1,000 hours</td>
<td>$32.48</td>
<td>$42.85</td>
<td>$53.22</td>
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<td></td>
</tr>
<tr>
<td>6th 1,000 hours</td>
<td>$33.78</td>
<td>$44.80</td>
<td>$55.82</td>
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<tr>
<td>7th 1,000 hours</td>
<td>$35.08</td>
<td>$46.75</td>
<td>$58.42</td>
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<tr>
<td>8th 1,000 hours</td>
<td>$36.37</td>
<td>$48.68</td>
<td>$61.00</td>
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<tr>
<td>Pipe and Manhole Rehab</td>
<td>General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jitter-vac assistant</td>
<td>TM247</td>
<td>$28.20</td>
<td>$38.20</td>
<td>H H H H H H H H H N</td>
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**Official Request #:** 1138  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**County:** Statewide  

**Official Rate Schedule**  
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Page 22 of 26
<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and Half Hourly</th>
<th>a Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap cutter/CCTV Tech/Grout Equipment Operator</td>
<td>unit driver and operator of CCTV; grouting equipment and tap cutting equipment</td>
<td>TM247-2</td>
<td>$32.70</td>
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<td>CCTV Technician/Combo Unit Operator</td>
<td>unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work</td>
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<td>4/17/2015</td>
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<td>Boiler Operator</td>
<td>unit driver and operator of steam/water heater units and all ancillary equipment associated</td>
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<td>Combo Unit driver &amp; Jetter-Vac Operator</td>
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<td>4/17/2015</td>
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<td>Pipe Bursting &amp; Slip-lining Equipment Operator</td>
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**Apprentice Rates:**

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<th>Year</th>
<th>Straight Hourly</th>
<th>Time and Half Hourly</th>
<th>a Double Time</th>
<th>Overtime Provision</th>
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<tbody>
<tr>
<td>1st year</td>
<td>$29.67</td>
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<td>2nd year</td>
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<tr>
<td>3rd year</td>
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<td>$56.80</td>
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Official Request #: 1138  
Requestor: Michigan Technological University  
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Official Rate Schedule  
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## Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

### Page 24 of 26

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Updated Hourly</th>
<th>Straight Time and Half</th>
<th>a Double Time Provision</th>
</tr>
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<tr>
<td><strong>Plumber, Pipefitter, Welder, HVAC &amp; Refrigeration</strong></td>
<td>Plumber, Pipefitter, Welder, HVAC &amp; Refrigeration</td>
<td>$47.61</td>
<td>$71.42</td>
<td>$95.22 H H H H H H D Y</td>
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<td>4 ten hour days may be worked only Monday-</td>
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<td></td>
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<tr>
<td></td>
<td>Make up day allowed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st 6 months</td>
<td>$23.96</td>
<td>$35.94</td>
<td>$47.92</td>
</tr>
<tr>
<td></td>
<td>2nd 6 months</td>
<td>$25.44</td>
<td>$38.16</td>
<td>$50.88</td>
</tr>
<tr>
<td></td>
<td>3rd 6 months</td>
<td>$35.32</td>
<td>$52.98</td>
<td>$70.64</td>
</tr>
<tr>
<td></td>
<td>4th 6 months</td>
<td>$36.65</td>
<td>$54.98</td>
<td>$73.30</td>
</tr>
<tr>
<td></td>
<td>5th 6 months</td>
<td>$37.99</td>
<td>$56.98</td>
<td>$75.98</td>
</tr>
<tr>
<td></td>
<td>6th 6 months</td>
<td>$39.47</td>
<td>$59.20</td>
<td>$78.94</td>
</tr>
<tr>
<td></td>
<td>7th 6 months</td>
<td>$40.80</td>
<td>$61.20</td>
<td>$81.60</td>
</tr>
<tr>
<td></td>
<td>8th 6 months</td>
<td>$42.13</td>
<td>$63.20</td>
<td>$84.26</td>
</tr>
<tr>
<td></td>
<td>9th 6 months</td>
<td>$43.46</td>
<td>$65.19</td>
<td>$86.92</td>
</tr>
</tbody>
</table>

| **Roofer** | Commercial Roofer | $28.23 | $36.56 | $44.88 X X X X X D Y |
|            | Make up day allowed |                |                        |                         |
|            | Apprentice Rates: |                |                        |                         |
|            | Apprentice 1 | $20.84 | $25.96 | $31.08 |
|            | Apprentice 2 | $21.67 | $27.17 | $32.67 |
|            | Apprentice 3 | $22.48 | $28.37 | $34.26 |
|            | Apprentice 4 | $23.29 | $29.56 | $35.82 |
|            | Apprentice 5 | $24.09 | $30.72 | $37.36 |
|            | Apprentice 6 | $24.90 | $31.91 | $38.93 |

| **Sewer Relining** | Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV | $43.66 | $59.01 | $74.36 H H H H H H D N |

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**Official Request #: 1138**  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**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.

---

Page 24 of 26
### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017  
**Page 25 of 26**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half Provision</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class II</strong>-Operator of hot water heaters and circulation systems; water jetters; and vacuum and mechanical debris removal systems and those assisting.</td>
<td>SR-II</td>
<td>$42.13</td>
<td>$56.72</td>
<td>H H H H H D N</td>
</tr>
<tr>
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<td></td>
<td>11/24/2015</td>
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</table>

**Sheet Metal Worker**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half Provision</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet Metal Worker</td>
<td>shm-7-5</td>
<td>$53.09</td>
<td>$67.30</td>
<td>H H H D D Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 10s allowed as consecutive days, M-Th</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Make up day allowed comment**  
10/7/2016

A make up day may be worked due to inclement weather, the make up hours shall be paid at the regular hourly rate of pay.

**Apprentice Rates:**

- 1st 6 months: $30.67, $37.78, $44.88
- 2nd 6 months: $30.67, $37.78, $44.88
- 3rd 6 months: $32.77, $40.59, $48.40
- 4th 6 months: $34.87, $43.40, $51.92
- 5th 6 months: $36.97, $46.21, $55.44
- 6th 6 months: $39.08, $49.03, $58.97
- 7th 6 months: $41.19, $51.85, $62.50
- 8th 6 months: $43.29, $54.66, $66.02

**Official Request #:** 1138  
**Requestor:** Michigan Technological University  
**Project Description:** Wave Pool Concrete work, plumbing and Electrical package  
**Project Number:** 20-17-02  
**County:** Houghton  

**Official Rate Schedule**

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# Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 9/20/2017  
**Contract must be awarded by:** 12/19/2017

### Sprinkler Fitter

<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and Half Hourly Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprinkler Fitter</td>
<td>SP 669</td>
<td>$51.64</td>
<td>$68.45 $85.26 H H H H H H D Y</td>
</tr>
</tbody>
</table>

*Make up day allowed 1/4/2017*

### Apprentice Rates:

<table>
<thead>
<tr>
<th>Class</th>
<th>Straight Time</th>
<th>Half Hourly</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>$23.03</td>
<td>$30.60</td>
<td>$38.16</td>
</tr>
<tr>
<td>Class 2</td>
<td>$24.71</td>
<td>$33.12</td>
<td>$41.52</td>
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<tr>
<td>Class 3</td>
<td>$34.01</td>
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<td>$52.50</td>
</tr>
<tr>
<td>Class 4</td>
<td>$35.82</td>
<td>$45.78</td>
<td>$55.86</td>
</tr>
<tr>
<td>Class 5</td>
<td>$37.62</td>
<td>$48.55</td>
<td>$59.47</td>
</tr>
<tr>
<td>Class 6</td>
<td>$39.30</td>
<td>$51.07</td>
<td>$62.83</td>
</tr>
<tr>
<td>Class 7</td>
<td>$40.99</td>
<td>$53.60</td>
<td>$66.21</td>
</tr>
<tr>
<td>Class 8</td>
<td>$42.67</td>
<td>$56.12</td>
<td>$69.57</td>
</tr>
<tr>
<td>Class 9</td>
<td>$44.35</td>
<td>$58.64</td>
<td>$72.93</td>
</tr>
<tr>
<td>Class 10</td>
<td>$46.03</td>
<td>$61.16</td>
<td>$76.29</td>
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</tbody>
</table>

### Truck Driver

<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and Half Hourly Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Driver</td>
<td>TM-RB2</td>
<td>$44.10</td>
<td>$48.81 H H H H H H Y</td>
</tr>
</tbody>
</table>

(of all trucks of 8 cubic yd capacity or over 6/7/2016)

<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and Half Hourly Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Driver</td>
<td>TM-RB2A</td>
<td>$44.00</td>
<td>$48.66 H H H H H H Y</td>
</tr>
</tbody>
</table>

(of 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) 6/7/2016)

<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and Half Hourly Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Driver</td>
<td>TM-RB2B</td>
<td>$44.25</td>
<td>$49.04 H H H H H H Y</td>
</tr>
</tbody>
</table>

(on euclid type equipment 6/7/2016)

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