Administration Building Sidewalk

May 16, 2017
**SECTION 00 01 11**

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ATTACHMENT A - PREVAILING WAGE RATES

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ATTACHMENT C – MDOT PERMIT

END OF SECTION 00 01 11
INVITATION TO BID
MICHIGAN TECHNOLOGICAL UNIVERSITY
HOUGHTON, MICHIGAN 49931

PROJECT: Administration Building Sidewalk
MTU # 00-15-04

DUE DATE: Until 2:00 PM local time on June 1, 2017, the Owner will receive sealed proposals for the work as herein set forth at the offices of:

Ms. Penny Foetisch
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 at 906-487-3037, Dan Liebau if you have technical questions.

MANDATORY WALK THROUGH: Bidders are invited to a mandatory Pre-Bid Walk-through at 2:00 PM on May 25, 2017 in the metered parking area south of the Alumni House and west of the Administration Building. Contractors should parking in the metered parking area to attend the Pre-Bid Walk-through meeting.

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 current Federal and State of Michigan Equal Employment Opportunity requirements prior to submission of bids.

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.
Ms. Penny Foetisch  
Facilities Management  
Michigan Technological University  
1400 Townsend Drive  
Houghton, MI  49931-1295

The Project consists of saw-cutting and removal of existing concrete and hot-mix asphalt pavement, and placement of new concrete sidewalk in the Michigan Department of Transportation’s Right of Way along Highway US 41. The work includes, but is not limited to excavation and grading; backfilling and compaction, form work, and placement of cast-in-place concrete.

Having carefully read the specifications dated May 16, 2017 and drawings dated April 27, 2017 for the Michigan Technological University Administration Building Sidewalk Project, and attended the mandatory walkthrough of the project, the undersigned agrees to perform the work in accordance with Invitation to Bid No. 00-15-04.

Our **lump sum Base Bid price** to furnish and install all materials complete is:

$______________________________  
(Bid price in numbers and words)

Our **lump sum Alternate A price** to furnish and install all materials complete is:

$______________________________  
(Bid price in numbers and words)

Our **lump sum Alternate B price** to furnish and install all materials complete is:

$______________________________  
(Bid price in numbers and words)

Determination of the lowest bidder shall be on the basis of the sum of the Base Bid price and any Alternates the University accepts. Alternate bid prices will be accepted in the order listed above. The University will only accept an Alternate if all other previously listed Alternates are also accepted, unless acceptance by the University of Alternates in a different order does not affect the determination of the lowest Bidder in any way.

Bidder acknowledges receipt of the following addenda:

Addendum No. ___________________  
Dated: ___________________

Addendum No. ___________________  
Dated: ___________________

Addendum No. ___________________  
Dated: ___________________
The undersigned has used the proposal of the following subcontractors to complete all accepted elements of the bid and agrees to employ the firms listed for the work:

Excavation: ________________________________

Concrete: ________________________________

Other: ________________________________

Name: __________________________________________ Date: _____________

(Signature)

Name: __________________________________________ (Print)

Title: __________________________________________

Firm: __________________________________________

Address: __________________________________________

Contact Phone and E-mail: ________________________________

Sealed proposals will be received at Facilities Management, Bldg. 44, on the waterfront of Michigan Technological University, Houghton, Michigan until 2:00 P.M. on Thursday, June 1, 2017.

(Return one copy to Facilities Management. Retain one copy for your files.)
 AGREEMENT BETWEEN CONTRACTOR AND OWNER FOR CONSTRUCTION (DRAFT)

Owner: Michigan Tech University, 1400 Townsend Dr., Houghton, MI

Project: Administration Building Sidewalk
Project #: 00-15-04

Contract for: Exterior improvements including saw-cutting and removal of existing concrete and hot-mix asphalt pavement, and placement of new concrete sidewalk in the Michigan Department of Transportation’s Right of Way along Highway US 41. The work includes, but is not limited to excavation and grading; backfilling and compaction, form work, and placement of cast-in-place concrete.

Contractor:

Contract Start Date: June 19, 2017 or Date of Notice to Proceed
Contract Completion Date: September 1, 2017 or Date of Final Payment

This Agreement, is authorized and made to be effective as of this _____ day of June 2017 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 hereto 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 the Drawings and described in the Specifications for 00-15-04, Administration Building Sidewalk, prepared by Michigan Tech Facilities Management, 1400 Townsend Dr., Houghton, MI, 49931.
The Project consists of exterior improvements including saw-cutting and removal of existing concrete and hot-mix asphalt pavement, and placement of new concrete sidewalk in the Michigan Department of Transportation’s (MDOT) Right of Way (ROW) along Highway US 41. The work includes, but is not limited to excavation and grading; backfilling and compaction, form work, and placement of cast-in-place concrete.

ARTICLE 3 - TIME OF COMPLETION:

The Work to be performed under this Contract shall begin __________ or Date of Notice to Proceed, and shall be substantially completed on or before the Completion Date, September 1, 2017.

ARTICLE 4 - PROGRESS PAYMENTS:

Michigan Tech shall make payments as provided in Articles 1.2.14 of the General Requirements and 01 29 00 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 if acceptable, sign it and certify 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 a notice of Substantial Completion. Upon receipt of written notice that the Work is ready for inspection and acceptance, Michigan Tech shall promptly inspect the Work.

2) If the Work has been Substantially Completed and accepted, Michigan Tech shall issue upon request by the contractor, a notice of Substantial Completion and a Final Completion Checklist as necessary. Upon issuance of the notice of substantial completion, Michigan Tech shall promptly 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 5/16/2017 as listed in the Table of Contents
- Drawings for this project dated 4/27/2017 as listed on the Cover Sheet
- 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.

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<th>Base Bid Lump Sum</th>
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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

Printed Name ________________________________

Title ________________________________

**FOR MICHIGAN TECHNOLOGICAL UNIVERSITY**

______________________________/__________________
Kerri Sleeman                           Date__________________
Executive Director of Facilities Management
DIVISION 1
GENERAL REQUIREMENTS
01 00 00 - GENERAL REQUIREMENTS

1.1. INSTRUCTION TO BIDDERS

1.1.1. 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 delivered in an opaque sealed envelope marked with the project name, Bid No., and bidders name.

1.1.2. 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.

1.1.3. 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.

1.1.4. 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.

1.1.5. 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.

1.1.6. TAXES: The Contractor shall include all applicable Michigan sales and use taxes currently imposed by Legislative enactment 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.

1.2. GENERAL CONDITIONS

1.2.1. DEFINITIONS

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.

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1.2.7. EMPLOYEES AND SUPERINTENDENCE: The 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 herebefore 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 7.5% 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 shall 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

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in automobile insurance for each occurrence and the State Required Personal Injury Protection benefits.

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.

Contractor will indemnify and hold harmless the University from and against all claims, judgements, 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 a 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 upon 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 of 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 assure 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
within such time and upon such forms as provided by the Michigan Civil Rights Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of each Subcontractor as the Contractor himself, and said Contractor will permit access to his books, records, and accounts 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.

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.

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 shall 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 for approval. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and orders of any public authority bearing on the performance of the work. The University retains full jurisdiction of construction on campus and will make final determination of all variances.

1.2.17 USE OF SERVICES: The Contractor may use the Owner's water and power by contacting Michigan Tech Facilities Management for arrangements.

1.2.18 SCHEDULING: The Contractor shall meet with the Director of Engineering Services as follows: (1) prior to the start of work; (2) to schedule any interruption of University services; and (3) monthly, or as directed, to review the progress of work.

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 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 conformance 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 and document 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.

4. 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, and similar considerations.

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5. 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

6. 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.

7. 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 all 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.

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PART 1 PROTECTION

1.1 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

2.1 The Contractor shall submit for approval a complete list of items that will require shop drawings.

2.2 The Contractor shall check and verify all field measurements and submit; with such promptness as to cause no delay in the Contractor's or any other contractor's work; electronic versions, checked and approved, of all shop or setting drawings and schedules where such submissions are stipulated in the various Divisions herein.

2.3 The University will check, with reasonable promptness, such drawings and schedules only for conformance with design concept and compliance with information given in the Contract Documents. The drawings will be stamped by the University as follows:

2.3.1 "RETURNED - NOT RELEASED" Deficiencies as marked indicate the drawings and schedules do not meet the requirements of the Contract Documents and shall be redrawn, revised, and resubmitted.

2.3.2 "REVIEWED AS NOTED" Deficiencies as marked indicate the drawings and schedules are subject to corrections to meet the requirements of the Contract Documents and are released for shop drawing work only. Drawings are released for shop work only, but are to be corrected and resubmitted for final approval.

2.3.3 "REVIEWED AND RELEASED" Indicate final action by the University and are released subject to meeting the requirements of the Contract Documents.

2.4 The University's approval of such drawings shall not relieve the Contractor from the responsibility for deviations from drawings and specifications unless he has, in accompanying letter, called the University's attention to such deviation at the time of submission and secured written approval. University's approval shall not relieve the Contractor from responsibility for errors in shop drawings and schedules.
PART 3 DEFINITIONS

3.1 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.

3.2 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.

3.3 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

4.1 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

5.1 The Contractor shall provide complete operation and maintenance instructions, manuals, and other information for all architectural, electrical, mechanical, elevator equipment, and other systems installed and/or provided as part of the Work by the Contractor under the Contract. The Contractor shall furnish three complete sets of manuals bound in suitable quick release three ring binders. The intent of these manuals is that the University is provided with a complete operating and maintenance document for all significant systems, in a convenient, easy to use form.

PART 6 SCHEDULE OF VALUES

6.1 Within two weeks after start of job, the contractor shall provide the University with an itemized schedule of values for each division and major subdivision of work. They may be done on AIA form G703.

PART 7 DOCUMENT CLARIFICATIONS

7.1 All inquiries regarding project specifications and drawings shall be made to the Director of Engineering Services.
PART 8  CONTRACT COMPLETION

8.1 Construction work Substantial Completion of the Contract shall be on or before September 1, 2017.

PART 9  EQUAL EMPLOYMENT OPPORTUNITY

9.1 All bidders shall comply with current Federal and State of Michigan Equal Employment Opportunity requirements prior to submission of bids.

PART 10  ASBESTOS (This is not an asbestos abatement project)

10.1 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.

PART 11  SUMMARY OF WORK

11.1 Perform all work indicated in the Contract Documents.

11.2 The Project consists of exterior improvements including saw-cutting and removal of existing concrete and hot-mix asphalt (HMA) pavement, and placement of new concrete sidewalk in the Michigan Department of Transportation’s (MDOT) Right of Way (ROW) along Highway US 41. The work includes, but is not limited to excavation and grading; backfilling and compaction, form work, and placement of cast-in-place concrete.

END OF SECTION 01 00 01
PART 1 – GENERAL

1.1 SUMMARY

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

1.2 SCHEDULE OF VALUES

1.2.1 Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1.2.1.1 Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

1.2.1.1.1 Application for Payment forms with continuation sheets.

1.2.1.1.2 Submittal schedule.

1.2.1.1.3 Items required to be indicated as separate activities in Contractor's construction schedule.

1.2.1.2 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.

1.2.2 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.

1.2.2.1 Identification: Include the following Project identification on the schedule of values:

1.2.2.1.1 Project name and location.

1.2.2.1.2 Michigan Tech.

1.2.2.1.3 Michigan Tech's project number.

1.2.2.1.4 Contractor's name and address.

1.2.2.1.5 Date of submittal.

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

1.2.2.3 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.

1.2.2.3.1 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.

1.2.2.4 Round amounts to nearest whole dollar; total shall equal the Total Contract Amount.
1.2.2.4.1 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.

1.2.2.4.2 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.

1.2.2.5 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

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

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

1.3.2 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.

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

1.3.4 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.

1.3.4.1 Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

1.3.4.2 Include amounts of Change Orders issued before last day of construction period covered by application.

1.3.5 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.

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

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

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

1.3.7.1 List of subcontractors.

1.3.7.2 Schedule of values.

1.3.7.3 Contractor's construction schedule (preliminary if not final).

1.3.7.4 Schedule of unit prices.
1.3.7.5 Submittal schedule (preliminary if not final).
1.3.7.6 List of Contractor’s staff assignments.
1.3.7.7 List of Contractor’s principal consultants.
1.3.7.8 Copies of building permits.
1.3.7.9 Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
1.3.7.10 Initial progress report.
1.3.7.11 Report of preconstruction conference.
1.3.7.12 Certificates of insurance and insurance policies.

1.3.8 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.
1.3.8.1 Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Total Contract Amount.

1.3.9 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:
1.3.9.1 Evidence of completion of Project closeout requirements.
1.3.9.2 Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
1.3.9.3 Updated final statement, accounting for final changes to the Total Contract Amount.
1.3.9.4 Completion of the Final Completion Checklist.
1.3.9.5 Evidence that claims have been settled.
1.3.9.6 Final liquidated damages settlement statement.

END OF SECTION 01 00 02
APPLICATION AND CERTIFICATION FOR PAYMENT

TO OWNER: PROJECT: APPLICATION NO: DISTRIBUTION TO:

FROM CONTRACTOR: VIA ARCHITECT:

PERIOD TO: CONTRACTOR

PROJECT NOS:

CONTRACT FOR:

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 $ 0.00
   (Column D + E on G703)
   (Column F on G703)
   Total Retainage (Lines 5a + 5b or Column G on 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: ____________________

Subscribed and sworn to before me this __________ day of __________, 2009

County of: ____________________ State of: ____________________

Notary Public: ____________________

My Commission expires on: ____________________

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>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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<td>ITEM NO.</td>
<td>DESCRIPTION OF WORK</td>
<td>SCHEDULED VALUE</td>
<td>WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)</td>
<td>WORK COMPLETED THIS PERIOD</td>
<td>MATERIALS PRESENTLY STORED (NOT IN D OR E)</td>
<td>TOTAL COMPLETED AND STORED TO DATE (D+E+F)</td>
<td>% (G ÷ C)</td>
<td>BALANCE TO FINISH (C - G)</td>
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GRAND TOTALS: $0.00 $0.00 $0.00 $0.00 $0.00 $0.00 $0.00

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity.
### SECTION 01 00 08

**CERTIFICATE OF SUBSTANTIAL COMPLETION**

<table>
<thead>
<tr>
<th>Project:</th>
<th>Owner:</th>
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<tbody>
<tr>
<td>Administration Building Sidewalk</td>
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<td>Houghton, MI  49931</td>
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<table>
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<tr>
<th>Project Number:</th>
<th>00-15-04</th>
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<tbody>
<tr>
<td>Contract for:</td>
<td>Construction</td>
</tr>
<tr>
<td>Contract Date:</td>
<td>June 19, 2017 or Date of Notice to Proceed</td>
</tr>
</tbody>
</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 **01 00 10 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.

<table>
<thead>
<tr>
<th>Contractor Signature</th>
<th>By</th>
<th>Date</th>
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</thead>
</table>

**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.

<table>
<thead>
<tr>
<th>Owner Signature</th>
<th>By</th>
<th>Date of Commencement of Warranties Substantial Completion Date</th>
</tr>
</thead>
</table>

CERTIFICATE OF SUBSTANTIAL COMPLETION

01 00 08 - 1

5/16/2017
# Final Completion Checklist

**Project:** Administration Building Sidewalk  
**Owner:** Michigan Technological University  
**Project Number:** 00-15-04  
**Contract for:** Construction  
**Contractor:**  
**Contract Date:** Date of Contract Award or Date of Notice to Proceed  

## General Items:

1. Provide specific product warranties as follows:  
   a. None  
2. Provide extra material as follows:  
   a. None  
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:

<table>
<thead>
<tr>
<th>Space</th>
<th>Items to Complete</th>
<th>Date of Completion</th>
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<tbody>
<tr>
<td>1.</td>
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The Contractor, as a condition precedent to final payment, shall execute this Guaranty to the Owner, guaranteeing for one (1) 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, their subcontractors and/or material suppliers and will be without any expense to the Owner.

OWNER:  


CONTRACTOR:  


Signature  


Signature  


Date  


Date
CONSENT OF SURETY TO FINAL PAYMENT

AIA Document G707
(Instructions on reverse side)

TO OWNER:
(Name and address)

OWNER
ARCHITECT
CONTRACTOR
SURETY
OTHER

ARCHITECT'S PROJECT NO.:

PROJECT:
(Name and address)

CONTRACT FOR:

CONTRACT DATED:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the

(Surety)

on bond of

(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of

(Insert name and address of Owner)

any of its obligations to

as set forth in said Surety's bond.

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

(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:

(Seal):

(Printed name and title)

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

4. Limited License for Reproduction

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B. CHANGES FROM THE PREVIOUS EDITION

Changes in the location of various items of information were made, without revision to the substance of the document.

C. COMPLETING THE G707 FORM

GENERAL: The bond form is the usual source of required information such as the contract date and the names and addresses of the Surety, Owner, Contractor and Project.

ARCHITECT’S PROJECT NO.: This information is typically supplied by the Architect and entered on the form by the Contractor.

CONTRACT FOR: This refers to the scope of the contract, such as “General Construction” or “Mechanical Work”.

D. EXECUTION OF THE DOCUMENT

The G707 form requires both the Surety’s seal and the signature of the Surety’s authorized representative.
STATE OF MICHIGAN

County of ____________________________

__________________________, 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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</table>

SWORN STATEMENT
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: _____________________
FULL UNCONDITIONAL WAIVER

My/our contract with _________________________________ to provide

(Other contracting party)

______________________________ for the improvement of the property described as

Administration Building Sidewalk # 00-15-04, 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 01 00 18
CERTIFICATE OF FINAL COMPLETION

<table>
<thead>
<tr>
<th>Project:</th>
<th>Owner:</th>
</tr>
</thead>
<tbody>
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<td>Houghton, MI 49931</td>
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</table>

**Project Number:** 00-15-04

**Contract for:** Construction

**Contract Date:** June 19, 2017 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
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

CERTIFICATE OF FINAL COMPLETION

01 00 20 - 1

5/16/2017
MICHIGAN TECHNOLOGICAL UNIVERSITY
ADMINISTRATION BUILDING SIDEWALK # 00-15-04

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 [Day], [Month] [Year] known (or made known) to me to be the ___________________________[Name and Title]

of ___________________________[Name and Firm], who, being by me duly sworn, subscribed to the foregoing affidavit in my presence.

By: __________________________ [Name and Title]

Authorized Representative

My Commission Expires: __________________________ [Date]

________________________________
Owner

________________________________
Owner Signature

________________________________
Final Completion Date

END OF SECTION 01 00 20
SECTION 01 00 22
CONTRACT CHANGE ORDER

<table>
<thead>
<tr>
<th>CONTRACTOR:</th>
<th>CHANGE ORDER No.</th>
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</tbody>
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<table>
<thead>
<tr>
<th>OWNER:</th>
<th>OWNER’S REPRESENTATIVE:</th>
</tr>
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<tbody>
<tr>
<td>Michigan Technological University</td>
<td></td>
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<tr>
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<th>DATE OF ISSUE:</th>
<th>EFFECTIVE DATE:</th>
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</table>

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)
CHANGE IN CONTRACT PRICE:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Contract Price:</td>
<td>$</td>
</tr>
<tr>
<td>Net changes from previous C. O.'s No. to ______</td>
<td>$</td>
</tr>
<tr>
<td>Contract Price Prior to this Change Order:</td>
<td>$</td>
</tr>
<tr>
<td>Net Increase (decrease) of this Change Order:</td>
<td>$</td>
</tr>
<tr>
<td>Contract Price with all Approved Change Orders:</td>
<td>$</td>
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</table>

CHANGE IN CONTRACT TIMES:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Original Contract Times:</td>
<td>(calendar days or dates)</td>
</tr>
<tr>
<td>Net changes from previous C. O.'s No. to ______</td>
<td>(calendar days)</td>
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<tr>
<td>Contract Times prior to this Change Order:</td>
<td>(calendar days)</td>
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<tr>
<td>Net Increase (decrease) of this Change Order:</td>
<td>(calendar days)</td>
</tr>
<tr>
<td>Contract Times with all Approved Change Orders:</td>
<td>(calendar days)</td>
</tr>
</tbody>
</table>

RECOMMENDED: (Owner's Representative)

By:  
Date:

APPROVED: (Owner): Michigan Tech University

By:  
Date:

ACCEPTED: (Contractor)

By:  
Date:

REVIEWED: (Funding Agency)

By:  
Date:

END OF SECTION 01 00 22
PART 1 - GENERAL

1.1 PROJECT

1.1.1 Project Name: Administration Building Sidewalk

1.1.2 Owner's Name: Michigan Technological University.

1.1.3 The Project includes saw-cutting and removal of existing concrete and hot-mix asphalt (HMA) pavement, and placement of new concrete sidewalk in the Michigan Department of Transportation's (MDOT) Right of Way (ROW) along Highway US 41. The work includes, but is not limited to excavation and grading; backfilling and compaction, form work, and placement of cast-in-place concrete.

1.1.4 The Contractor shall comply with all conditions and requirements stipulated by MDOT Permit Number 31051-044863-042917. Refer to Attachment C for the complete permit and related standards and performance requirements.

1.2 CONTRACT DESCRIPTION

1.2.1 The Work shall be completed under a single prime contract with the University based on a Stipulated Price for the Base Project and any accepted alternate bid items.

1.3 DESCRIPTION OF WORK

1.3.1 The Contractor will be required to excavate, backfill, and grade within the MDOT ROW to facilitate the installation of a new concrete sidewalk.

1.3.2 The Contractor will be required to saw-cut and remove existing concrete pavement and curbs in the MDOT ROW to facilitate the installation of new concrete pavement and American with Disabilities Act (ADA) compliant access ramps.

1.3.3 The Contractor will be required to saw cut and remove existing HMA pavement and excavate to the slopes and grades specified to facilitate the installation of new concrete sidewalk.

1.3.4 The Contractor will be required to restore the Site to pre-work conditions. Restoration work will include grading and the placement of topsoil and seed in areas disturbed by the performance of the work.

1.3.5 The Work to be completed under this Contract includes, but is not limited to, the following activities:

1.3.5.1 Review Contract Documents and prepare all required submittals including any necessary permits. Prepare and maintain at the job site all plans and documentation required herein.

1.3.5.2 Coordinate with the University, federal, state, local agencies, and utilities to begin Work.

1.3.5.3 Plan, schedule and implement all required Project Meetings.
1.3.5.4 Maintain an orderly work area, including but not limited to employee parking, laydown areas, and equipment/material storage that does not interfere with the day to day operations of the University.

1.3.5.5 Provide all barricades, fencing, and similar controls necessary to demarcate the Work area including storage and laydown areas, active construction areas, and designated employee parking areas to prevent access by pedestrian and vehicular traffic.

1.3.5.6 Perform dust control as necessary, including sweeping of walkways, roadways, and thoroughfares used during the construction activities.

1.3.5.7 Perform all clearing and grubbing necessary to complete the required Work. Install, maintain and improve, as required, all soil erosion and sedimentation controls to prevent transport and migration of soil(s) from the Work area.

1.3.5.8 Restore the Site to its pre-construction condition by regrading, as needed, all areas disturbed by the Work. Restoration, including seeding and mulching of all disturbed areas outside the limits of Work. This includes replacement or repair of any damaged items including but not limited to sidewalks and turf.

1.3.5.9 Perform demobilization and project closeout activities including complete removal of all temporary facilities, temporary utilities, signs, and all other materials and equipment provided by the Contractor to complete the Work. Deliver all required Project Record Documentation as described herein.

The layout of existing facilities and the proposed Work are depicted on the Drawings provided herein.

1.4 ITEMS TO BE SALVAGED BY CONTRACTOR

1.4.1 No items have been identified for salvage. The University reserves the right to salvage certain items and equipment and those salvageable items will be identified to the Bidder at the time of their inspection of the proposed Work. The University will remove salvageable items before commencement of the Work.

1.5 WORK BY OWNER

1.5.1 The University will provide (3) 3-inch diameter PVC pipe segments that will be installed midway along the existing asphalt sidewalk segment. The piping will be installed prior to the placement of new concrete and will be used as conduit/sleeves for potential future work.

1.6 OWNER OCCUPANCY

1.6.1 The University will continue daily business operations during construction. As a result, the Contractor will be responsible for securing the work zone and preventing pedestrians and other unauthorized personnel from accessing the limits of work.

1.6.2 The Contractor shall provide appropriate controls to ensure that conflicts related to pedestrian and vehicular traffic are minimized and the University’s operations are not impacted.

1.7 CONTRACTOR USE OF SITE AND PREMISES
1.7.1 Construction Operations: Limited to actual construction area. Work in adjacent areas will be only as necessary for the project, and must be coordinated with the University's Project Engineer.

1.7.2 Arrange use of site and premises to:

1.7.2.1 Keep all areas outside of the construction area clean and protect existing pavement, utilities, and similar site features. The Contractor will be responsible for damages to these areas caused by construction activities.

1.7.2.2 Parking is limited, and parking permits will be required at the site (there will not be a charge for the permits). Limit the amount of vehicles and trailers to the extent possible, and coordinate with the University Project Engineer.

1.7.3 Provide access to and from site as required by law and by the University:

1.7.3.1 Emergency Building Exits During Construction: Ensure that all building exits, fire hydrants, and fire lanes are accessible and unblocked during the course of construction. If necessitated by the Work, provide temporary exit signs if exit routes, hydrants, or fire lanes are temporarily altered.

1.7.3.2 Do not obstruct roadways, sidewalks, or other public ways without permit.

1.7.4 Time Restrictions:

1.7.4.1 Work shall be conducted during daylight hours, Monday through Friday. Work to be performed on Saturday, Sunday, or on state and federal holidays will require prior written approval by the University.

1.7.4.2 Tobacco Free, Smoke Free, and Vapor Free: The University is committed to providing a healthy, safe, and clean campus. The use of all tobacco products and vapor e-cigarettes is prohibited on all University-owned or leased properties.

1.7.5 Utility Outages and Shutdown:

1.7.5.1 Utility outages are not anticipated. If necessitated by the Work, limit disruption of utility services to hours that minimize impacts to the daily operations of the University.

1.7.5.2 Prevent accidental disruption of utility services to other facilities.

1.8 WORK SEQUENCE

1.8.1 Coordinate construction schedule and operations with the University.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION 01 10 00
PART 1 - GENERAL

1. SUMMARY
   1.1.1 Section includes administrative and procedural requirements for substitutions.

1.2 DEFINITIONS
   1.2.1 Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.3 ACTION SUBMITTALS
   1.3.1 Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

   1.3.1.1 Substitution Request Form: Use CSI Form 13.1A.

   1.3.1.2 Documentation: Show compliance with requirements for substitutions and the following, as applicable:

      1.3.1.2.1 Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

      1.3.1.2.2 Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

      1.3.1.2.3 Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

      1.3.1.2.4 Product Data, including drawings and descriptions of products and fabrication and installation procedures.

      1.3.1.2.5 Samples, where applicable or requested.

      1.3.1.2.6 Certificates and qualification data, where applicable or requested.

      1.3.1.2.7 List of similar installations for completed projects with project names and addresses and names and addresses of architects, engineers, and owners.

      1.3.1.2.8 Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
1.3.1.2.9 Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.

1.3.1.2.10 Cost information, including a proposal of change, if any, in the Contract Sum.

1.3.1.2.11 Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.

1.3.1.2.12 Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

1.3.1.3 University's Action: If necessary, the University will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. The University will notify Contractor of acceptance or rejection of proposed substitution within 10 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

1.3.1.3.1 Forms of Acceptance: Change Order, Construction Change Directive, or Michigan Tech's Supplemental Instructions for minor changes in the Work.

1.3.1.3.2 Use product specified if the University does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

1.4.1 Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

2.1.1 Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 10 days prior to time required for preparation and review of related submittals.

2.1.1.1 Conditions: The University will consider Contractor's request for substitution when the following conditions are satisfied:

2.1.1.1.1 Requested substitution is consistent with the Contract Documents and will produce indicated results.
2.1.1.1.2 Requested substitution will not adversely affect Contractor's construction schedule.

2.1.1.1.3 Requested substitution has received necessary approvals of authorities having jurisdiction.

2.1.1.1.4 Requested substitution is compatible with other portions of the Work.

2.1.1.1.5 Requested substitution has been coordinated with other portions of the Work.

2.1.1.1.6 Requested substitution provides specified warranty.

2.1.1.1.7 If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.1.2 Substitutions for Convenience: Not allowed.

END OF SECTION 01 25 00
## SUBSTITUTION REQUEST

**Project:**

**Substitution Request Number:**

**From:**

**To:**

**Date:**

**A/E Project Number:**

**Re:**

**Contract For:**

<table>
<thead>
<tr>
<th>Specification Title:</th>
<th>Description:</th>
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<th>Section:</th>
<th>Page:</th>
<th>Article/Paragraph:</th>
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</table>

**Proposed Substitution:**

**Manufacturer:**

**Address:**

**ZIP:**

**Trade Name:**

**Phone:**

**Installer:**

**Address:**

**Phone:**

**History:**

- [ ] New product
- [ ] 1-4 years old
- [ ] 5-10 years old
- [ ] More than 10 years old

**Differences between proposed substitution and specified product:**

**☐ Point-by-point comparative data attached — REQUIRED BY A/E**

**Reason for not providing specified item:**

**Similar Installation:**

**Project:**

**Architect:**

**Address:**

**Owner:**

**Date Installed:**

**Proposed substitution affects other parts of Work:**

- [ ] No
- [ ] Yes; explain ________

**Savings to Owner for accepting substitution:**

($____)________

**Proposed substitution changes Contract Time:**

- [ ] No
- [ ] Yes [Add] [Deduct] _____ days.

**Supporting Data Attached:**

- [ ] Drawings
- [ ] Product Data
- [ ] Samples
- [ ] Tests
- [ ] Reports
The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: ____________________________
Signed by: ________________________________
Firm: ____________________________
Address: ____________________________
Telephone: ____________________________
Attachments: ____________________________

A/E’s REVIEW AND RECOMMENDATION

☐ Approve Substitution - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Approve Substitution as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Reject Substitution - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: ____________________________ Date: ____________________________

OWNER’S REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures. Prepare Change Order.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures. Prepare Change Order.
☐ Substitution rejected - Use specified materials.

Signed by: ____________________________ Date: ____________________________

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E
PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Section includes requirements for temporary facilities, support facilities, storage facilities, and security and protection facilities.

1.1.2 Related Requirements:

1.1.2.1 **Section 01 10 00** Summary for work restrictions and limitations on utility interruptions.

1.1.2.2 Comply with requirements of **Section 01 74 19** - Waste Management, remove from site all materials not to be reused on site.

1.1.3 See Schedule Section at the end of this Section to determine what specific temporary items are required for this project. This schedule does not necessarily include all items that may be required by MIOSHA or the Contractor, but indicate what is required by the University and who is responsible for providing them.

1.2 DEFINITIONS

1.2.1 HVAC: Heating, Ventilation, and Air Conditioning

1.2.2 NFPA: National Fire Protection Association

1.2.3 NECA: National Electrical Contractors Association

1.2.4 NEMA: National Electrical Manufacturers Association

1.2.5 UL: Underwriters Laboratory

1.3 USE CHARGES

1.3.1 General: Installation and removal of and use charges for temporary facilities shall be included in the Total Contract Amount. The Contractor shall allow other entities to use temporary services and facilities without cost, including, but not limited to, the University, testing agencies, and authorities having jurisdiction.

1.4 INFORMATIONAL SUBMITTALS

1.4.1 If storage facilities are temporary facilities, the following must be provided and the facilities must adhere to the remainder of this specification, as necessary so stored materials remain free from damage.

1.4.1.1 Site Plan: Coordinate with the University regarding the location of temporary facilities, construction trailers, utility hookups, staging areas, and parking areas for construction personnel.

1.4.2 If storage facilities are rented or other facilities, the facilities must adhere to the remainder of this specification, as necessary so stored materials remain free from damage.

1.5 QUALITY ASSURANCE

1.5.1 Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70: National Electrical Code.

1.5.2 Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROTECTION AND MAINTENANCE OF TRAFFIC

1.6.1 During construction the Contractor shall maintain and protect traffic on all affected roads during the construction period. Measures for the protection and diversion of traffic, including the provision of a watchman and flagman, erection of barricades, placing of lights around and in front of equipment and the work zone, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction.

1.6.2 The traveling public shall be protected from damage to person and property. The Contractor shall erect and maintain temporary barricades to limit public access to the construction areas. Such barricades shall be required whenever safe public access to areas such as roads, parking areas, or sidewalks is prevented by construction activities or otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed and clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.6.3 The Contractor’s traffic on roads selected for hauling materials to and from the work zone shall interfere as little as possible with the day to day operations of the University.

1.6.4 The Contractor shall evaluate the adequacy of existing roads and the allowable load limits on these roads. The Contractor will be responsible for the repair of any damage to roads caused by the construction operations.

1.7 CONTRACTOR’S TEMPORARY FACILITIES

1.7.1 The Contractor shall provide such temporary enclosures and facilities as the work may warrant. These facilities may include, but not be limited to a Contractor’s office and storage facility, a decontamination trailer or shelter for crews, including sanitary facilities conforming to local codes and MIOSHA requirements, yard lighting, fire protection, safety equipment, construction warning, protection, and control devices for maintenance and safety of vehicular and pedestrian traffic, decontamination facilities, and trash receptacles.

1.7.2 The Contractor shall completely remove all temporary equipment and materials upon completion of the work and repair all damage caused by the installation of temporary facilities.
1.7.3 The Contractor shall make any necessary applications and arrangements for electric power, light, toilets, water, and other utilities. The Contractor shall provide all facilities and utilities required for completion of the work.

1.8 VEHICLE DECONTAMINATION
1.8.1 The Contractor shall have the means to clean all construction equipment prior to removal from the work zone. The cleaning process shall serve to remove soil and materials from vehicles before they exit the work zone. Soils shall be removed and properly handled by the Contractor. At a minimum, the Contractor shall provide high pressure water or steam cleaning to remove accumulated mud and soil from being tracked off of the property.

1.9 PROJECT CONDITIONS
1.9.1 Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before the University’s acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS
2.1 EQUIPMENT
2.1.1 Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION
3.1 GENERAL
3.1.1 Locate facilities where they will serve activities within the work zone adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3.1.2 Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.1.3 Traffic Controls: Comply with requirements of authorities having jurisdiction.
3.1.3.1 Protect existing site improvements to remain including curbs, pavement, and utilities.

3.1.3.2 Traffic controls deployed by the contractor shall comply with the Federal Highway Administration Manual on Uniform Traffic Control Devices.

3.1.4 Maintain access for fire-fighting equipment and access to fire hydrants.

3.1.5 Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
3.1.5.1 Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.2 TEMPORARY UTILITY INSTALLATION
3.2.1 Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
3.2.2 Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

3.2.3 Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

3.2.4 Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations. Coordinate with Michigan Tech for any perceived use of electrical service.

3.3 VEHICULAR ACCESS AND PARKING

3.3.1 Comply with University regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

3.3.2 Coordinate access and haul routes with governing authorities and the University.

3.3.3 Provide and maintain access to fire hydrants, free of obstructions.

3.3.4 Provide means of removing mud from vehicle wheels before entering streets.

3.3.5 Coordinate with the University and refer to construction plans for designated temporary parking areas to accommodate construction personnel.

3.4 SECURITY

3.4.1 Provide security and facilities to protect Work, existing facilities, and the University’s operations from unauthorized entry, vandalism, or theft.

3.4.2 Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

3.4.3 Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

3.4.4 Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241: Standard for Safeguarding Construction, Alteration, and Demolition Operations; manage fire prevention program.

3.4.4.1 Prohibit smoking in construction areas.

3.4.4.2 Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3.4.4.3 Develop and supervise an overall fire-prevention and protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 **BARRIERS**

3.5.1 Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for the University's use of the site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

3.5.2 Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to the existing building.

3.5.3 Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

3.6 **OPERATION, TERMINATION, AND REMOVAL**

3.6.1 Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

3.6.2 Maintenance: Maintain facilities in good operating condition until removal.

3.6.2.1 Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

3.6.3 Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

3.6.4 Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

3.6.4.1 Materials and facilities that constitute temporary facilities are property of Contractor. The University reserves right to take possession of Project identification signs.

3.6.4.2 At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 70 00 Execution and Closeout Requirements.

**PART 4 – SCHEDULE**

**4.1 ITEMS TO PROVIDE FOR THIS PROJECT**

4.1.1 Temporary Water Supply: The Contractor will be allowed to utilize water service from the interior of the building to obtain water as needed for construction.
Contractor shall provide all hoses, fittings, and similar appurtenances necessary for the completion of the Work. The Contractor shall leave the interior of the building in clean condition upon completion of the project.

4.1.2 Temporary Electrical Supply: The Contractor will be allowed to connect to the existing electrical panels/power serving the construction area for any temporary power required. Contractor to supply all required connections and power extensions. Electrical connection, as needed shall be coordinated with the University.

4.1.3 Temporary Barriers: The Contractor shall barricade or fence the work zone such that inaccessible areas of sidewalk are properly signed and pedestrians are safely re-routed to an unobstructed route. Temporary barriers shall be erected as depicted on the contract drawings or as otherwise approved by the University. Construction parking in the metered parking areas along College Avenue shall be limited to those areas depicted on the Drawings.

END OF SECTION 01 50 00
PART 1 GENERAL

1.1 RELATED REQUIREMENTS

1.1.1 Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

1.1.2 Substantial Completion procedures.

1.2 COORDINATION

1.2.1 Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

1.2.2 In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

1.2.3 Coordinate completion and clean-up of work of separate sections.

1.2.4. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 SUBMITTAL OF PROJECT WARRANTIES

1.3.1 Submit written warranties on request of Michigan Tech Facilities Management for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Michigan Tech's rights under warranty.

1.3.2 Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 PRODUCTS

2.1 PATCHING MATERIALS

2.1.1 New Materials: As specified in product sections; match existing products and work for patching and extending work.

2.1.2 Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

2.1.3 Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 25 00 and Section 01 60 00.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
3.1.2 Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
3.1.3 Examine and verify specific conditions described in individual specification sections.
3.1.4 Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.
3.1.5 Verify that utility services are available, of the correct characteristics, and in the correct locations.
3.1.6 Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION
3.2.1 Clean substrate surfaces prior to applying next material or substance.
3.2.2 Seal cracks or openings of substrate prior to applying next material or substance.
3.2.3 Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 PREINSTALLATION MEETINGS
3.3.1. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.
3.3.2 Require attendance of parties directly affecting, or affected by, work of the specific section.
3.3.3 Notify University four days in advance of meeting date.
3.3.4 Prepare agenda and preside at meeting:
3.3.5 Review conditions of examination, preparation and installation procedures.
3.3.6 Review coordination with related work.
3.3.7 Record minutes and distribute copies within two days after meeting to participants, with two copies to the University, participants, and those affected by decisions made.

3.4 GENERAL INSTALLATION REQUIREMENTS
3.4.1 Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
3.4.2 Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
3.4.3 Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
3.4.4 Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
3.4.5 Make neat transitions between different surfaces, maintaining texture and appearance.

3.5 ALTERATIONS

3.5.1 Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   3.5.1.1 Verify that construction and utility arrangements are as shown.
   3.5.1.2 Report discrepancies to Project Engineer before disturbing existing installation.
   3.5.1.3 Beginning of alterations work constitutes acceptance of existing conditions.

3.5.2 Remove existing work as indicated and as required to accomplish new work.
   3.5.2.1 Remove items indicated on drawings.
   3.5.2.2 Relocate items indicated on drawings.
   3.5.2.3 Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   3.5.2.4 Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

3.5.3 Protect existing work to remain.
   3.5.3.1 Prevent movement of structure; provide shoring and bracing if necessary.
   3.5.3.2 Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3.5.3.3 Repair adjacent construction and finishes damaged during removal work.

3.5.4 Adapt existing work to fit new work: Make as neat and smooth transition as possible.

3.5.5 Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

3.5.6 Clean existing systems and equipment.

3.5.7 Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

3.5.8 Do not begin new construction in alterations areas before demolition is complete.

3.5.9 Comply with all other applicable requirements of this section.

3.6 CUTTING AND PATCHING

3.6.1 Whenever possible, execute the work by methods that avoid cutting or patching.
3.6.2 See Alterations article above for additional requirements.

3.6.3 Perform whatever cutting and patching is necessary to:
   3.6.3.1 Complete the work.
   3.6.3.2 Fit products together to integrate with other work.
   3.6.3.3 Provide openings for penetration of mechanical, electrical, and other services.
   3.6.3.4 Match work that has been cut to adjacent work.
   3.6.3.5 Repair areas adjacent to cuts to required condition.
   3.6.3.6 Repair new work damaged by subsequent work.
   3.6.3.7 Remove samples of installed work for testing when requested.
   3.6.3.8 Remove and replace defective and non-conforming work.

3.6.4 Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

3.7 PROGRESS CLEANING
   3.7.1 Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
   3.7.2 Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.8 PROTECTION OF INSTALLED WORK
   3.8.1 Protect installed work from damage by construction operations.
   3.8.2 Provide special protection where specified in individual specification sections.
   3.8.3 Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

3.9 ADJUSTING
   3.9.1 Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING
   3.10.1 Use cleaning materials that are nonhazardous.
   3.10.2 Clean site; sweep paved areas, rake clean landscaped surfaces.
   3.10.3 Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES
   3.11.1 Make submittals that are required by governing or other authorities.
   3.11.2 Notify the University when work is considered ready for Substantial Completion.
3.11.3 Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for the University's review.

3.11.4 Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.

3.11.5 Notify the University when work is considered finally complete.

3.11.6 Complete items of work determined by the University's final inspection.

END OF SECTION 017000
PART 1 - GENERAL

1.1 WASTE MANAGEMENT REQUIREMENTS

1.1.1 Contractor is responsible for all trash and waste disposal for this project.

1.1.2 Owner requires that this project generate the least amount of trash and waste possible.

1.1.3 Any cost or savings from scrap of any materials or appliances must be incorporated into the contract price.

1.1.4 Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

1.1.5 Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

1.1.6 Optional Recycling, Salvage, Reuse, or Landfills.

1.1.7 Recycling is optional for this project; Contractor is responsible for implementation. Revenue or savings must be reflected in the Contractor's bid price.

1.1.8 Methods of trash/waste disposal that are not acceptable are:

1.1.8.1 Burning or burying on the project site.

1.1.8.2 Dumping or burying on other property, public or private or other illegal dumping or burying.

1.1.8.3 Incineration, either on- or off-site.

1.1.9 Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.1.10 Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

1.1.11 Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

1.1.12 Remove debris, junk, and trash from site periodically.

1.1.13 If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers.

1.1.14 Leave site in clean condition, ready for subsequent work.
1.1.15 Clean up spillage and wind-blown debris from public and private lands.

1.2 DEFINITIONS

1.2.1 Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

1.2.2 Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

1.2.3 Reuse: To reuse a construction waste material in some manner on the project site.

1.2.4 Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

1.2.5 Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION 01 74 19
DIVISION 2
EXISTING CONDITIONS
PART 1 - GENERAL

1.1 SUMMARY

1.1.1 The Contractor shall furnish all labor, materials, equipment, and related items required for the proper transportation and disposal of waste materials.

1.1.2 The Contractor is to determine the proper waste characterization and recycling or disposal methods to ensure that waste materials are disposed of in accordance with applicable regulations.

1.1.3 Non-contaminated excess subgrade, surplus, and unsuitable materials as defined in Section 31 23 16 may transported and stockpiled at a location approved by the University for use as fill on future projects.

1.1.4 Recycling and or disposal of the non-contaminated concrete, hot mix asphalt, excess concrete, soils from sweeping and equipment cleaning, and similar debris derived from demolition and construction activities shall be the responsibility of the Contractor.

1.1.5 For any other wastes, waste manifests shall be prepared by the Contractor. The Project Engineer shall sign waste manifests or waste profiles on behalf of the University (the generator). The Contractor is responsible for providing 48 hour notice prior to the initiation of disposal activities. This notice will ensure that appropriate personnel are available to sign waste manifests prior to transport.

1.2 DEFINITIONS

1.2.1 CFR: Code of Federal Regulations

1.2.2 EPA: Environmental Protection Agency

1.2.3 MDEQ: Michigan Department of Environmental Quality

1.2.4 MIOSHA: Michigan Occupational Safety and Health Administration

1.2.5 RCRA: Resource Conservation and Recovery Act

1.2.6 TSCA: Toxic Substances Control Act

1.3 REGULATORY REQUIREMENTS

1.3.1 The Contractor shall comply with all Federal, State, and local regulations applicable to waste management, including the EPA, MDEQ, MIOSHA, RCRA, and TSCA regulations.

1.3.2 The Contractor shall comply with 29 CFR 1910 and 1926.

1.4 SUBMITTALS AND PROJECT RECORD DOCUMENTS

1.4.1 The Contractor shall provide the following as necessitated by the work:

1.4.1.1 Waste Profiles

1.4.1.2 Waste shipping papers and bills-of-lading

1.4.1.3 Disposal/Recycling receipts
1.4.1.4 Waste Manifests

1.5 QUALIFICATIONS

1.5.1 The Contractor and subcontractors must have demonstrated experience with the transportation of waste materials.

1.5.2 Analytical testing shall be conducted at a laboratory approved by the University.

PART 2 - PRODUCTS

2.1 EQUIPMENT

2.1.1 The Contractor shall provide equipment, personnel, and facilities necessary to load materials for transport and complete transportation to the appropriate disposal facility.

PART 3 - EXECUTION

3.1 SELECTION OF WASTE DISPOSAL METHODS

3.1.1 All disposal and sampling arrangements shall be performed and/or coordinated by the Contractor. This will include waste characterization and approval as well as any permits required.

3.1.2 The Contractor may dispose of non-hazardous and non-recyclable solid waste at a Type II solid waste management facility subject to review by the University. The solid waste must comply with the facility operator’s waste discharge requirements. The method of disposal must be approved by the University.

3.1.3 The Contractor may dispose of Type III demolition debris at a Type III solid waste management facility subject to review by the University. The solid waste must comply with the facility operator’s waste discharge requirements. The method of disposal must be approved by the University.

3.1.4 Contaminated media not classified as hazardous shall be disposed of in accordance with RCRA subtitle D and Michigan Public Act No. 451, Part 115.

3.2 WASTE TRANSPORT

3.2.1 For all off-site disposal activities, the Contractor shall utilize a licensed transporter or transporters, subject to the review of the University, and will be responsible for meeting the packaging and loading requirements stipulated by the Federal, State, and local regulations.

3.3 WEIGHT TICKETS/MANIFESTS/DISPOSAL RECEIPTS

3.3.1 The Contractor is required to provide, prepare, and track manifests, weigh tickets, and/or receipts for any waste removed from the project site. The Contractor is required to provide completed copies of manifests (with disposal facility signature) to the University within five working days. If this is not possible, the Contractor shall submit verification in writing to the Project Engineer and provide reasonable dates for submittal. Failure by the Contractor to submit completed manifests or an acceptable verification statement will result in non-payment for any progress
payment or final payment requests submitted by the Contractor until the submittals are in compliance.

3.3.2 The University will sign manifests. The Contractor and its subcontractors are not authorized to sign manifests as the generator.

3.4 LOADING AND HAULING

3.4.1 The Contractor shall inspect haul vehicles for soil adhesion to all parts of trucks. These soils shall be removed and properly handled by the Contractor before leaving the project site. Any decontamination procedures should be carried out in a zone designated for decontamination.

3.4.2 No transport vehicles shall be allowed to leave the project site that are leaking or spilling materials.

3.4.3 The Contractor shall ensure tarpaulin covers are provided for open transport vehicles, which shall cover all contaminated materials during transport. Do not overfill vehicles.

3.4.4 All transport vehicles shall be in strict conformance with all applicable Federal, State, and local laws.

3.4.5 The Contractor is responsible for any and all actions and costs necessary to remedy solid or liquid waste spilled in loading or transit at no additional cost to the University.

3.4.6 The Contractor shall keep accurate records for the type and quantity of materials and liquids removed from the project site and analytical testing results. University approval is required before any liquid or material leaves the project site.

3.5 DISPOSAL FACILITY

3.5.1 Final arrangements for disposal shall be performed by the Contractor and approved by the University.

END OF SECTION 02 81 00
DIVISION 3
CAST-IN-PLACE CONCRETE
PART 1 - GENERAL

1.1 SCOPE

1.1.1 Provide cast-in-place concrete where shown on the drawings or otherwise necessitated by the execution of the work. Concrete work shall conform to all requirements of ACI 301-89, specifications for Structural Concrete for Buildings, except as modified by Supplemental Requirements specified herein or on the project drawings.

1.2 DEFINITIONS

1.2.1 ACI: American Concrete Institute
1.2.2 ASTM: ASTM International

1.3 REFERENCES

1.3.1 The Contractor shall be familiar with ACI-301, 1.6 and the references listed therein.

1.4 SUBMITTALS

1.4.1 Provide the intended mix design and all field and laboratory testing reports.

PART 2 - PRODUCTS

2.1 CEMENT

2.1.1 Cement: ASTM C 150, Type III cement for high early strength concrete shall be used.
2.1.2 Fly Ash: ASTM C618, Class C or F.
2.1.3 Use one brand and type of cement throughout the project.

2.2 CONCRETE ADMIXTURES

2.2.1 Air entraining admixtures conforming to ASTM C260.
2.2.2 Low range water reducer conforming to ASTM C494 Type A.
2.2.3 Water reducing retarder conforming to ASTM C494 Type D.
2.2.4 High-range water reducer conforming to ASTM C494 Type F or G.
2.2.5 Non-chloride non-corrosive accelerator conforming to ASTM C494 Type C.
2.2.6 Prohibited admixtures include calcium chloride, thiocyanates and all admixtures that contribute free chloride ion in excess of 0.1% by weight of cement.

2.3 CONCRETE AGGREGATES

2.3.1 Fine and coarse aggregates conforming to ASTM C33. Aggregates for lightweight concrete shall only be used when lightweight concrete is specified on the project drawings.

2.4 CONCRETE MIX PROPORTIONING

2.4.1 Strength requirements shall be based on 28 day compressive strength except for
high early strength concrete which shall be based on a 21 day compressive strength.

2.4.2 Strength Requirements/Durability

2.4.2.1 Concrete for sidewalks, curbing, and pavement shall have a f\textsubscript{c} = 4,000 psi strength, a water/cement ratio not exceeding 0.40, be air entrained 5 percent plus or minus one percent, use a high-range water reducer, and contain no chlorides.

2.4.2.2 Water/cement ratios shall conform to ACI 301, Table 3.10 unless otherwise specified.

2.4.3 Coarse Aggregate

2.4.3.1 Unless specified above, course aggregate size shall be:

2.4.3.1.1 Size No. 57 for general concrete work.

2.4.4 Method of proportioning concrete shall be by ACI-301, 3.9 unless 3.10 is approved.

2.5 REINFORCEMENT

2.5.1 Reinforcing bars shall be ASTM A615/A615M grade 60 (420), number 4, unless otherwise specified on the project drawings.

2.5.2 Reinforcing bars shall be deformed billet-steel bars.

2.5.3 Reinforcing bars shall be unfinished.

2.5.4 Welded Wire Fabric used to reinforce sidewalks shall be 6x6 10/10 in accordance with ASTM A185.

2.6 OTHER MATERIALS

2.6.1 Expansion Joint Filler:

2.6.1.1 Provide and place preformed strips, non-extruding and resilient bituminous type, of appropriate thickness, complying with ASTM D1751.

2.6.1.2 Use appropriate sealants to seal joints. Filler shall comply with ASTM D1752.

2.6.2 Curing Materials:

2.6.2.1 Liquid Curing Compound:

2.6.2.1.1 Provide a standard brand, clear, and complying with ASTM C309.

PART 3 - EXECUTION

3.1 FORMWORK

3.1.1 Formwork shall comply with the requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, allowing for easy removal without damage to the concrete.

3.1.2 Forms shall not be removed until the concrete has reached 75 percent of its average strength or 48 hours whichever is longer.

3.1.3 Chamfer all exposed edges 3/4 inch by 3/4 inch unless otherwise noted on the project drawings.
3.1.4 Form ties shall be cone-snap type that will leave no metal within 1 1/2 inches of concrete surface.

3.2 JOINTS AND EMBEDDED ITEMS

3.2.1 Bonding at construction joints shall be by ACI 301, 6.1, 4.1 or 6.1.4.3 method.

3.2.2 Clean reinforcing bar to remove loose rust and mill scale. Accurately position, support, and secure reinforcing bar in-place to achieve minimal concrete coverage requirements for protection.

3.2.3 Provide construction joints at a distance not to exceed 100 feet. Reinforcing bar shall be extended a minimum of 16 inches at construction joints.

3.2.4 Saw-cut control joints to create square sidewalk segments to the extent practical.
  3.2.4.1 For 5 foot wide sidewalks, control joints shall be placed every 5 feet.
  3.2.4.2 For 6 foot wide sidewalks, control joints shall be placed every 6 feet.

3.3 PLACING CONCRETE

3.3.1 Notification of concrete placement 24 hours in advance after formwork and reinforcement are approved for placement of concrete.

3.3.2 Free drop of concrete more than five feet is not permitted.

3.3.3 Concrete shall not be placed in water unless approved.

3.3.4 When concrete temperatures exceed 80 degrees F°, a set retarding admixture shall be used.

3.3.5 When ambient temperatures are less than 50 degrees F°, all concrete shall contain an accelerating admixture.

3.4 CURING AND PROTECTION

3.4.1 Apply liquid curing compound in accordance with manufacturer’s recommendations.

END OF SECTION 03 30 00
DIVISION 31
EARTHWORK
PART 1 – GENERAL

1.1 DESCRIPTION

1.1.1 The Contractor shall furnish all labor, materials, equipment, and related items required to excavate materials to allow for the installation of concrete curbing and establishment of sidewalk pavement at the specified grades.

1.1.2 The work consists of:

1.1.2.1 Establishing grades by excavating soil and grading to create positive drainage consistent with the Contract Drawings.

1.1.2.2 Salvaging and stockpiling selected materials.

1.1.2.3 Disposing of surplus or unsuitable materials.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 PREPARATION

3.1.1 Locate, identify, and protect utilities from damage. The Contractor shall assume the risks regarding the presence or proximity of overhead or underground utilities. Responsibilities for damages and expenses for direct or indirect injury to such structures is the sole responsibility of the Contractor.

3.1.2 Protect benchmarks, survey control points, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.1.3 The Contractor shall take the necessary precautions to protect trees, shrubs, lawns, and similar landscaping from damage, unless their removal in required by the performance of the work.

3.1.4 Before beginning earth disturbing activities, install soil erosion and sedimentation controls in accordance with Section 32 29 30.

3.2 EXCAVATION

3.2.1 The Contractor shall not initiate any excavation activities prior to submittal approval(s) by the University.

3.2.2 Excavation activities shall be conducted in accordance with OSHA 29 CFR, Part 1926.

3.2.3 The Contractor shall excavate areas as shown on the plans or as directed. Remove materials encountered to the lines, grades, and typical sections shown on the plans and cross-sections.
3.2.4 The Contractor’s excavation shall be made to such widths and depths that will provide suitable room for performing the work. The Contractor shall do all pumping and draining; and shall render the excavation area firm and dry and in all respects acceptable.

3.2.5 All water pumped or drained from the excavation shall be disposed of in accordance with applicable regulatory requirements.

3.2.6 The Contractor shall correct any damage to the subgrade caused by weather at no additional cost to the University.

3.3 PROTECTION

3.3.1 Shape slopes to avoid loosening material below or outside the proposed grades during all phases of the work.

3.3.2 Excavations shall be adequately covered or adequately barricaded to prevent unauthorized entry at all times.

3.3.3 Compact subgrade in accordance with Section 31 23 33.

3.3.4 Divert surface and meteorological waters from entering or otherwise infiltrating open excavations.

END OF SECTION 31 23 16
SECTION 31 23 33
BACKFILL AND GRADING

PART 1 – GENERAL
1.1 DESCRIPTION
1.1.1 The Contractor shall furnish all labor, materials, equipment, and related items required to backfill, grade, and compact the paving limits.

1.1.2 The Project Engineer will not sample or test for quality control, environmental cleanliness, moisture content, compaction, or similar analyses.

1.2 SUBMITTALS
1.2.1 The Contractor shall provide certificates of environmental cleanliness for any imported fill materials. Valid certificates must be within 12 months of delivery of the material.

PART 2 – PRODUCTS
2.1 EXCAVATION FILL
2.1.1 Imported fill for use in the excavation shall be ordinary fill, or other suitable material.

2.1.1.1 Acceptable soils shall be environmentally clean, free of debris, snow, ice, or water, and not frozen to the extent practical.

2.1.1.2 Acceptable soils shall be obtained or produced from approved sources and shall consist of mineral soil having durable, natural material or granular aggregate. Included as acceptable fill are such soils as silty sands, glacial till, and sand.

2.1.1.3 Acceptable soil shall be substantially free of organic materials, loam, wood, trash, or other objectionable materials that may be decomposable, compressible, or that cannot be properly compacted.

2.1.1.4 Acceptable soil shall be a granular base consisting of Class II Sand or equivalent, unless otherwise approved by the University.

PART 3 – EXECUTION
3.1 BACKFILLING
3.1.1 Protect benchmarks, survey control points, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.1.2 The Contractor shall take the necessary precautions to protect trees, shrubs, lawns, and similar landscaping from damage, unless their removal in required by the performance of the work.
3.1.3 The Contractor shall provide a ticket for each load of imported backfill delivered to the project site. The ticket must contain the following minimum information:

3.1.3.1 Project Number
3.1.3.2 Aggregate Source
3.1.3.3 Aggregate Series
3.1.3.4 Date and Time
3.1.3.5 Truck Identifier/Number
3.1.3.6 Supplier Name

3.1.4 Provide and place aggregate with a uniform gradation, free of contamination and segregation. Do not rut or distort the subbase or aggregate base during spreading.

3.1.5 Do not backfill over porous, wet, frozen, soft, or spongy subgrade surfaces.

3.1.6 Maintain a moisture content of backfill materials to allow for sufficient compaction.

3.1.7 Remove surplus backfill materials from the work at the completion of construction.

3.2 COMPACTION

3.2.1 The Contractor may use additives to facilitate compaction, shaping, and maintenance of the aggregate surface.

3.2.2 Compact the granular base to a uniform thickness no greater than 6 inches.

3.2.3 Compact each layer of aggregate base to at least 95% of the maximum unit weight at a moisture content no greater than optimum for aggregate base under hot mix asphalt.

3.2.4 Shape the finished surface and the layer thickness to with ¼ inch of the grade shown on the plans, unless otherwise directed by the Project Engineer.

3.2.5 Maintain the granular base layer at the required line, grade, and cross section until placement of the next layer. Ensure the exposed sand base layer remains smooth, compacted, and uncontaminated.

3.2.6 The Project Engineer will not sample or test for quality control, environmental cleanliness, moisture content, compaction, or similar analyses.

3.2.7 The Contractor shall provide the personnel and equipment to perform the required compaction tests at a frequency not less than 1 test per 400 square feet.

END OF SECTION 31 23 33
DIVISION 32
EXTERIOR IMPROVEMENTS
PART 1 - GENERAL

1.1 DESCRIPTION
1.1.1 Provide plastic tactile and detectable warning tiles for pedestrian access ramps and walking surfaces.

1.2 DEFINITIONS
1.2.1 AASHTO: American Association of State Highway and Transportation Officials
1.2.2 ADA: American with Disabilities Act
1.2.3 ASTM: ASTM International
1.2.4 ATBCB: Architectural and Transportation Barriers Compliance Board
1.2.5 CFR: Code of Federal Regulations
1.2.6 LRFD: Load and Resistance Factor Design
1.2.7 PROWAG: Public Rights of Way Accessibility Guidelines

1.3 RELATED REQUIREMENTS
1.3.1 Section 03 30 00 - Cast-in-Place Concrete: Concrete for sidewalks and landings.

1.4 REFERENCES
1.4.1 49 CFR 37 - Transportation Services for Individuals with Disabilities; current edition.
1.4.2 ADA Standards - ADA Standards for Accessible Design; 2010.

1.5 SUBMITTALS
1.5.1 Product Data: Submit manufacturer's product data, standard details, attachment and fastener details, if applicable; written installation and maintenance instructions.

1.6 DELIVERY, STORAGE, AND HANDLING
1.6.1 Deliver to project site in manufacturer's protective wrapping and in manufacturer's unopened packaging.
1.6.2 Store covered and elevated above grade and in manufacturer's unopened packaging until ready for installation. Maintain at ambient temperature between 40 and 90 F°.

1.7 WARRANTY
1.7.1 Plastic Tiles: Provide manufacturer's standard warranty against manufacturing defects, breakage or deformation.

TACTILE WARNING SURFACING
32 17 26 - 1
5/16/2017
PART 2 - PRODUCTS

2.1 TACTILE AND DECTECTABLE WARNING DEVICES

2.1.1 Plastic Tactile and Detectable Warning Tiles: ADA Standards compliant, glass fiber and carbon fiber reinforced, exterior grade, matte finish polyester sheet with truncated dome pattern, solid color throughout, internal reinforcing of sheet and of truncated domes, integral radius cut lines on back face of tile; with factory applied removable protective sheeting.

2.1.1.1 Installation Method: Cast in place.
2.1.1.2 Installation Method: Surface Applied shall be mechanically fastened and adhered to the underlying substrate.

2.1.1.3 Shape: Rectangular.
2.1.1.4 Dimensions: 24 inches in the direction of travel and a combination of widths that provide full-width coverage ranging from 5 – 6 feet.
2.1.1.5 Dimensions: 24 inches and full-width, radius to radius for installation on curved access ramps.
2.1.1.6 Pattern: In-line pattern of truncated domes complying with ADA Standards.
2.1.1.7 Edge: Square.
2.1.1.8 Joint: Butt.
2.1.1.9 Color: FED-STD-595C, Table IV, Federal Yellow No. 33538.

2.1.2 Material Properties:

2.1.2.1 Water Absorption: 0.20 percent, maximum, when tested in accordance with ASTM D570.
2.1.2.2 Slip Resistance: 0.50 minimum dry static coefficient of friction, when tested in accordance with ASTM D2047.
2.1.2.3 Compressive Strength: 25,000 pounds per square inch minimum, when tested in accordance with ASTM D695.
2.1.2.4 Tensile Strength: 10,000 pounds per square inch minimum, when tested in accordance with ASTM D638.
2.1.2.5 Flexural Strength: 25,000 pounds per square inch minimum, when tested in accordance with ASTM D790.
2.1.2.6 Chemical Stain Resistance: No reaction to 1 percent hydrochloric acid, motor oil, calcium chloride, gum, soap solution, bleach, or antifreeze, when tested in accordance with ASTM D1308.
2.1.2.7 Abrasion Resistance: 300, minimum, when tested in accordance with ASTM C501.
2.1.2.8 Flame Spread Index: 25, maximum, when tested in accordance with ASTM E84.
2.1.2.9 Accelerated Weathering: Delta-E of less than 5.0 at 2,000 hours exposure, when tested in accordance with ASTM G155.
2.1.2.10 Adhesion: No delamination of tile prior to board failure in a temperature range of 20 to 180 degrees F (minus 7 to 82 degrees C), when tested in accordance with ASTM C903.

2.1.2.11 Loading: No damage when tested according to AASHTO LRFD test method HS20.

2.1.2.12 Salt and Spray Performance: No deterioration or other defect after 200 hours of exposure, when tested in accordance with ASTM B117.

2.2 ACCESSORIES

2.2.1 Fasteners: ASTM A666, Type 304 stainless steel

2.2.2 Type: Countersunk, color matched composite sleeve anchors

2.2.3 Size: 1/4 inch diameter and 1-1/2 inches long or as approved by surfacing tile manufacturer.

2.2.4 Adhesive: Type recommended and approved by surfacing tile manufacturer.

2.2.5 Sealant: Elastomeric sealant of color to match adjacent surfaces; approved by surfacing tile manufacturer.

PART 3 – EXECUTION

3.1 EXAMINATION

3.1.1 When installation location is near site boundary or property line, verify required location using property survey.

3.1.2 Verify that work area is ready to receive work:

3.1.2.1 Examine work area with installer present.

3.1.2.2 If existing conditions are not as required to properly complete the work of this section, notify the Project Engineer.

3.1.2.3 Do not proceed with installation until deficiencies in existing conditions have been corrected.

3.1.2.4 Verify that dimensions, tolerances, and attachment methods for work in this section are properly coordinated with other work on campus.

3.2 INSTALLATION, GENERAL

3.2.1 Install in accordance with manufacturer's written instructions.

3.2.2 Do not install damaged, warped, bowed, dented, abraded, or otherwise defective units.

3.2.3 Field Adjustment:

3.2.3.1 Cut units to size and configuration shown on drawings or as otherwise approved by the Project Engineer.

3.2.3.2 Do not cut plastic tiles to less than 9 inches wide in any direction.

3.2.3.3 Locate relative to curb line in compliance with ATBCB PROWAG, Sections 304 and 305.
3.2.3.4 Orient so dome pattern is aligned with the direction of ramp.
3.2.3.5 Align truncated dome pattern between adjacent units.
3.2.3.6 Install units fully seated to substrate, square to straight edges and flat to required slope.
3.2.3.7 Align units so that tops of adjacent units are flush and joints between units are uniform in width.

3.3 INSTALLATION, CAST-IN-PLACE PLASTIC TILES

3.3.1 When installing multiple adjacent units, leave a 3/16 inch gap between units to allow for expansion.
3.3.2 Tamp and vibrate units as recommended by manufacturer.
3.3.3 Place and position weights on units while concrete cures as recommended by manufacturer. Ensure no voids or air pockets exist between top surface of concrete and underside of units.

3.4 INSTALLATION, SURFACE APPLIED PLASTIC TILES

3.4.1 Cure concrete surfaces for a minimum of 4 days before installing units.
3.4.2 Verify substrate is clean and dry; free of voids, projections and loose material. Remove dust, oil, grease, curing compounds, sealers and other substances that may interfere with adhesive bond or sealant adhesion.
3.4.3 Mechanically roughen surface as required to remove contaminants and prepare surface for adhesive and sealant application.
3.4.4 When installing multiple adjacent units, leave a 1/8 inch gap between tiles to allow for expansion.
3.4.5 Drill fastener holes straight, true and to depth recommended by manufacturer.
3.4.6 Apply adhesive to back of unit as recommended by manufacturer.
3.4.7 Mechanically fasten to substrate. Avoid striking or damaging the unit itself during installation.
3.4.8 Apply sealant to edges in cove profile.

3.5 CLEANING PLASTIC UNITS

3.5.1 Remove protective plastic sheeting within 24 hours of installation.
3.5.2 Remove excess sealant or adhesive from joints and edges.
3.5.3 Clean four days prior to date of scheduled inspection.

3.6 PROTECTION

3.6.1 Protect installed units from traffic, subsequent construction operations or other imposed loads until concrete is fully cured.
3.6.2 Touch-up, repair or replace damaged products prior to Date of Substantial Completion.

END OF SECTION 32 17 26
PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

1.1.1 The Contractor shall furnish all labor, materials, tools, and equipment needed to install, operate, and maintain erosion and sediment controls as necessitated by the Work and specified herein.

1.2 STORM WATER POLLUTION PREVENTION

1.2.1 Prior to initiating earth-moving activities that disturb more than 1 acre, the Contractor shall obtain a permit from the appropriate issuing agency, and establish all required Soil Erosion and Sedimentation Control (SESC) controls.

1.2.1.1 All work under the Contract must meet the storm water management requirements of the Project and comply with the applicable SESC rules and regulations (Soil Erosion and Sedimentation Control – 1994 PA 451, Part 91, as amended, MCL 324.9101 et seq.). SESC measures will be monitored and enforced by the permit issuing agency through the review of the Contractor’s implementation plans and Site inspections. The permit issuing agency or the University will notify the Contractor in writing of any violations of the SESC statutes and/or the corrective action(s) undertaken by the University and may issue stop work orders. The permit issuing agency has the right to assess a fine to the Contractor for noncompliance with the provisions of the project specifications and/or SESC regulations applicable to this Work. Fines shall be in addition to any other remediation costs or liquidated damages applicable to the project and may exceed the value of the Contract.

1.2.2 The Contractor shall implement the soil erosion and sedimentation controls as shown on the Drawings, as specified, and as directed by the permit issuing authority.

1.2.3 Fines and related costs resulting from failure to provide adequate protection against soil erosion and sedimentation are the obligation of the Contractor.

1.2.3.1 Silt, sediment, sand, and mud leaving the properties on which Work is being performed will be construed as damage to neighboring properties and evidence of negligence on the part of the Contractor.

1.2.3.2 Damages to neighboring properties shall be rectified and/or restitution shall be paid by the Contractor.

1.2.4 Soil erosion and sedimentation control measures employed will be subject to approval and inspection by governing agencies having jurisdiction over such work.

The temporary control provisions proposed shall be coordinated with the project schedule, sequence of construction, and temporary and permanent Site facilities to assure economical, effective, and continuous erosion control throughout the construction and post construction period with no violation of the Federal, State, and local regulations.

1.3 SUBMITTALS

1.3.1 Samples: Submit samples of materials being used when requested by the University including names, sources, and descriptions.

1.4 QUALITY CONTROL

1.4.1 All erosion and sediment control work shall comply with applicable requirements of governing authorities having jurisdiction.
1.4.2 SESC measures shall be installed prior to any earth disturbance. Temporary controls must be regularly inspected and properly maintained until permanent controls are established. On-site areas that are subject to severe erosion and off-site areas that are especially vulnerable to damage from erosion and/or sedimentation are to be identified and receive special attention. Permanent controls are to be installed within five days of final grade. This is a requirement of Part 91 of PA 451 of 1994, the Soil Erosion and Sedimentation Control Act (R 323.1709 (5)).

1.4.3 All land-disturbing activities are to be planned and conducted to minimize the size of the area to be exposed at any one time and the length of the time of exposure.

1.4.4 Surface water run-off originating upgradient of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure.

1.4.5 All land disturbing activities are to be planned and conducted so as to prevent off-site sedimentation damage.

1.5 REFERENCES

1.5.1 The Department of Management and Budget’s Soil Erosion and Sedimentation Control Guidebook (February 2005).

PART 2 – MATERIALS

2.1 SILT FENCE

2.1.1 Prefabricated silt fence shall meet the following requirements:

2.1.1.1 Silt fences shall be prefabricated.

2.1.1.2 The geotextile for the fencing shall meet the following requirements:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Value(1)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength</td>
<td>100 lbs</td>
<td>ASTM D4632</td>
</tr>
<tr>
<td>Burst Strength</td>
<td>190 psi</td>
<td>ASTM D3786</td>
</tr>
<tr>
<td>Puncture Resistance</td>
<td>40 lbs</td>
<td>ASTM D4833</td>
</tr>
<tr>
<td>Permittivity</td>
<td>&gt;0.1 sec-1</td>
<td>ASTM D4491</td>
</tr>
<tr>
<td>AOS</td>
<td>&gt;30 US sieve</td>
<td>ASTM D4751</td>
</tr>
<tr>
<td>UV Resistance (500 hr.)</td>
<td>70%</td>
<td>ASTM D4355</td>
</tr>
</tbody>
</table>

2.1.1.3 Posts shall be wood, galvanized or aluminum, 48 inches tall minimum, spaced at no further than 10 foot intervals.

2.1.2 The geotextile height shall be a minimum of 3 feet and shall be provided with a tensioning cord.

2.2 INLET PROTECTION –SEDIMENT BAG

2.2.1 Prefabricated inlet protection bags shall meet the following requirements:

2.2.1.1 Inlet protection bags shall be prefabricated.

2.2.1.2 The geotextile for the bags shall meet the following requirements:

<table>
<thead>
<tr>
<th>Property</th>
<th>Woven</th>
<th>Non-woven</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile Strength</td>
<td>100 lbs</td>
<td>200 lbs</td>
<td>ASTM D4632</td>
</tr>
<tr>
<td>Trapezoidal Tear</td>
<td>45 lbs</td>
<td>75 lbs</td>
<td>ASTM D4533</td>
</tr>
<tr>
<td>Puncture Resistance</td>
<td>65 lbs</td>
<td>90 lbs</td>
<td>ASTM D4833</td>
</tr>
<tr>
<td>Permittivity</td>
<td>2.0/sec</td>
<td>2.1/sec</td>
<td>ASTM D4491</td>
</tr>
<tr>
<td>AOS</td>
<td>70 US sieve</td>
<td>40 US sieve</td>
<td>ASTM D4751</td>
</tr>
<tr>
<td>UV Resistance (500 hr.)</td>
<td>70%</td>
<td>90%</td>
<td>ASTM D4355</td>
</tr>
</tbody>
</table>
PART 3 – EXECUTION

3.1 SILT FENCE

3.1.1 A narrow 12-inch deep trench shall be excavated along the alignment of the silt fence. Excavated material shall be stockpiled adjacent to the trench.

3.1.2 Fence posts shall be positioned on the downstream side of the fence and driven into the ground. Fence posts shall be spaced no more than ten (10) feet apart.

3.1.3 The fabric flap shall be laid in the trench and backfilled with material stockpiled from trench excavation. The backfill shall be tamped into place.

3.1.4 Fabric fence and support posts shall be connected.

3.1.5 The Contractor shall join fence sections together by overlapping adjoining fence by a minimum of 6 inches or as recommended by the manufacturer and as approved by the Owner to prevent silt from escaping through the adjoining sections.

3.1.6 The Contractor shall maintain silt fences (removing and disposing of silt, repairing fence which falls down, and replacing damaged fence, etc.) throughout the duration of the Contract at no additional cost to the Owner.

3.2 INLET PROTECTION – SEDIMENT BAG

3.2.1 The Contractor shall hang the appropriately sized filter bag inside the storm sewer inlet using the grate of the storm sewer to weight the filter bag and hold it in place.

3.2.2 Where feasible the Contractor shall anchor the filter bag utilizing a 1" rebar or comparable staking material. The fabric bag shall be sufficiently anchored to prevent failure.

3.2.3 The Contractor shall maintain inlet protection (removing and disposing of silt, repairing/replacing torn or ripped fabric, etc.) throughout the duration of the Contract at no additional cost to the Owner. Uncontaminated silt collected from the inlet protectors shall be collected and placed over disturbed areas of the Site prior to reseeding.

3.2.4 Maintain inlet protection until disturbed areas of the Site are stabilized and following final sweeping and cleaning of upgradient areas is complete.

3.3 TEMPORARY VEGETATIVE COVER

3.3.1 Spread the temporary seed mix and mulch uniformly at the specified rate in accordance with the manufacturer’s specifications.

3.3.2 Anchor mulch during application or immediately after placement to avoid loss by wind and water.

3.4 DUST CONTROL

3.4.1 The Contractor shall be aware that dust generated from the excavation, handling, storage, transport, and treatment may contain particulates that have ingestion and inhalation limit(s). Therefore, dust from all operations shall be limited.

3.4.2 Dust generated from the Contractor’s performance of the Work, either inside or outside the limit of work shall be controlled by the Contractor by applying water or other materials with the approval of the Owner.

3.4.3 The Owner has the right to stop construction and transport activity if the excavation, handling, backfilling, or restoration work is generating excessive amounts of dust as determined from observation.

3.4.4 Water shall be provided in amounts and locations in accordance with general local practices.
3.4.5 Visible dust over the course of the construction activities is prohibited.

3.5 MAINTENANCE

3.5.1 Inspection

3.5.1.1 Erosion and sediment control will be inspected weekly by the Contractor and after significant precipitation events resulting in runoff from the Site.

3.5.1.2 At a minimum the Contractor will perform weekly inspections of the soil erosion and sedimentation control system to assure the integrity of the system.

3.5.2 Repair

3.5.2.1 All erosion swales and gullies in excess of three inches deep will be filled and compacted to their original condition and reseeded as required.

3.5.2.2 Erosion and sediment control structures (i.e., silt fencing) will be replaced as required to assure the integrity of the system.

3.5.2.3 The Contractor shall complete SESC corrective actions within 48 hours of discovery of routine maintenance items, and within 24 hours if there is potential to impact waters of the state.

3.5.3 Preventive Actions

3.5.3.1 The Contractor shall perform sweeping of applicable roadways and other preventive actions as required to minimize tracking and run off of soils.

3.5.3.2 The University will assume responsibility for permanent controls after project closeout.

3.6 SURPLUS MATERIALS

3.6.1 The Contractor shall provide a surplus inventory of erosion control materials for the duration of the project.

END OF SECTION 32 29 30
PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

1.1.1 Furnish all labor, materials, equipment, tools, and appurtenances required to seed, fertilize, and mulch all areas disturbed, regraded, or receiving a cover during the course of construction.

1.1.2 Apply topsoil, seed, fertilizer, and mulch to those areas disturbed by performance of the Work that previously had topsoil and vegetation present.

1.1.3 The Contractor shall comply with all applicable codes, ordinances, rules, regulations and laws of local, municipal, State, or Federal authorities having jurisdiction.

1.2 DEFINITIONS

1.2.1 Weeds include, but are not limited to, Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Broome Grass.

PART 2 - PRODUCTS

2.1 TOPSOIL

2.1.1 The Contractor shall provide a minimum of two (2) inches, compacted thickness, of topsoil over all areas requiring restoration. The Contractor shall re-use salvaged topsoil to the extent practical for restoration activities. Additional topsoil shall be provided by the Contractor when necessitated by the Work.

2.1.2 Topsoil should be friable and loamy, free of debris, objectionable weeds, and stones, and contain no toxic substances that may be harmful to plant growth.

2.2 SEED MIXTURE FOR PERMANENT COVER

2.2.1 The following seed mixture shall be used for permanent cover:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rate of Seed Application</th>
<th>Recommended Seeding Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky Bluegrass</td>
<td>10 lbs./acre</td>
<td>In the Spring between May 1&lt;sup&gt;st&lt;/sup&gt; and June 15&lt;sup&gt;th&lt;/sup&gt; or late Summer between August 1&lt;sup&gt;st&lt;/sup&gt; and September 20&lt;sup&gt;th&lt;/sup&gt;.</td>
</tr>
<tr>
<td>Smooth Bromeagrass</td>
<td>10 lbs./acre</td>
<td></td>
</tr>
<tr>
<td>Creeping Red Fescue</td>
<td>20 lbs./acre</td>
<td></td>
</tr>
</tbody>
</table>

2.2.2 The University, reserves the right to change the seed mixture and recommended seeding dates based upon the time of year in which the construction is performed (i.e., winter rye).
2.2.3 The University may also approve the use of dormant seed, if work is executed after the seeding dates recommended above.

2.3 FERTILIZER

2.3.1 Fertilizer is to be commercial grade 10-10-10 or equivalent.

2.3.2 Manufactured fertilizer shall be a standard commercial fertilizer containing the specified percentages by weight of nitrogen, phosphoric acid, and potash. The fertilizer shall be furnished in standard containers with the name, weight, and guaranteed analysis of the contents clearly marked. The containers shall insure proper protection in handling and transporting the fertilizer. All commercial fertilizer shall comply with local, state and federal fertilizer laws.

2.4 MULCH

2.4.1 Mulch material may be hay, straw, or other approved materials.

2.5 WATER

2.5.1 Water shall be clean, fresh, potable, and free of substances or matter that could inhibit vigorous growth of grass.

PART 3 - EXECUTION

3.1 FERTILIZING

3.1.1 Fertilizer shall be applied in accordance with manufacturer's instructions.

3.1.2 Fertilizer shall not be applied at the same time or with the same machine as that will be used to apply seed unless hydroseeding.

3.1.3 Fertilizer shall be mixed thoroughly into upper 3 inches of the vegetative layer with a disc, spring-tooth harrow, or other suitable tools/equipment.

3.1.4 The ground surface shall be lightly watered to aid the dissipation of fertilizer.

3.2 SEEDING

3.2.1 Seed evenly in two intersecting directions. Rake in lightly. Do not seed area in excess of that which can be mulched on same day.

3.2.2 Planting season shall be as indicated in PART 2 herein or as recommended by the local regulatory agency.

3.2.3 Seed shall not be sown immediately following rain, when the ground is too dry, frozen, or during windy periods.

3.3 MULCHING

3.3.1 Straw mulch shall be properly anchored to prevent removal by wind.

END OF SECTION 32 92 00
ATTACHMENT A

PREVAILING WAGE RATES
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 employed by him in connection including certified payroll, as used in the industry, 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 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 to the Office of Attorney General for civil action will be made. The Office of Attorney General will pursue costs and fees associated with a lawsuit if filing is necessary to obtain records.
**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>Fringe Benefit</th>
<th>Calculation</th>
<th>Hourly Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacation</td>
<td>40 hours × $14.00 per hour = $560/2080 =</td>
<td>$.27</td>
</tr>
<tr>
<td>Dental insurance</td>
<td>$31.07 monthly premium × 12 mos. = $372.84/2080 =</td>
<td>$.18</td>
</tr>
<tr>
<td>Vision insurance</td>
<td>$5.38 monthly premium × 12 mos. = $64.56/2080 =</td>
<td>$.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. = $324.48/2080 =</td>
<td>$.16</td>
</tr>
<tr>
<td>Tuition</td>
<td>$500.00 annual cost/2080 =</td>
<td>$.24</td>
</tr>
<tr>
<td>Bonus</td>
<td>4 quarterly bonus/year × $250 = $1000.00/2080 =</td>
<td>$.48</td>
</tr>
<tr>
<td>401k Employer Contribution</td>
<td>$2000.00 total annual contribution/2080 =</td>
<td>$.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
## OPERATING ENGINEERS CLASSIFICATION DESCRIPTIONS

<table>
<thead>
<tr>
<th>Class</th>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>Asphalt Paver (self-propelled)</td>
<td>Paver Operator (5 bags or more)</td>
</tr>
<tr>
<td></td>
<td>Asphalt Planer (self-propelled)</td>
<td>Pump Operator (6&quot; discharge or over, gas, diesel powered, or generator of 300 amp or larger) Pile Driving Operator</td>
</tr>
<tr>
<td></td>
<td>Asphalt Plant Operator</td>
<td>Roto Mill</td>
</tr>
<tr>
<td></td>
<td>Auto-Grader</td>
<td>Roller Operator (Asphalt)</td>
</tr>
<tr>
<td></td>
<td>Blade Grader Operator</td>
<td>Side Boom Tractor (type D-4, equivalent or larger) Self-Propelled or Tractor Drawn Scraper</td>
</tr>
<tr>
<td></td>
<td>Batch Plant (concrete-central mix)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Backhoe (with over 3/8 yard bucket)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bulldozer Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Concrete Pump 3&quot; and over</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conveyor Loader Operator (euclid type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crane Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dragline Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elevating Grader Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>End-loader Operator (1 yard capacity or over)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slip Form Paver</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finishing Machine Operator (asphalt)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gradall Operator (and similar type machines)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hoisting Engineer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hydro demolisher (water blaster)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Locomotive Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mechanic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paver Operator (5 bags or more)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pump Operator (6&quot; discharge or over, gas, diesel powered, or generator of 300 amp or larger) Pile Driving Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roto Mill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roller Operator (Asphalt)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Side Boom Tractor (type D-4, equivalent or larger) Self-Propelled or Tractor Drawn Scraper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slurry Machine (asphalt)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swinging Boom Truck (over 12 ton capacity)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shouldering or Gravel Distributing Machine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operator (self-propelled)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shovel Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Side Boom Tractor (type D-4 or equivalent or larger) Tractor Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slurry Machine (asphalt)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trenching Machine Operator (ladder or wheel type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tube Finisher (slip form paving)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farm type tractor with attached pan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweeper (wayne type &amp; similar equipment)</td>
<td>Backhoe (with 3/8 yard bucket or less) Side Boom Tractor (smaller than D-4 type or equivalent) Batch Plant (concrete-dry mix)</td>
</tr>
<tr>
<td></td>
<td>Screening Plant Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Washing Plant Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crusher Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vacuum Truck Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grease Truck</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Compressor Operator (600 cfm or more)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Compressor (2 or more, less than 600 cfm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Concrete Breaker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tractor Operator (farm type with attachments)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wagon Drill Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class III</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Compressor Operator (600 cfm or more)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Compressor (2 or more, less than 600 cfm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Concrete Breaker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tractor Operator (farm type with attachments)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wagon Drill Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boiler Fireman</td>
<td>Stump</td>
</tr>
<tr>
<td></td>
<td>Oiler</td>
<td>Remover Skid</td>
</tr>
<tr>
<td></td>
<td>End-loader Operator (under 1 yard capacity)</td>
<td>Steer Fireman</td>
</tr>
<tr>
<td></td>
<td>Roller Operator (other than asphalt)</td>
<td>Mechanic’s</td>
</tr>
<tr>
<td></td>
<td>Curing Equipment Operator (self-propelled)</td>
<td>Helper Trencher</td>
</tr>
<tr>
<td></td>
<td>Concrete Saw Operator (Over 40 HP) Power</td>
<td>(service)</td>
</tr>
<tr>
<td></td>
<td>Bin Operator</td>
<td>Flexplane</td>
</tr>
<tr>
<td></td>
<td>Plant Drier Operator (asphalt)</td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td>Vibratory Compaction Equipment (6' wide or over)</td>
<td>Cleftplane</td>
</tr>
<tr>
<td></td>
<td>Guard Post Driver Operator</td>
<td>Operator</td>
</tr>
<tr>
<td></td>
<td>All Mulching Equipment</td>
<td>Grader Operator Self-propelled Fine-Grade or Form (concrete) Finishing Machine Operator (concrete)</td>
</tr>
<tr>
<td></td>
<td>Boom or Winch Hoist Truck Operator</td>
<td>Concrete Pump (under 3&quot;)</td>
</tr>
<tr>
<td></td>
<td>End Dumps</td>
<td>Farm Type Tractor Operator</td>
</tr>
<tr>
<td></td>
<td>All Mulching Equipment</td>
<td>Mesh Installer (self-propelled)</td>
</tr>
<tr>
<td></td>
<td>Boom or Winch Hoist Truck Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>End Dumps</td>
<td></td>
</tr>
</tbody>
</table>
LABORERS CLASSIFICATION DESCRIPTIONS

Class 1  Asphalt Shoveler or Loader, Asphalt Raker Tender, Asphalt Plant Misc., Railroad Track and Trestle Laborer, Burlap Man, Carpenter's Tender, Top Man, Yard Man, Guard Rail Builder's Tender, Earth Retention Barrier and Wall and Mechanically Stabilized Earthen Wall Installers Tender, Highway and Median Barrier Installer's Tender (including Sound, Retaining and Crash Barrier), Fence Erector's Tender, Dumper (wagon, truck, etc.) Joint Filling Labor, Misc., Unskilled Labor, Sprinkler Labor, Form Setting Labor, Form Stripper, Pavement Reinforcing, Handling and Placing (e.g. wire mesh, steel mats, dowel bars, etc.) Mason's or Bricklayer's Tender on Manholes, Manhole Builder, Headwalls, etc., Waterproofing (other than buildings), Seal Coating and Slurry Mix, Shoring, Underpinning, Bridge Painting, etc. (spray, roller and brush) Sandblasting, Pressure Grouting, and Bridge Pin and Hanger Removal, Material Recycling Laborer, Horizontal Paver (brick, concrete, clay, stone and asphalt) Ground Stabilization and Modification Laborer, Grouting, Waterblasting, Sign Installer and remote control operated equipment.

Class 2  Mix Operator (less than 5 sacks), Air or Electric Tool Operator (jack hammer, etc.), Spreader, Boxman (asphalt, stone, gravel, etc.), Concrete Paddler, Power Chain Saw Operator, Paving Batch Truck Dumper, Tunnel Mucker (highway work only), Concrete Saw Operator (under 40 H.P.), Dry Pack Machine and Roto-Mill Grounds Person.

Class 3  Tunnel Miner (highway work only), Finishers Tender, Guard Rail Builder, Highway and Median Barrier Installer, Fence Erector, Bottom Man, Powder Man, Wagon Drill and Air Track Operators, Curb and Side Rail Setters' Tender, Diamond & Core Drills, Earth Retention Barriers, Walls and Mechanically Stabilized Earthen Wall Installer (including sound, retaining and crash barrier), grade checker and certified welder.

Class 4  Asphalt Raker

Class 5  Pipe Layers, Oxy-gun

Class 6  Line-Form Setter for Curb or Pavement and asphalt screed checker/screw man on asphalt paving machines.

Class 7  Concrete Specialist, finishing and toweling, of cast in place or precast concrete by any and all methods.
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>First 8 Hours</th>
<th>9th Hour</th>
<th>10th Hour</th>
<th>Over 10 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday thru Friday</td>
<td>Saturday</td>
<td>Sunday &amp; Holidays</td>
<td>Four 10s</td>
</tr>
<tr>
<td>First 8 Hours</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>9th Hour</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>10th Hour</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Over 10 hours</td>
<td>3</td>
<td>7</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 Sunday & Holidays:
- the 8th character is for time worked on Sunday or on a holiday
- 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. 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
   - D - means DOUBLE PAY due
   - X means TIME AND ONE HALF due after 40 hours worked
   - 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 optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked

3. EXAMPLES:
   - HHHHHDY - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (characters 1 - 3) and for hours worked on Saturday (characters 4 - 6), except hours worked after 10 hours on Saturday (7th character). Work done after 10 hours must be paid at the double time rate. Work done on Sunday or holidays must be paid double time (character 8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek at regular pay.
   - HHHHHHHHY means that the 1½ rate must be used for time worked after 8 hours worked Monday thru Friday (characters 1-3); and for any hours worked on Saturdays, Sundays or holidays (characters 4-8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek at regular pay.
   - XXHXXXXHDY this example allows 4 ten hour days Monday thru Saturday to be worked. Hours worked beyond ten Monday thru Saturday OR hours worked after 40 hours in one week must be paid at time and one half. Sunday or holiday hours must be paid at double.
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.
(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 sided 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, kalamein, 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, wainscoting, 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.
(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 bunting, 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.
(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.
PILE DRIVING AND CAISSON DRILLING

(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.
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**

(99) 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

Official Request: 213
Requestor: Michigan Technological University
Project: Administration Building Sidewalk Project
Project Number: 00-15-04

Official 2017 Prevailing Wage Rate Schedule
for Parking Lot, Road, Highway, Bridge and Airport Construction

Official Request #: 213
Requestor: Michigan Technological University

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.

CARPENTERS
CARPENTERS ZONE 1

WAGE  $29.47  $44.21  X X H X X H H Y
FRINGE $26.83  $36.05

Apprentice Rates:

1ST 6 MONTHS
WAGE  $12.97  $19.46
FRINGE $16.50  $20.56

2ND 6 MONTHS
WAGE  $16.21  $24.32
FRINGE $18.53  $23.60

YEAR 2
WAGE  $19.16  $28.74
FRINGE $20.38  $26.38

YEAR 3
WAGE  $22.10  $33.15
FRINGE $22.22  $29.14

YEAR 4
WAGE  $25.05  $36.98
FRINGE $24.06  $31.90

CARPENTERS ZONE 1
Wayne, Oakland, Macomb, Sanilac, St. Clair, Monroe
and the following townships of Livingston County
Brighton, Deerfield, Genoa, Hartland, Osceola and
Tyrone

comment For all hours worked on Memorial Day, July 4, Labor Day, Thanksgiving Day,
Christmas Day and New Years Day, double time is due

Page 1 of 23
<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<tr>
<td>Genesee, Oakland, Macomb, Monroe, Washtenaw, Wayne, Livingston and Saginaw Counties.</td>
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<td>SUNDAYS PAID TIME AND ONE HALF</td>
<td>HOLIDAYS PAID DOUBLE</td>
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<tr>
<td>comment</td>
<td>If only Sat &amp; Sun worked, time and one-half due</td>
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## Construction Mechanic Classification

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<th>Classification</th>
<th>Wage Code</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
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### Apprentice Rates:

- **1ST YEAR**
  - Wage: $17.13
  - Fringe: $13.34

- **2ND YEAR**
  - Wage: $21.08
  - Fringe: $13.34

- **3RD YEAR**
  - Wage: $25.25
  - Fringe: $13.34

### CEMENT MASONS ZONE 2

All counties not listed in Zone 1

### IRONWORKER

#### Metal Fence & Guard Rail

<table>
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<tr>
<th>Classification</th>
<th>Wage Code</th>
<th>Wage</th>
<th>Fringe</th>
<th>Overtime Code</th>
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**Lenawee**

Make up day allowed comment: Four Tens allowed M-Th. Friday make-up day allowed if M-Th schedule not worked due to weather conditions or holiday.
<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<td>exterior signage work.</td>
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Apprentice Rates:

- 60%
  - WAGE: $14.40 $21.60 $28.80
  - FRINGE: $10.75 $10.75 $10.75
- 65%
  - WAGE: $15.60 $23.40 $31.20
  - FRINGE: $10.85 $10.85 $10.85
- 70%
  - WAGE: $16.80 $25.20 $33.60
  - FRINGE: $10.96 $10.96 $10.96
- 75%
  - WAGE: $18.00 $27.00 $36.00
  - FRINGE: $11.05 $11.05 $11.05
- 80%
  - WAGE: $19.20 $28.80 $38.40
  - FRINGE: $11.15 $11.15 $11.15
- 85%
  - WAGE: $20.40 $30.60 $40.80
  - FRINGE: $11.25 $11.25 $11.25

IRONWORKERS ZONE 1
Genesee, Oakland, Macomb, Washtenaw and Wayne Counties

Make up day allowed comment: Four 10 hour work days may be worked Monday-Saturday.
Official 2017 Prevailing Wage Rate Schedule
for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 5/9/2017
Contract must be awarded by: 8/7/2017

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<table>
<thead>
<tr>
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<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<td>$30.00</td>
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<td>Apprentice Rates:</td>
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<td>60%</td>
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<td></td>
<td></td>
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<tr>
<td>Washtenaw and Wayne and Lenawee</td>
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</tr>
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</table>

Make up day allowed comment         | Four 10 hour work days may be worked Monday-Saturday. |

LABORERS CLASS 1 ZONE 1             | RBLABC1Z1         | WAGE $22.32 |  $33.48  | X X X X X X H Y |
|                                     | 6/9/2016          | FRINGE $16.14 |  $17.66  |               |

Apprentice Rates:                  |                    |                       |                  |               |
| 0-1000 WORK HOURS                 | WAGE $16.74      |  $25.11  |               |
|                                     | FRINGE $16.14    |  $17.66  |               |
| 1001-2000 WORK HOURS              | WAGE $17.86      |  $26.79  |               |
|                                     | FRINGE $16.14    |  $17.66  |               |
| 2001-3000 WORK HOURS              | WAGE $18.97      |  $28.46  |               |
|                                     | FRINGE $16.14    |  $17.66  |               |
| 3001-4000 WORK HOURS              | WAGE $21.20      |  $31.80  |               |
|                                     | FRINGE $16.14    |  $17.66  |               |

LABORERS ZONE 1                     |                    |                       |                  |               |
| Genesee, Macomb, Monroe, Oakland,  |                    |                       |                  |               |
| Washtenaw and Wayne                |                    |                       |                  |               |

Official Request #: 213
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Project Description: Administration Building Sidewalk Project

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# Official 2017 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

**Issue Date:** 5/9/2017  
**Contract must be awarded by:** 8/7/2017

## Straight Time and Double Time Rate

<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>RBLABC1</th>
<th>Wage</th>
<th>FRINGE</th>
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### Apprentice Rates:

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<th>Work Hours</th>
<th>Wage</th>
<th>FRINGE</th>
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<td>3001-4000</td>
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### Laborers ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

## Labors ZONE 3 & 4

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### Apprentice Rates:

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<td>3001-4000</td>
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<td>$16.00</td>
</tr>
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### Laborers ZONE 3

Alcona, Ancona, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Osceola, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

### Laborers ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

---

**Official Request #:** 213  
**Requestor:** Michigan Technological University  
**Project Description:** Administration Building Sidewalk Project

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<table>
<thead>
<tr>
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<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<tbody>
<tr>
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<td>RBLABC2Z1</td>
<td></td>
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<td>X X X X X X X H Y</td>
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<tr>
<td></td>
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<td>Apprentice Rates:</td>
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<td>2001-3000 WORK HOURS</td>
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<tr>
<td>3001-4000 WORK HOURS</td>
<td>WAGE $21.33 $32.00</td>
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<tr>
<td></td>
<td>FRINGE $16.14 $17.66</td>
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</table>

LABORERS ZONE 1  
Genesee, Macomb, Monroe, Oakland, Washtenaw  
and Wayne

| LABORERS CLASS 2 ZONE 2               | RBLABC2Z2          |                        |                  | X X X X X X X H Y |
|                                       | WAGE $20.61 $30.92 |                        |                  |              |
|                                       | FRINGE $16.00 $17.45 |                      |                  |              |
| Apprentice Rates:                     |                    |                        |                  |              |
| 0-1000 WORK HOURS                    | WAGE $15.46 $23.19 |                        |                  |              |
|                                       | FRINGE $16.00 $17.45 |                      |                  |              |
| 1001-2000 WORK HOURS                 | WAGE $16.49 $24.74 |                        |                  |              |
|                                       | FRINGE $16.00 $17.45 |                      |                  |              |
| 2001-3000 WORK HOURS                 | WAGE $17.52 $26.28 |                        |                  |              |
|                                       | FRINGE $16.00 $17.45 |                      |                  |              |
| 3001-4000 WORK HOURS                 | WAGE $19.58 $29.37 |                        |                  |              |
|                                       | FRINGE $16.00 $17.45 |                      |                  |              |

LABORERS ZONE 2  
Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass,  
Clinton, Eaton, Grattan, Hillsdale, Huron, Ingham,  
Jackson, Kalamazoo, Lapeer, Lenawee, Livingston,  
Midland, Muskegon, Saginaw, Sanilac, Shiawassee,  
St. Clair, St. Joseph, Tuscola, and Van Buren

---

Official Request #: 213  
Requestor: Michigan Technological University  
Project Description: Administration Building Sidewalk Project

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<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<td>$17.45</td>
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<td>Genesee, Macomb, Monroe, Oakland, Washtenaw and Wayne</td>
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Official Request #: 213
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Project Description: Administration Building Sidewalk Project
<table>
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<th>Time and One Half Rate</th>
<th>Overtime Code</th>
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LABORERS ZONE 2
Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

| LABORERS CLASS 3 ZONES 3 & 4         | RBLABC3Z3         | WAGE $20.16           | $30.24        | X X X X X X X H Y |
|                                     | 6/9/2016          | FRINGE $16.00         | $17.45        |
| Apprentice Rates:                   |                    |                       |               |
| 0-1000 WORK HOURS                   | WAGE $15.12        | $22.68                |
|                                     | FRINGE $16.00      | $17.45                |
| 1001-2000 WORK HOURS                | WAGE $16.13        | $24.20                |
|                                     | FRINGE $16.00      | $17.45                |
| 2001-3000 WORK HOURS                | WAGE $17.14        | $25.71                |
|                                     | FRINGE $16.00      | $17.45                |
| 3001-4000 WORK HOURS                | WAGE $19.15        | $28.72                |
|                                     | FRINGE $16.00      | $17.45                |

LABORERS ZONE 3
Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4
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#### Page 10 of 23

<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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### Apprentice Rates:

**0-1000 WORK HOURS**

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<tr>
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**1001-2000 WORK HOURS**

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<th>FRINGE</th>
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**2001-3000 WORK HOURS**

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**3001-4000 WORK HOURS**

<table>
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**Project Description:** Administration Building Sidewalk Project
## Official 2017 Prevailing Wage Rate Schedule

for Parking Lot, Road, Highway, Bridge and Airport Construction

**Issue Date:** 5/9/2017  
**Contract must be awarded by:** 8/7/2017

### Page 11 of 23

#### Construction Mechanic Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wage Rate</th>
<th>Overtime Code</th>
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<td><strong>LABORERS CLASS 4 ZONES 3 &amp; 4</strong></td>
<td><strong>RBLABC4Z3</strong></td>
<td>$20.60 $30.90 X X X X X X X H Y</td>
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<td>6/9/2016</td>
<td><strong>FRINGE</strong></td>
<td>$16.00 $17.45</td>
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**Apprentice Rates:**

<table>
<thead>
<tr>
<th>Work Hours</th>
<th>Wage Rate</th>
<th>Overtime Code</th>
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<tbody>
<tr>
<td>0-1000 WORK HOURS</td>
<td>$15.45 $23.18</td>
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<td>1001-2000 WORK HOURS</td>
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<tr>
<td>2001-3000 WORK HOURS</td>
<td>$17.51 $26.26</td>
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<tr>
<td>3001-4000 WORK HOURS</td>
<td>$19.57 $29.36</td>
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**Laborers Zone 3**

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

**Laborers Zone 4**

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

### LABORERS CLASS 5 ZONE 1

<table>
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<tr>
<th>Classification</th>
<th>Wage Rate</th>
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<tr>
<td><strong>RBLABC5Z1</strong></td>
<td>$22.92 $34.38 X X X X X X X H Y</td>
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<td><strong>FRINGE</strong></td>
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**Apprentice Rates:**

<table>
<thead>
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<th>Work Hours</th>
<th>Wage Rate</th>
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</thead>
<tbody>
<tr>
<td>0-1000 WORK HOURS</td>
<td>$17.19 $25.78</td>
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<td>1001-2000 WORK HOURS</td>
<td>$18.34 $27.51</td>
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<td>2001-3000 WORK HOURS</td>
<td>$19.48 $29.22</td>
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<tr>
<td>3001-4000 WORK HOURS</td>
<td>$21.77 $32.66</td>
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</table>

**Laborers Zone 1**

Genesee, Macomb, Monroe, Oakland, Washtenaw and Wayne

---

**Official Request #:** 213  
**Requestor:** Michigan Technological University  
**Project Description:** Administration Building Sidewalk Project

---

**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>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORERS CLASS 5 ZONE 2</td>
<td>RBLABC5Z2</td>
<td>WAGE $21.07</td>
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<td></td>
<td>6/9/2016</td>
<td>FRINGE $16.00</td>
<td>$17.45</td>
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Apprentice Rates:

<table>
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<tr>
<th>0-1000 WORK HOURS</th>
<th>WAGE $15.80 $23.70</th>
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<td>1001-2000 WORK HOURS</td>
<td>WAGE $16.86 $25.29</td>
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<td>2001-3000 WORK HOURS</td>
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</tr>
<tr>
<td>3001-4000 WORK HOURS</td>
<td>WAGE $20.02 $30.03</td>
</tr>
</tbody>
</table>

FRINGE $16.00 $17.45

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

LABORERS CLASS 5 ZONES 3 & 4

RBLABC5Z3 WAGE $20.22 $30.33 X X X X X X H Y
6/9/2016 FRINGE $16.00 $17.45

Apprentice Rates:

<table>
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<tr>
<th>0-1000 WORK HOURS</th>
<th>WAGE $15.16 $22.74</th>
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</thead>
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<td>1001-2000 WORK HOURS</td>
<td>WAGE $16.18 $24.27</td>
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<td>2001-3000 WORK HOURS</td>
<td>WAGE $17.19 $25.78</td>
</tr>
<tr>
<td>3001-4000 WORK HOURS</td>
<td>WAGE $19.21 $28.82</td>
</tr>
</tbody>
</table>

FRINGE $16.00 $17.45

LABORERS ZONE 3

Alcona, Arenac, Antrim, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

 Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

Official Request #:  213
Requestor: Michigan Technological University
Project Description: Administration Building Sidewalk Project

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>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORERS CLASS 6 ZONE 1</td>
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<tr>
<td></td>
<td>RBLABC6Z1</td>
<td>WAGE $23.22</td>
<td>$34.83</td>
<td>X X X X X X H Y</td>
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<td></td>
<td>6/9/2016</td>
<td>FRINGE $16.14</td>
<td>$17.66</td>
<td></td>
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</tbody>
</table>

Apprentice Rates:

- **0-1000 WORK HOURS**
  - WAGE $17.42 $26.13
  - FRINGE $16.14 $17.66

- **1001-2000 WORK HOURS**
  - WAGE $18.58 $27.87
  - FRINGE $16.14 $17.66

- **2001-3000 WORK HOURS**
  - WAGE $19.74 $29.61
  - FRINGE $16.14 $17.66

- **3001-4000 WORK HOURS**
  - WAGE $22.06 $33.09
  - FRINGE $16.14 $17.66

LABORERS ZONE 1
Genesee, Macomb, Monroe, Oakland, Washtenaw and Wayne

| LABORERS CLASS 6 ZONE 2              |                   |                        |                 |              |
|                                      | RBLABC6Z2         | WAGE $21.41            | $32.12          | X X X X X X H Y |
|                                      | 6/9/2016          | FRINGE $16.00           | $17.45          |              |

Apprentice Rates:

- **0-1000 WORK HOURS**
  - WAGE $16.06 $24.09
  - FRINGE $16.00 $17.45

- **1001-2000 WORK HOURS**
  - WAGE $17.13 $25.70
  - FRINGE $16.00 $17.45

- **2001-3000 WORK HOURS**
  - WAGE $18.20 $27.30
  - FRINGE $16.00 $17.45

- **3001-4000 WORK HOURS**
  - WAGE $20.34 $30.51
  - FRINGE $16.00 $17.45

LABORERS ZONE 2
Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

Official Request #: 213
Requestor: Michigan Technological University
Project Description: Administration Building Sidewalk Project

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 Rate Schedule
for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 5/9/2017
Contract must be awarded by: 8/7/2017

Page 14 of 23

<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<tr>
<td>LABORERS CLASS 6 ZONES 3 &amp; 4 RBLABC623 WAGE</td>
<td>$20.65</td>
<td>$30.98</td>
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<td>6/9/2016 FRINGE</td>
<td>$16.00</td>
<td>$17.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Apprentice Rates:

| 0-1000 WORK HOURS | WAGE | $15.49 | $23.24 |
| 1001-2000 WORK HOURS | WAGE | $16.52 | $24.78 |
| 2001-3000 WORK HOURS | WAGE | $17.55 | $26.32 |
| 3001-4000 WORK HOURS | WAGE | $19.62 | $29.43 |

LABORERS ZONE 3
Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4
Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

LABORERS CLASS 7 ZONES 2, 3, 4 RBLABC72 WAGE | $23.98 | $35.97 | | X X X X X X H Y |
| 6/9/2016 FRINGE | $16.00 | $17.45 |

Apprentice Rates:

| 0-1000 WORK HOURS | WAGE | $17.98 | $26.97 |
| 1001-2000 WORK HOURS | WAGE | $19.18 | $28.77 |
| 2001-3000 WORK HOURS | WAGE | $20.38 | $30.57 |
| 3001-4000 WORK HOURS | WAGE | $22.78 | $34.17 |

LABORERS ZONE 2
Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lake, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

LABORERS ZONE 3
Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4
Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

Official Request #: 213
Requestor: Michigan Technological University
Project Description: Administration Building Sidewalk Project

Official Rate Schedule

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## Official 2017 Prevailing Wage Rate Schedule

for Parking Lot, Road, Highway, Bridge and Airport Construction

**Issue Date:** 5/9/2017  
**Contract must be awarded by:** 8/7/2017

---

### Laboratory Class 7 Zone 1

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wage Rate</th>
<th>Fringe Rate</th>
<th>Overtime Code</th>
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<tbody>
<tr>
<td>LABORERS CLASS 7 ZONE 1</td>
<td>$24.29</td>
<td>$16.14</td>
<td>X X X X X X X H Y</td>
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</table>

**Apprentice Rates:**

- **0-1000 WORK HOURS**  
  - **WAGE:** $18.22  
  - **FRINGE:** $16.14  

- **1001-2000 WORK HOURS**  
  - **WAGE:** $19.43  
  - **FRINGE:** $16.14  

- **2001-3000 WORK HOURS**  
  - **WAGE:** $20.65  
  - **FRINGE:** $16.14  

- **3001-4000 WORK HOURS**  
  - **WAGE:** $23.08  
  - **FRINGE:** $16.14

---

### Operating Engineers Class I Zone 1 & 2

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wage Rate</th>
<th>Fringe Rate</th>
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<tbody>
<tr>
<td>OPERATING ENGINEERS CLASS I</td>
<td>$27.53</td>
<td>$27.14</td>
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</tbody>
</table>

**Apprentice Rates:**

- **1ST 6 MONTHS**  
  - **WAGE:** $19.27  
  - **FRINGE:** $26.14  

- **2ND 6 MONTHS**  
  - **WAGE:** $20.65  
  - **FRINGE:** $26.14  

- **3RD 6 MONTHS**  
  - **WAGE:** $22.02  
  - **FRINGE:** $26.14  

- **4TH 6 MONTHS**  
  - **WAGE:** $23.40  
  - **FRINGE:** $26.14  

- **5TH 6 MONTHS**  
  - **WAGE:** $24.78  
  - **FRINGE:** $26.14  

- **6TH 6 MONTHS**  
  - **WAGE:** $26.15  
  - **FRINGE:** $26.14

---

**Make up day allowed comment:** 4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

---

Official Request #: 213  
Requestor: Michigan Technological University  
Project Description: Administration Building Sidewalk Project

---

**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.
### Construction Mechanic Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wage Rate</th>
<th>Overtime Code</th>
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<tbody>
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<tr>
<td>OPERATING ENGINEERS GREASE TRUCK CLASS II ZONE 1</td>
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<tr>
<td>OPERATING ENGINEERS CLASS 2 ZONE 2</td>
<td>$21.55</td>
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<tr>
<td>OPERATING ENGINEERS GREASE TRUCK CLASS 2 ZONE 2</td>
<td>$22.68</td>
<td>H H H H H H H Y</td>
</tr>
</tbody>
</table>

**Make up day allowed comment**

- OPERATING ENGINEERS ZONE 1: Genesee, Oakland, Macomb, Monroe, Washtenaw and Wayne counties
- OPERATING ENGINEERS ZONE 2: The entire state except those counties listed in Zone 1: Genesee, Oakland, Macomb, Monroe, Washtenaw and Wayne
- OPERATING ENGINEERS GREASE TRUCK CLASS II ZONE 1
- OPERATING ENGINEERS GREASE TRUCK CLASS 2 ZONE 2

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>Construction Mechanic Classification</th>
<th>WAGE</th>
<th>Rate</th>
<th>Rate</th>
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<tr>
<td>ZONE 1</td>
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<td>ZONE 1</td>
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<td>OPERATING ENGINEERS CLASS IV</td>
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<tr>
<td>ZONE 2</td>
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</tbody>
</table>

Make up day allowed comment
4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

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.
### Pipe and Manhole Rehab

**General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant**

<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM247 - Pipe and Manhole Rehab</td>
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<td>$29.99</td>
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<tr>
<td>FRINGE</td>
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<td>$8.21</td>
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<td>H H H H N</td>
</tr>
<tr>
<td>4/17/2015</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Statewide

**Tap cutter/CCTV Tech/Grout Equipment Operator:** unit driver and operator of CCTV; grouting equipment and tap cutting equipment

<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM247-2 - Tap cutter/CCTV Tech/Grout Equipment Operator</td>
<td>$24.49</td>
<td>$36.74</td>
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<td>4/17/2015</td>
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<td>FRINGE</td>
<td>$8.21</td>
<td>$8.21</td>
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<tr>
<td>4/17/2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Statewide

**CCTV Technician/Combo Unit Operator:** unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work

<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM247-3 - CCTV Technician/Combo Unit Operator</td>
<td>$23.24</td>
<td>$34.86</td>
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<td>FRINGE</td>
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<td>Construction Mechanic Classification</td>
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<td>Time and One Half Rate</td>
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<td>Overtime Code</td>
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<tr>
<td>-------------------------------------</td>
<td>--------------------</td>
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<td>------------------</td>
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<tr>
<td>Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment</td>
<td>$24.99</td>
<td>$37.49</td>
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<td>4/17/2015</td>
<td>4/17/2015</td>
<td>FRINGE</td>
<td>$8.21</td>
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<tr>
<td>Statewide</td>
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<tr>
<td>Combo Unit driver &amp; Jetter-Vac Operator</td>
<td>$24.99</td>
<td>$37.49</td>
<td>H H H H H H H H N</td>
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<td>4/17/2015</td>
<td>4/17/2015</td>
<td>FRINGE</td>
<td>$8.21</td>
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<td>Statewide</td>
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<td>Pipe Bursting &amp; Slip-lining Equipment Operator</td>
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<td>$38.99</td>
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<td>Statewide</td>
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</table>
Official 2017 Prevailing Wage Rate Schedule
for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 5/9/2017
Contract must be awarded by: 8/7/2017

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<table>
<thead>
<tr>
<th>Construction Mechanic Classification</th>
<th>Straight Time Rate</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<tbody>
<tr>
<td><strong>Roadway Electrical</strong></td>
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<tr>
<td>Signal Tech, Communication EC-17</td>
<td>WAGE $37.60</td>
<td>$56.40</td>
<td>$75.20</td>
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<td>Tech, Tower Tech, Fiber Optic Splicer</td>
<td>FRINGE $16.28</td>
<td>$21.54</td>
<td>$26.81</td>
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Apprentice Rates:

1st 6 months  
| WAGE $22.56 | $33.84 | $45.12 |
| FRINGE $12.07 | $15.23 | $18.39 |

2nd 6 months  
| WAGE $24.44 | $36.66 | $48.88 |
| FRINGE $12.59 | $16.01 | $19.43 |

3rd 6 months  
| WAGE $26.32 | $39.48 | $52.64 |
| FRINGE $13.12 | $16.81 | $20.49 |

4th 6 months  
| WAGE $28.20 | $42.30 | $56.40 |
| FRINGE $13.65 | $17.60 | $21.55 |

5th 6 months  
| WAGE $30.08 | $45.12 | $60.16 |
| FRINGE $14.17 | $18.38 | $22.59 |

6th 6 months  
| WAGE $33.84 | $50.76 | $67.68 |
| FRINGE $15.23 | $19.97 | $24.71 |

Statewide

Road Builder Statewide

Make up day allowed comment 4 10s allowed M-Th; F make up day

Operator A - operates at least 3 of the following: backhoe, excavator, directional bore or boom/digger truck.

| WAGE $31.81 | $47.72 | $63.62 |
| FRINGE $14.66 | $19.12 | $23.57 |

Official Request #: 213
Requestor: Michigan Technological University
Project Description: Administration Building Sidewalk Project

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 Rate Schedule

**for Parking Lot, Road, Highway, Bridge and Airport Construction**

**Issue Date:** 5/9/2017  
**Contract must be awarded by:** 8/7/2017

---

### Construction Mechanic Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Rate Code</th>
<th>WAGE</th>
<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<tr>
<td>Operator B - operates any 2 of the following: backhoe, excavator, directional bore or boom/digger truck</td>
<td>EC-17B</td>
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<td>Apprentice Rates:</td>
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<td>WAGE</td>
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<td>$0.00</td>
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<tr>
<td>Groundman</td>
<td>EC-17G</td>
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<tr>
<td>TRUCK DRIVERS</td>
<td>TD1</td>
<td>$25.15</td>
<td>$37.73</td>
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<td>TRUCK DRIVERS ZONE 1</td>
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<td>$25.15</td>
<td>$37.73</td>
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<td>TD2</td>
<td>$25.05</td>
<td>$37.58</td>
<td>H H H H H H H Y</td>
</tr>
</tbody>
</table>

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**Road Builder Statewide**

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**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.
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<tr>
<th>Construction Mechanic Classification</th>
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<th>Time and One Half Rate</th>
<th>Double Time Rate</th>
<th>Overtime Code</th>
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<tbody>
<tr>
<td>TRUCK DRIVERS ZONE 1 8 YARD</td>
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<tr>
<td>CAPACITY OR GREATER</td>
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<td></td>
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<td>H H H H H H Y</td>
</tr>
<tr>
<td>TRUCK DRIVERS ZONE 2 8 YARD</td>
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<td>H H H H H H Y</td>
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<td>CAPACITY OR GREATER</td>
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</tr>
<tr>
<td>TRUCK DRIVERS ZONE 1 ALL TRUCKS</td>
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<td>H H H H H H Y</td>
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<tr>
<td>(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)</td>
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</tbody>
</table>

### TRUCK DRIVERS ZONE 1

Genesee, Oakland, Macomb, Monroe, Livingston, Washtenaw and Wayne

comment

4 tens allowed M-F

For hours after 40 per week, the OT rate is $38 per hour wages & fringes combined.

### TRUCK DRIVERS ZONE 2

The entire state except those counties listed in Zone 1: Genesee, Oakland, Macomb, Monroe, Livingston, Washtenaw and Wayne

comment

4 tens allowed M-F

For hours after 40 per week, the OT rate is $37.85 per hour wages & fringes combined.

### TRUCK DRIVERS ZONE 1 ALL TRUCKS

(comment)

For hours after 40 per week, the OT rate is $37.85 per hour wages & fringes combined.
TRUCK DRIVERS ZONE 2  All
trucks (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)

<table>
<thead>
<tr>
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<th>Time and One Half Rate</th>
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<th>Overtime Code</th>
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<td>TRUCK DRIVERS ZONE 2 All TD92 WAGE</td>
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<tr>
<td>FRINGE</td>
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<td>$11.46</td>
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comment 4 tens allowed M-F
For hours after 40 per week, the OT rate is $37.70 per hour wages & fringes combined.
ATTACHMENT B
DRAWINGS
ADMINISTRATION BUILDING SIDEWALK PROJECT
AT
MICHIGAN TECHNOLOGICAL UNIVERSITY
HOUGHTON, MICHIGAN
P# 00-15-04
ISSUED FOR BIDDING APRIL 27, 2017

DRAWING INDEX

<table>
<thead>
<tr>
<th>SHEET ID</th>
<th>SHEET NAME</th>
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<tr>
<td>G001</td>
<td>COVER SHEET</td>
</tr>
<tr>
<td>C101</td>
<td>DEMOLITION / LAYOUT PLAN</td>
</tr>
<tr>
<td>C102</td>
<td>PROPOSED INSTALLATION PLAN</td>
</tr>
<tr>
<td>C103</td>
<td>DETAILS</td>
</tr>
<tr>
<td>C104</td>
<td>DETAILS</td>
</tr>
<tr>
<td>C105</td>
<td>DETAILS</td>
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</table>

MICHIGAN TECHNOLOGICAL UNIVERSITY CAMPUS LOCATION MAP
NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMP ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SIDEWALK RAMP SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP PATH TRAVEL AND THE FULL WIDTH OF THE RAMP PATH (OPENING EXCLUDING CURB) OR FLARED CURB TRANSITION AREA. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RAILCURB THE OFFSET IS MEASURED FROM THE EDGES OF THE RADIUS.

PROPOSED INSTALLATION PLAN

PROPOSED 6' WIDE SIDEWALK & RAMP
SEE DETAIL 1 ON SHEET C103

PROPOSED 6' WIDE SIDEWALK - 420 LF
PROPOSED 6' WIDE SIDEWALK - 38 LF
W OOT SIDEWALK RAMP TYPE R - 2 EA. (CLIFF DRIVE)
W OOT SIDEWALK RAMP TYPE R - 1 EA. (ADMIN BLDG ENTRANCE)
W OOT SIDEWALK RAMP TYPE C
(COMBINATION RAMP) - 1 EA. (REPLACE ASPHALT WALKWAY)

ALTERNATE "A" W OOT CURB OUT/RAMP (REMOVE REPLACE) - 5 C FR
ALTERNATE "B" 6' WIDE SIDEWALK - 72 LF
PROPOSED LAYOUT SCHEMATIC FOR TYPE C MDOT RAMP

NOT TO SCALE

LANDING (TURNING SPACE) SLOPE IS A MAX. 2% IN DIRECTION OF TRAVEL.

ALL CONCRETE FOR THIS PROJECT SHALL HAVE A MINIMUM 28-DAY COMpressive STRENGTh OF 4000 P.S.I., ALL CONCRETE SHALL BE AIR ENTRAINED.

ALL MELED WIRE FABRic (W.W.F.) SHALL BE 6x6 10/10 IN ACCORDANCE WTh ASTM A185.

ALL BASE MATERIAL UNDER SIDEWALKS SHALL BE MOST CLASS II GRANULAR FILL COMPACTED 95% MAXIMUM DENSITY WTh A MINIMUM THICKNESS OF SIX (6) INCHES UNLESS SPECIFIED OTHERWISE ON THE CONSTRUCTION PLANS.

TYPICAL SIDEWALK SECTION

NOT TO SCALE
**PROPOSED LAYOUT FOR TYPE R MDOT RAMP**

1. Not to Scale.

Max. landing slope is 2.0% in each direction of travel. Min. dimensions:

- 6" x 6" (typical)

**SECTION A-A THRU TYPE R MDOT RAMP**

2. Not to Scale.

**PROPOSED LAYOUT FOR TYPE R MDOT RAMP**

(Needed on both sides of College Ave)

3. Not to Scale.

**NOTES:**

- Details specified on this plan apply to all construction, reconstruction, or alteration of streets, curbs, or sidewalks in the public right of way.

- Sidewalk ramps are to be located as specified on the plans or as directed by the engineer.

- Surface texture of the ramp shall be that obtained by a coarse brooming, transverse to the running slope.

- Sidewalk shall be ramped where the driveway curb is extended across the walk.

- Care shall be taken to assure a uniform grade on the ramp. Where conditions permit, it is desirable that the ramp be in only one direction, parallel to the direction of travel.

- When 6' minimum widths are not feasible, ramp width may be reduced to not less than 4' and landings to not less than 4' x 4'.

- Detectable warning surface coverage is 24" minimum in the direction of ramp/path travel and the full width of the ramp/path opening excluding curved or flared curb transition areas. A border offset not greater than 2" measured along the edges of the detectable warning is allowable. For radial curbs, the offset is measured from the ends of the radius.

- For new roadway construction, the ramp cross slope may not exceed 3.0%. For alterations to existing roadways, the cross slope may be transitioned to an existing roadway grade. The cross slope transition shall be applied uniformly over the full length of the ramp.

- The maximum running slope of 8.0% is relative to a flat (0%) reference. However, it shall not require any ramp of series of ramps to exceed 15 feet in length.

- Transition the gutter pan cross section such that the counter slope in the direction of ramp travel is not greater than 0.5%. Maintain the normal gutter pan cross section across drainage structures.

- The top of the joint filler for all ramp types shall be flush with the adjacent concrete.

- Detectable warning plates must be installed using fabricated or field cut units cast and/or anchored in the pavement to resist shifting or heaving. All plates must meet compliance with MDOT specifications as per MDOT Standard Detail Drawing 6-96-3 Sheet 5 of 7.
1. Proposed Layout for Type P MDOT Ramp
   (Not to scale)
   (Alternate "A" Work)

2. Proposed Concrete Replacement Plan
   (Not to scale)
ATTACHMENT C
MDOT PERMIT
**INDIVIDUAL CONSTRUCTION PERMIT**
For Operations within State Highway Right-of-Way

**Issued To:**
Michigan Technological University / Dan Liebau

1400 Townsend Drive, Department of Facilities Mgmt
Houghton MI 49931

**Contact:**
Dan Liebau
906-487-3037(O) 906-370-0524(Cell)
dpliebau@mtu.edu

**Permit Number:** 31051-044863-17-042917
**Permit Type:** Individual Application
**Permit Fee:** $3.00
**Effective Date:** Apr 29, 2017 to Dec 01, 2017
**Bond Numbers:** Liability Insurance Expiration Date:

**THIS PERMIT IS VALID ONLY FOR THE FOLLOWING PROPOSED OPERATIONS:**

**PURPOSE:**
Installation of a sidewalk to connect campus sidewalks with city sidewalks along the north side of Highway US 41. The approximate 400 ft segment is anticipated to mitigate pedestrians from walking along the curb line or in the roadway of Highway US 41.

**STATE ROUTE:** US-41  **CITY OF:** Houghton  **COUNTY:** Houghton County

**TOWN**  **RANGE**  **SECTION**
T 55 N  R 33 W  31

**NEAREST INTERSECTION:**  **SIDE OF ROAD:**  **DISTANCE TO NEAREST INTERSECTION:**  **DIRECTION TO NEAREST INTERSECTION:**
Cliff Drive  N  0.00  West

**CONTROL SECTION:**  **MILE POINT FROM:**  **MILE POINT TO:**  **LOCATION:**
31051  15.120  15.200  LEFT  MEDIAN  RIGHT  TRANSVERSE

**REQUISITION NUMBER:** WORK ORDER NUMBER:  **MDOT JOB NUMBER:**  **ORG JOB NUMBER:**
31051-044863-17-042917  00-15-04
This permit is incomplete without “General Conditions and Supplemental Specifications”

I certify that I accept the following:

1. I am the legal owner of this property or facility, the owner’s authorized representative, or have statutory authority to work within state highway Right-of-Way.
2. Commencement of work set forth in the permit application constitutes acceptance of the permit as issued.
3. Failure to object, within ten (10) days to the permit as issued constitutes acceptance of the permit as issued.
4. If this permit is accepted by either of the above methods, I will comply with the provisions of the permit.
5. I agree that Advance Notice for Permitted Activities for shall be submitted 5 days prior to the commencement of the proposed work.

   I agree that Advance Notice for Permitted Utility Tree Trimming and Tree Removal Activities shall be submitted 15 days prior to the commencement of the proposed work for an annual permit.

CAUTION

Work shall NOT begin until the Advance Notice has been approved.

Failure to submit the advance notice may result in a Stop Work Order.

Michigan Technological University / Dan Liebau
Joel Kauppila
MDOT

April 28, 2017

Approved Date

TSC Contact Info
Ishpeming TSC
(906) 485-4270

THE STANDARD ATTACHMENTS, ATTACHMENTS AND SPECIAL CONDITIONS MARKED BELOW ARE A PART OF THIS PERMIT.

STANDARD ATTACHMENTS:
1. General Conditions for Permit (General Conditions)
2. ENVIRONMENTAL REQUIREMENTS FOR ACTIVITIES WITHIN MDOT RIGHT-OF-WAY (2486)
3. Historical and Archaeological Discoveries During Construction Operations (Const. Advisory Historical/Archae

ADDITIONAL ATTACHMENTS:
1. L D and B Valuesm0020a.pdf
2. m0730aDividedLaneClosure.pdf
4. MTU Admin Sidewalk Project Revised.pdf
5. Work outside shoulder area RWA signs.pdf
SPECIAL CONDITIONS:

1. The Department of Transportation does not, by issuance of this permit, assume any liability claims or maintenance costs resulting from the Sidewalk facility placed by this permit. The Department reserves the right to require removal of all or any portion of this facility as needed for highway maintenance or construction purposes without replacement or reimbursement of any costs incurred by the permitted or other party. The permitted will defend, indemnify and hold harmless the Department for any claims whatsoever resulting from the construction or the removal of the authorized by this permit.

2. All disturbed areas within the right of way shall be top-soiled, seeded and mulched to match existing areas per current MDOT standards and specifications.
This permit is issued subject to the following conditions:

1. This permit grants to the permittee only those rights specifically stated and no other. Maintenance work within the trunkline right of way may require a separate permit unless authorized within the scope of the annual permit.

2. Issuance of this permit does not relieve permittee from meeting any and all requirements of law, or of other public bodies or agencies. The permittee shall be responsible for securing including but not limited to any other permissions including or required by law including but not limited to cities, villages, towns, corporations, or individuals for the activities hereby permitted.

3. The permittee agrees as a condition of this permit to:
   a. Have in the permittee's or the permittee's representative's possession on the job site at all times the approved permit, advanced notice and any necessary plans or sketches.
   b. Submit Advance Notice through the online Construction Permit System (CPS) at least five (5) working days prior to commencement of any operations covered by this permit. No work shall start until an approved Advance Notice is e-mailed to the permittee.
   c. Perform no work except emergency work, unless authorized by the Department, on Saturdays, Sundays, or from 3:00 p.m. on the day proceeding until the normal starting time the day after the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
   d. Provide and maintain all necessary precautions to prevent injury or damage to persons and property from operations covered by this permit.
   e. Furnish, install and maintain all necessary traffic controls and protection during permittee's operations in accordance with the Michigan Manual of Uniform Traffic Control Devices and any supplemental specifications set forth herein.
   f. Notify the Department of completion of work authorized by this permit through CPS, so that final inspection may be made and surety deposit released (where applicable). Surety deposit will not be released until the work authorized by the permit has been completed and inspected, and all inspection charges billable to the permittee are paid.

4. Nothing in this permit shall be construed to grant any rights what so ever to any public utilities, except as to the consent herein specifically given, nor to impair any existing rights granted in accordance with the constitution or laws of this state.

5. Any operations in the trunkline right of way not covered by permit and the appropriate Department specifications are in violation of the jurisdictional authority of the Department, with respect to the control of the trunkline right of way, unless approved by the Department. Any change or alteration in the permit activities requires prior approval of the Department and may require a new permit.

6. Performance of the requirements of this permit is the responsibility of the permittee. The permittee shall complete all operations for which this permit is issued in accordance with the conditions of this permit, by the specified completion date. The permittee shall meet all requirements of the current Department Standard Specifications for Construction, and the Supplemental Specifications set forth on/or incorporated as a part of this permit.

7. The construction, operation and maintenance of the facility covered by this permit shall be performed without cost to the Department unless specified herein. The permittee shall be responsible for the cost of restoration of the state trunkline right of way determined by the Department to be damaged as a result of the activities of the permittee.

8. Facilities allowed on state trunkline right of way shall be placed and maintained in a manner which will not impair the state trunkline or interfere with the reasonable safe and free flow of traffic. Failure of the permittee to maintain the facilities located within the State trunkline right of way so as not to interfere with the operation, maintenance or use of the state trunkline by the traveling public may result in revocation of the permit.

9. The permittee is solely and fully responsible for all activities undertaken pursuant to the permit. Any and all actions by the Department and those governmental bodies performing permit activities for the Department pursuant to a maintenance contract, including but not limited to any approved reviews and inspections of any nature, permit issuing, and final acceptance or rejection of the work or activity authorized by the permit shall not be construed as a warranty or assumption of liability on the part of the Department or those governmental bodies. It is expressly understood and agreed that any such actions are for the sole and exclusive purposes of the Department and the governmental bodies acting in a governmental capacity. Any such actions by the Department and governmental bodies will not relieve the permittee of its obligations hereunder, nor are such actions by the Department and the governmental bodies to be construed as a warranty as to the propriety of the permittee's performance. The permittee shall indemnify and save harmless the State of Michigan, Michigan Transportation Commission, the Department and all officers, agents and employees thereof, and those governmental bodies performing permit activities for the Department and all officers, agents and employees thereof, pursuant to a maintenance contract, against any and all claims for damages arising from operations covered by this permit except claims resulting from the sole negligence or willful acts or omissions of said indemnities, its agent, or employees. In addition, permittee upon request shall furnish proof of insurance coverage for the term of this permit in an amount pre-specified.

10. This permit is not assignable and not transferable unless specifically agreed to by the Department.

11. The permittee, upon request of the Department, shall immediately remove, cease operations, and surrender this permit, or alter or relocate, at the permittee's own expense, the facility for which this permit is granted. Upon failure to do so, the Department may take any necessary action to protect the trunkline interest and the permittee shall reimburse the Department for its cost in doing same. The permittee expressly waives any right to claim damages or compensation in the event this permit is revoked.

12. The permittee shall, upon request by the Department, furnish a performance surety deposit in the form of a bond, cash, certified check, or (when authorized by the Department) an irrevocable letter of credit in such amount as deemed necessary by the Department to guarantee restoration of the trunkline highway or performance under the conditions of the permit.
13. The permittee hereby acknowledges and agrees that the Department has the right to demand completion by the permittee, or the performance surety, or to complete any uncompleted activity authorized by this permit which adversely affects the operation and/or maintenance of the state trunkline highway, or which is not completed by the expiration date of the permit, including:

a. Completion of construction of driveway and/or approach (not authorized by annual permit).

b. Removal of materials.

c. Restoration of the trunkline facilities and right of way as necessary for the reasonably safe and efficient operations of the trunkline highway.

The permittee further agrees to immediately reimburse the Department in full for all such costs incurred by the Department upon receipt of billing, and that upon failure to pay, the Department may effect payment with the performance surety deposit. Should the surety deposit be insufficient to cover expenses incurred by the Department, the permittee shall pay such deficiency upon billing by the Department. If the surety deposit exceeds the expense incurred by the Department, any excess will be returned or released to the depositor upon completion of the work to the satisfaction of the Department.

14. The Department reserves the right during the time any or all of the work is being performed to assign an inspector to protect the trunkline interest, and to charge the permittee all such costs incurred. In addition, the permittee may be billed any engineering and review fees incurred by the Department or its agent in connection with the work covered by this permit.

15. Emergency Operations: In time of disaster or emergency, or when utility lines or facilities are so damaged as to constitute a danger to life and/or property of the public, access to the same may be had by the most expeditious route. Work is to be completed in a manner which will provide the traveling public with maximum possible safety and minimize traffic distribution. Notice of such situations shall be given to the nearest police authority and the department as soon as can reasonably be done under the circumstances. During normal Department work hours, the facility owner shall advise the Department of any operations within right of way which affect traffic operations or the highway structure or facilities prior to performance of the work. After normal Department work hours, the permittee, at the beginning of the first working day after the emergency operation, shall advise the Department of any operations which affect traffic operations or the highway structures and facilities. If determined necessary by the Department, the permittee shall secure an individual permit for such work after notification.

16. Upon the Department's request, as built drawings of work performed will be furnished to the Department within 30 days after completion of the work.

17. The permittee shall give notice to public utilities in accordance with Act 174 of 2013, as amended, and comply with all applicable requirements of this act. The permittee shall also comply with requirements of Act 451, P.A. of 1994, as amended.

18. The permittee acknowledges that the Department is without liability for the presence of the permittee's facility which is located within the trunkline right of way. Acceptance by the Department of work performed, and/or notice of termination of performance obligations for the surety and/or the permittee do not relieve the permittee of full responsibility for the permittee's work or for the presence of the permittee's facility in the trunkline right of way.

19. Where the Department has accepted an Indemnification Commitment in lieu of bond and/or insurance policies, such commitment is incorporated into this permit by reference.

20. It is illegal to discharge substances other than storm water into the Department's storm sewer system unless permission has been obtained in writing for other discharges.

21. The permittee shall be responsible for obtaining information on permitted environmental site closures within MDOT right of way. MDOT has implemented a program that allows environmental contamination to remain within the right of way by use of a permit. Issued permit information can be obtained from the Region/TSC in which the permit is issued. If the permittee will encounter a site area identified as a site closure permit area, the permittee shall follow instructions and conditions set forth in Supplemental Specifications #3 and specifications found in form 2205-C, “Special Conditions for Underground Construction”.

22. It is illegal to discharge substances other than storm water into the Department's storm sewer system unless permission has been obtained in writing for other discharges.

23. The permittee shall give notice to public utilities in accordance with Act 174 of 2013, as amended, and comply with all applicable requirements of this act. The permittee shall also comply with requirements of Act 451, P.A. of 1994, as amended.

24. Upon the Department's request, as built drawings of work performed will be furnished to the Department within 30 days after completion of the work.

25. The permittee shall give notice to public utilities in accordance with Act 174 of 2013, as amended, and comply with all applicable requirements of this act. The permittee shall also comply with requirements of Act 451, P.A. of 1994, as amended.
SUPPLEMENTAL SPECIFICATIONS

1. **Construction and Maintenance of Facilities** – To construct and maintain utility crossings of limited access highways, access for the utility’s service vehicles may be from county roads, service roads, and openings authorized in limited access right of way fences. The construction of utilities across limited access highways should be for the purpose of serving a general area rather than providing individual services, unless extenuating circumstances necessitate such crossings.

Equipment, vehicles or personnel will not operate within a distance of 30 feet from the edge of the pavement of roadways or ramps on limited process highways. At locations where utilities have been constructed in medians having a width greater than 80 feet or have otherwise been allowed to remain or to be constructed in limited access right of way, ingress and egress shall be by such routes as specified by the Department, which may also specify additional safety provisions.

2. **Restoration** - Restoration of the trunkline highway and right of way will be such that it will provide a condition equal to or better than the original condition, in accordance with Michigan Department of Transportation Standard Specifications.

3. **Excavation and Disposal of Excavated Material** – The permittee shall provide and place the necessary sheeting, shoring and bracing required to prevent cave-in, loss or settlement of foundation material supporting the pavement, or any other highway installation such as sewers, culverts, etc. The permittee shall assume the full responsibility for this protection and shall not proceed in these areas before approval of the methods by the Department.

Construction equipment and excavating material shall not be stocked in such locations that it creates a traffic hazard or interferes with the flow of traffic; and on limited access highways, shall be a minimum of 30 feet from the traveled way. Sod and topsoil shall be stacked separately from other excavated material. The permittee shall dispose of all surplus and unsuitable material outside of the limits of the highway, unless the permit provides for disposal at approved locations within right of way. In the latter case, the material shall be leveled and trimmed in an approved manner.

When the permittee is excavating within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank, special permit specifications entitled “Special Conditions for Underground Construction” (Form 2205-C) shall apply.

4. **Utility Cuts, Trenches and Pavement Replacement** – Utility crossing by pavement cutting and removal are generally prohibited. If extenuating circumstances make tunneling, boring and jacking impractical pavement cutting may be used with approval of the Department. All utility cuts, trenching and pavement replacement shall comply with the requirements of the Standard Specifications and the Standard Plan “Utility Cuts, Trenches and Pavement Replacement”. Unless otherwise specified, cuts in concrete residential and commercial drives shall be as above; except that the patch width shall be a minimum of 3 feet and the remaining slab from patch to existing joint shall be a minimum of 3 feet. Backfill shall be made with sand-gravel as specified in the Standard Specifications, unless otherwise directed. After the backfill has been placed and compacted by controlled density method, the pavement shall be replaced with new pavement of the original type and quality, unless at the season of the year when it is not feasible to replace pavement in kind. In this case, a temporary surface of bituminous material shall be placed with Department approval and later replaced with pavement of the original type at the applicant’s expense. Other pavement types may be allowed with prior approval of the Department.

5. **Crossing Roadbed by Tunneling or Boring and Jacking** – All crossing of roadbed operations involving tunneling, boring and jacking shall comply with the Department’s special provisions for such work.

6. **Backfilling and Compacting Backfill** – Unless otherwise specified, all trenches, holes and pits shall be filled with sound earth or with sand-gravel if so provided, placed in successive layers not more than 9 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping. All backfill compaction will be subject to check by the controlled density method.

7. **Depth of Cover Method**- Unless otherwise authorized, pipes shall be placed to a depth that will provide not less than 4 feet of cover between the top of the roadway surface and the pipe, 3 feet cover below the ditch line and the pipe.

8. **Trees**:
   a. The permittee is responsible for obtaining permission from abutting owners when trimming or removing trees on easement right of way.
   b. Tree removal or trimming may be undertaken only after submission of an “Advance Notice” through CPS, a field review by the Region Resource Specialist and an approved copy of the advance notice is e-mailed to the permittee.
   c. Limbs, logs, stumps and litter shall be disposed of in a manner acceptable to the Department.
   d. Tree roots shall be bored a distance of one foot for each one inch of trunk diameter for underground utility installations

9. **Aerial Wire Crossings** – Vertical clearance of wires, conductors and cables over state trunkline shall not be less than required by Section 232 of the National Electrical Safety Code, except in no case shall the under-clearance below any wire, conductor, or cable, under any temperature or loading condition, be less than eighteen feet (18’).
Issuance of a permit by MDOT does not relieve the permit applicant from meeting any and all requirements of law, or of other public bodies or agencies, including but not limited to the following:

   Any activity that involves excavation or fill, located within a regulated wetland, requires a Michigan Department of Environmental Quality (MDEQ) permit. Regulated wetlands are those systems that are contiguous to a lake or stream (within 500 feet) or greater than five (5) acres in size.

2. **Inland Lakes and Streams Act, Part 301, P.A. 451 of 1994**
   Any activity located within the ordinary high-water mark of a regulated body of water, i.e., lake, stream, drain, pond, etc., shall require a permit. There are no exemptions to this requirement. Permit applications and questions can be submitted to the MDEQ’s Land and Water Management Division.

   Any land disturbance of one (1) acre or greater, or that is located within 500 feet of a lake or stream, requires a soil erosion permit. Municipalities who are classified as an Authorized Public Agency (APA) are exempt from permits, but must follow proper soil erosion practices as identified in their standard plan. Any construction activity located within MDOT Right-of-Way that is authorized by a MDOT permit is the responsibility of the permit applicant and is not covered under MDOT's APA authority.
   Soil erosion and sedimentation controls are required on all projects, even if a soil erosion permit is not required. Individuals performing work shall prevent sediment from entering any body of water or leaving the Right-of-Way. Permits can be obtained from the county/municipal agencies. Minor earth changes are exempted in this Act and are classified as normal maintenance and emergency repairs.

4. **Clean Water Act: National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Requirements for Construction Activities**
   Any land disturbance of five (5) acres or greater requires an NPDES Storm Water Discharge Permit. This can include any filling, excavating, grading, clearing, etc. Municipally-owned utilities who service a population of less than 100,000 are exempt from permit provisions, but not from environmental protection requirements. Permit applications require the Part 31, P.A. 451 permit number, or a declaration of APA status and the effective date. Permit applications and questions can be submitted to the MDEQ's Surface Water Quality Division.

5. **Environmental Site Closures**
   A procedure was developed by the MDEQ and MDOT which may allow a property owner, who is responsible for of these sites, to close an environmentally impacted site. Questions regarding this activity shall be addressed by contacting MDOT's Environmental Specialist at 517-335-2271.

6. The Land and Water Management Division of the MDEQ also administers the following environmental laws which may require review prior to construction:

7. The Wildlife Division of the MDNR also administers the following environmental laws which may require review prior to construction:

Questions regarding these permits may be addressed by contacting the nearest MDEQ district field office, or the MDEQ Land and Water Management Division at 517-373-1170.

Additional information is available in MDOT’s Environmental Procedures Manual.
From Brenda O’Brien, Engineer of Construction Field Services

Historical and Archaeological Discoveries During Construction Operations

This construction advisory applies to all construction, maintenance, permits, and utility projects on MDOT right-of-way.

In the event that any staff (MDOT, consultant, local agency, contractor, etc.) encounter bones, artifacts, or buried features of possible historical or archaeological significance during construction operations on MDOT right-of-way, they must immediately cease operations in that location and notify the MDOT TSC construction engineer.

The MDOT TSC construction engineer must, immediately upon stopping work in the affected area, contact the MDOT archaeologist for consultation and direction. Communications are to be directed to the following individuals.

Primary Contact:
James A. Robertson, Ph.D.
MDOT Archaeologist
517-335-2637 (office)
Robertsonj3@michigan.gov

Secondary Contact (if primary is not available):
Christine N. Stephenson, M.A.
Staff Archaeologist
517-243-2818 (cell)
Stephensonc@michigan.gov

If bones are discovered and there is no reasonable doubt that they are human bones, the MDOT TSC construction engineer must immediately also contact the local law enforcement agency.

It should be noted that per Michigan law, any person who willfully digs up, disinters, or moves human remains from their place of burial, or who aids in such activities without being lawfully authorized to do so can be found guilty of a felony punishable by up to 10 years in prison and a fine of up to $5,000.

Construction Field Services is working with the Environmental Services Section to develop a Bureau of Highway Instructional Memorandum with additional details.

Please share this construction advisory with consultants, local agencies, maintenance supervisors/coordinators, and permit/utility staff in your area as well as TSC staff.
ADMINISTRATION BUILDING SIDEWALK PROJECT

AT

MICHIGAN TECHNOLOGICAL UNIVERSITY

HOUGHTON, MICHIGAN

P# 00-15-04

ISSUED FOR BIDDING APRIL 27, 2017

MICHIGAN TECHNOLOGICAL UNIVERSITY CAMPUS LOCATION MAP

DRAWING INDEX

| SHEET ID | SHEET NAME
|----------|-------------
| G001     | COVER SHEET |
| C101     | DEMOLITION / LAYOUT PLAN |
| C102     | PROPOSED INSTALLATION PLAN |
| C103     | DETAILS |
| C104     | DETAILS |
| C105     | DETAILS |
1 PROPOSED INSTALLATION PLAN

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK ROLDS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROWNING, TRAVELING TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

PROPOSED LAYOUT SCHEMATIC FOR TYPE C MDOT RAMP

1. PROPOSED SIDEWALK 5'-0" WIDE

2. TYPICAL SIDEWALK SECTION

Landing (turning space) slope is a max. 2% in direction of travel.

All concrete for this project shall have a minimum 28-day compressive strength of 4000 psi. All concrete shall be air entrained.

All welded wire fabric (W.W.F.) shall be 6x6 10/10 in accordance with ASTM A185.

All base material under sidewalks shall be most Class II granular fill, compacted 95% maximum density with a minimum thickness of six (6) inches unless specified otherwise on the construction plans.
1. **Proposed Layout for Type R MDOT Ramp**

   - Not to scale.
   - MAX. LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MIN. DIMENSIONS 5' x 5' (TYPICAL).

2. **Proposed Layout for Type R MDOT Ramp**

   - Needed on both sides of College Ave.
   - Not to scale.

3. **Section A-A Thru Type R MDOT Ramp**

   - Not to scale.

**Notes:**

- Details specified on this plan apply to all construction, reconstruction, or alteration of streets, curbs, or sidewalks in the public right of way.

- Sidewalk ramps are to be located as specified on the plans or as directed by the Engineer.

- Surface texture of the ramp shall be that obtained by a coarse brooming, transverse to the running slope.

- Sidewalk shall be ramped where the driveway curb is extended across the walk.

- Care shall be taken to ensure a uniform grade on the ramp.

- When 5' minimum widths are not feasible, ramp width may be reduced to not less than 4' and landings to not less than 4' x 4'.

- Detectable warning surface coverage is 24' in the direction of ramp travel and the full width of the ramp/road intersection, with the curb transition area. A border offset not greater than 2' measured along the edges of the detectable warning is allowable for the curb. The offset is measured from the end of the ramp.

- For new roadway construction, the ramp cross slope may not exceed 0.5% for alterations to existing roadways, the cross slope may be transitioned to meet an existing roadway grade. The cross slope transition shall be applied uniformly over the full length of the ramp.

- The maximum running slope of 8.5% is relative to a flat (0%) reference. However, it shall not require any ramp or series of ramps to exceed 15 feet in length.

- Transition the gutter pan cross section such that the counter slope in the direction of ramp travel is not greater than 0.5% maintain the normal gutter pan cross section across drainage structures.

- The top of the joint filler for all ramp types shall be flush with the adjacent concrete.

- Detectable warning plates must be installed using fabricated or field cut units cast and/or anchored in the pavement to resist shifting or heaving. All plates must meet compliance with MDOT specifications as per MDOT Standard Detail Drawing K-28-3 Sheet 3 of 7.
1. PROPOSED LAYOUT FOR TYPE P MDOT RAMP
   (NOT TO SCALE)
   (ALTERNATE "A" WORK)

2. PROPOSED CONCRETE REPLACEMENT PLAN
   (NOT TO SCALE)
### Minimum Merging Taper Length "L" (Feet)

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**Taper Length "L" in Feet**

The formulas for the minimum length of a merging taper in deriving the "L" values shown in the above tables are as follows:

\[ L = \frac{W \times S^2}{60} \]

Where posted speed prior to the work area is 40 MPH or less.

\[ L = S \times W \]

Where posted speed prior to the work area is 45 MPH or greater.

- **L** = Minimum Length of Merging Taper
- **S** = Posted Speed Limit in MPH prior to work area
- **W** = Width of Offset

**Types of Tapers**

- **Upstream Tapers**
  - Merger Taper
  - Shifting Taper
  - Shoulder Taper
- **Two-Way Traffic Taper**
  - 100' - Maximum
- **Downstream Tapers**
  - Use is Optional

**Taper Length**

- L - Minimum
- 1/2 L - Minimum
- 1/3 L - Minimum
- 100' - Maximum

**Tables for "L", "D" and "B" Values**

**Traffic and Safety**

Maintaining Traffic Typical

**Drawn by:**

**Checked by:**

**Plan Date:**

**Sheet 1 of 2**

**Files:**

Rev. 08/23/2006
### Distance Between Traffic Control Devices “D” and Length of Longitudinal Buffer Space on “Where Workers Present” Sequences

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### Guidelines for Length of Longitudinal Buffer Space “B”

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*Posted speed, off peak 85th percentile speed prior to work starting, or the anticipated operating speed.

1. Based upon American Association of State Highway and Transportation Officials (AASHTO) braking distance portion of stopping sight distance for wet and level pavements (A Policy on Geometric Design of Highways and Streets), AASHTO. This AASHTO document also recommends adjustments for the effect of grade on stopping and variation for trucks.
Place this sign along with the advance work zone signing as depicted on the appropriate typical M0030c-M0080a.

Work area varies

SPEED LIMIT

R2-1

Work zone begins

R5-18c

W4-2

Right lane closed ahead

W20-5

Road work ahead

W20-1

Key

- - - Channelizing devices

Lighted arrow panel

Traffic flow

■ Reflects existing speed limit

Sign = 168 ft - Type B plus additional R2-1's throughout work area

Place this sign along with the advance work zone signing as indicated and after all major crossroads if permanent signs are not in place.

SPEED LIMIT

R2-1

Work zone begins

R5-18c

W4-2

Right lane closed ahead

W20-5

Road work ahead

W20-1

NOT TO SCALE

MDOT

Traffic and Safety

Maintaining Traffic Typical

Typical temporary traffic control for a one-lane closure on a divided roadway, no speed reduction

Drawn by: CONIAE+DJ

October 2011

Plan date: M0730a

Sheet 1 of 2

File: PW RD/TS/Typicals/Signs/M0730a.dgn

Rev. 10/26/2011
NOTES

1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
SEE MO020a FOR “D,” “L,” AND “B” VALUES

2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.

3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.

3A. THE “WORK ZONE BEGINS” (RS-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.

4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).

5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.


7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.

8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.

21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.


SIGN SIZES
- DIAMOND WARNING - 48" x 48"
- R2-1 REGULATORY - 48" x 60"
- RS-18c REGULATORY - 48" x 48"

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY, NO SPEED REDUCTION

DRAWN BY: CONIAE+dj# CHECKED BY: BM#6#BP DATE: OCTOBER 2011
SHAPE 2 OF 2
NOTES
NO SIGNS ARE REQUIRED IF DURATION IS SHORT-DURATION OR MOBILE.

IF THE OPERATION HAS A VEHICLE(S) PARKED ON THE SHOULDER, OR VEHICLES ACCESSING THE WORK SITE VIA THE HIGHWAY OR CROSSING THE HIGHWAY TO PERFORM OPERATIONS, A "ROAD WORK AHEAD" SIGN OR AN ARROW BOARD IN BAR MODE SHALL BE USED.

KEY

TYPE A WARNING FLASHER (REQUIRED ON PLYWOOD SIGNS)

TRAFFIC FLOW

NOT TO SCALE

MDOT

WORK OUTSIDE SHOULDER

DURATION:
APPLIES TO ALL DURATIONS

01/01/07
MD - 01
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PERFORMANCE AGREEMENT
FOR
UNIVERSITIES or COLLEGES

This Performance Agreement is required by the Michigan Department of Transportation for purposes of issuing to a University or College an "Individual Permit for Use of State Trunkline Right of Way," or an "Annual Application and Permit for Miscellaneous Operations Within State Trunkline Right of Way."

RESOLVED WHEREAS, the Michigan Technological University hereinafter referred to as the "UNIVERSITY or COLLEGE," periodically applies to the Michigan Department of Transportation, hereinafter referred to as the "DEPARTMENT," for permits, referred to as "PERMIT," to construct, operate, use and/or maintain utility or other facilities, or to conduct other activities, on, over, and under state trunkline right of way at various locations; within and adjacent to its University or College properties;

NOW THEREFORE, in consideration of the DEPARTMENT granting such PERMIT, the UNIVERSITY or COLLEGE agrees that:

1. Each party to this Agreement shall remain responsible for any claims arising out of their own acts and/or omissions during the performance of this Agreement, as provided by law. This Agreement is not intended to increase either party's liability for, or immunity from, tort claims, nor shall it be interpreted, as giving either party hereto a right of indemnification, either by Agreement or at law, for claims arising out of the performance of this Agreement.

2. Any work performed for the UNIVERSITY or COLLEGE will be solely as for the UNIVERSITY or COLLEGE and not as a contractor or agent of the DEPARTMENT. The DEPARTMENT shall not be subject to any obligations or liabilities by vendors and contractors of the UNIVERSITY or COLLEGE, or their subcontractors or any other person not a party to the PERMIT without its specific prior written consent and notwithstanding the issuance of the PERMIT. Any claims against the State of Michigan, the Transportation Commission, the DEPARTMENT, and all officers, agents, and employees thereof will be the sole responsibility of the UNIVERSITY or COLLEGE. Certificate of insurance shall be provided to the Department by the contractors. The liability policies shall meet the requirements of the Department's Permit.

3. The UNIVERSITY or COLLEGE will, by its own volition and/or request by the DEPARTMENT, promptly restore and/or correct physical or operating damages to any State trunkline right of way resulting from the installation, construction, operation and/or maintenance of the UNIVERSITY or COLLEGE facilities according to a PERMIT issued by the DEPARTMENT.

4. With respect to any activities authorized by PERMIT, when the UNIVERSITY or COLLEGE requires insurance on its own or its contractor's behalf, it shall also require that such policy include as named insured; the State of Michigan, the Transportation Commission, the DEPARTMENT, and all officers, agents, and employees thereof and those governmental bodies performing permit activities for the DEPARTMENT and all officers, agents, and employees thereof, pursuant to a maintenance contract.
5. The incorporation by the DEPARTMENT of this agreement as part of a PERMIT does not prevent the DEPARTMENT from requiring additional performance security or insurance before issuance of a PERMIT.

6. This agreement shall continue in force from this date until cancelled by the UNIVERSITY or COLLEGE or the DEPARTMENT with no less than thirty (30) days prior written notice to the other party. It will not be cancelled or otherwise terminated by the UNIVERSITY or COLLEGE with regard to any PERMIT which has already been issued or activity which has already been undertaken.

BE IT FURTHER RESOLVED, that the following position(s) are authorized to apply to the Michigan Department of Transportation for the necessary permit to work within state trunkline right of way on behalf of the UNIVERSITY or COLLEGE.

<table>
<thead>
<tr>
<th>Name</th>
<th>and/or</th>
<th>Title</th>
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<tbody>
<tr>
<td>Site Engineer</td>
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<tr>
<td>Director of Engineering Services</td>
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<td>Executive Director of Facilities Management</td>
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<tr>
<td>Vice President for Administration</td>
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</tbody>
</table>

I HEREBY CERTIFY that the foregoing is a true copy of an agreement adopted by the UNIVERSITY or COLLEGE, Michigan Technological University (Name of UNIVERSITY or COLLEGE Authorized Represent)

In accordance with and as authorized by Board of Trustees Policy 11.13-Signing Contracts and Other Legal Documents.

Signed: [Signature]
Title: President

Print Name: Glenn D. Mroz