REQUEST FOR QUOTATION	TROY SCHOOL DISTRICT	REQUISITION
No. 9418		
DUE DATE NO LATER THAN 5-30-07 3 p.m.	1140 RANKIN, TROY, MICHIGAN 48083 248-823-4052 FAX: 248-823-4077	DATE 5-14-07

REQUEST FOR QUOTE – NOT AN ORDER

THIS FORM MUST BE UTILIZED WHEN RESPONDING TO THIS REQUEST
BID ENVELOPE ENCLOSED

THE RFQ NUMBER MUST APPEAR ON ALL QUOTATIONS AND RELATED CORRESPONDENCE, THIS IS NOT AN ORDER

Quantity	DESCRIPTION	UNIT PRICE	AMOUNT
	Please provide us with your bid to furnish the Troy School District with PAVING for Smith Middle School and Troy High School per the attached specifications. Each bid shall be accompanied by a certified check, cashier's check, money order or bid bond made payable to the Troy School District in an amount not less than five percent (5%) of the base bid as a Bid guarantee. The successful bidder shall provide a Labor and Material Payment Bond and a Performance Bond, each in the amount of one hundred percent (100%) of the contract amount. FACSIMILE BID IS NOT ACCEPTABLE Bids will not be accepted if submitted after the deadline specified (local time) in the advertisement to bid or in the information to bidders. The late submission of a bid makes the bid nonrepsonsive and is a material defect which shall not be waived by the Board of Educations. Delays in the mail will not be considered. All Late bids in the mail Will be returned to the bidder unopened. Proposal for the submission of alternatives by vendors will be accepted and reviewed. However, if any substitution or departure is not clearly noted and described, it will be understood that the bid intends to exactly meet the specifications. The Board of Education shall be the sole judge as to whether the proposed goods are “equal” or “approved”. Quotations must be mailed or delivered to the Purchasing Office, 1140 Rankin, Troy, MI 48083 no later than 3 p.m. on the date shown above. Michigan State Sales and Use Taxes and Federal Excise Taxes do not apply unless otherwise indicated. Exemption certificates will be furnished when necessary. This request imposes no obligations on the buyer. The Board of Education reserves the right to accept or reject any or all bids or to split awards by items or to accept bids, which will best serve the Board of Education.		

THIS AREA MUST BE FILLED IN

DELIVERY TIME	PRICES FIRM FOR	NAME OF COMPANY	TELEPHONE NO.
TERMS		NO. & STREET	FAX #
FOB DELIVERED	ALL DELIVERY CHARGES MUST BE INCLUDED IN PRICES SHOWN	CITY, STATE & ZIP CODE	E-MAIL
CONTACT PERSON (PLEASE PRINT)		SIGNATURE	DATE

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____(the "Bidder), pursuant to the familial disclosure requirement provided in the _____ (the "School District") advertisement for construction bids, hereby represent and warrant except as provided below, that no familial relationships exist between the over(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

_____

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 2007, by

_____.

_____

, Notary Public

_____County, Michigan

My Commission Expires: _____

Acting in the County of: _____

Troy School District
Bid# 9418
Paving
Smith Middle School
Troy High School

The Troy School District is accepting competitive bids for the paving at two of its sites. Smith Middle School located at 5835 Donaldson and Troy High School located at 4777 Northfield Parkway.

ADVERTISEMENT TO BID

The **Troy School District** is seeking bids for Paving for Smith Middle School and Troy High School for Bid Package No. 9418. Bid Proposals will be received by the Troy School District, 1140 Rankin, Troy, MI 48098 delivery or mail, to the attention of Frank Lams by 3:00 p.m. local time on Wednesday, May 30, 2007. Proposals must be sealed with Bidder's name on the outside of the envelope and designated as follows:

Sealed Proposal
Paving
Bid Package No. 9418
Contractor Name, Address, Phone Number

Proposals shall be based on the requirements set forth below and Specifications and Construction Documents prepared by Kingscott Associates.

BID PACKAGE NO. 9418 PAVING

Accepted Bidders will be required as a condition precedent to award of Contract, to furnish in the amount of 100% of the contract price, satisfactory Performance Bond and Payment bond and Certificates of Insurance as required.

Bid proposals will be publicly opened immediately following receipt of bids by the Troy School District, and evaluated by the District.

The District shall not open, consider, or accept a Bid Proposal that is received after the date and time specified for bid submission in this Advertisement for Bids.

Bidding Documents will be available for examination and distribution on or after Wednesday, May 14, 2007. Examination may be made at the following locations:

- Troy School District, Purchasing Dept, 1140 Rankin, Troy, MI 48083

Bid specifications will also be available for free download at the District's website:
www.Troy.k12.mi.us/Purchasing/Items_for_bid.htm

Bid proposals shall be on forms furnished by Troy School District. Bidders will be required to submit with their Bid Proposals, a notarized Familial Relationship Disclosure From included within this bid document, a Bid Security by a qualified surety authorized to do business in the State of Michigan where the Project is located, an OSHA Form300 for the most recent completed year, their worker's compensation Experience Modification Rate (EMR) factor, and any other information required in the Instructions to Bidders. Bidder shall not withdraw a Bid Proposal for a period of **forty-five (45)** Days after date for receipt of Bid Proposals.

The successful Bidder(s) will be required to enter into an agreement with Troy School District on the Agreement Form identified. The right to accept or reject any or all Bid Proposals, either whole or in part, to waive any information or irregularities therein and to award the contract to other than the low bidder is reserved by Troy School District.

All Bid Proposals shall be accompanied by the sworn and notarized statement included, disclosing any familiar relationship that exists between the District or any employee of the bidder and any member of the School Board or the superintendent of the School District. Bid proposals that do not include this sworn notarized disclosure statement will not be considered accepted.

Proposal Submittal:
All proposals for the work outlined hereunder are due no later than 3:00 pm on Wednesday, May 30, 2007 at the Troy School District's Purchasing Office, 1140 Rankin, and Troy MI 48083. NO PROPOSALS WILL BE ACCEPTED AFTER THIS TIME. All proposals MUST be in a sealed envelope clearly marked "SMITH MIDDLE SCHOOL, TROY HIGH SCHOOL PAVING BID# 9418". Facsimile bids are NOT acceptable.

All proposals must include a signed and notarized "Statement of Familial Disclosure". Any proposal which does not include this statement signed and notarized will be considered incomplete and will be rejected.

The successful bidder and its subordinate parties shall comply with the Prevailing Wage requirements for all work as required by the State of Michigan Public Act 166 dated 1965 as amended. The prevailing wage and fringe benefit rates are included in Appendix A.

END OF ADVERTISEMENT

Troy School District Paving Bid
Specifications and Instructions

The Troy School District is accepting competitive bids for the paving at two of its sites. Smith Middle School located at 5835 Donaldson and Troy High School located at 4777 Northfield Parkway.

The paving at Smith will consist of the following:

1. New asphalt extension (approx 20feet to the west of the rear lot), seal coating the existing lot, relocating of cement parking blocks and addition of new as necessary and stripping of the entire lot per the prints.

    a. Excavate are to an average depth of 24 inches and legally dispose of material.
    b. Install Mirafi 500 Geotextile Fabric or equivalent on subgrade.
    c. Install 8 inches of 21AA limestone compacted in 2 lifts.
    d. Install and compact 2 inches 3C hot mix asphalt.
    e. Install tack coat.
    f. Install and compact 2 inches 4C hot mix asphalt.

    NOTE: Clean cut of existing asphalt to be included for butt joint.

2. Existing Lot

    a. Grind existing striping.
    b. Power clean lot.
    c. Apply 2 coats of sealcoat per manufacturers' specifications.
    d. Stripe lot
    e. Relocate 30 existing parking blocks with steel pins.

The paving at Troy High School will consist of the following;

1. Milling of all roadways and parking areas.

    a. Mill 2 inches of existing roadways and parking lots, and legally dispose of.
    b. Power clean surfaces.
    c. Apply tack coat.
    d. Wedge low spots as necessary with 4C hot mix asphalt (varying thickness) to be included.
    e. Lay and roll 2 inch 4C hot mix asphalt.
    f. Stripe roads and lots.

2. New construction areas in front entrance circle and at football field lot and adjacent areas as referenced on the prints.

    a. Excavate existing concrete curb and legally dispose of.
    Note: Brick pavers in new construction area of circular drive are to be palletized and returned to owner in good condition.

    b. Excavate new parking area to an average depth of 18 inches and legally dispose of.
    c. Install Mirafi 500 Geotextile Fabric or equivalent on subgrade.
    d. Install and compact 8 inches of 21AA limestone compacted in 2 lifts.
    e. Install 18 inch concrete curb and gutter with 3 continuous runs of #4 reinforcing bars.
    f. Install 4 inch concrete sidewalk with 6 inches of 21AA limestone bedding.
    g. All concrete sidewalk to be 4,000 psi with white waterborne membrane forming curing compound ASTM C 309, Type 2, Class B.
    h. Fine grade and compact aggregate base.
    i. Lay and roll 2 inch 3C hot mix asphalt.
    j. Apply tack coat.
    k. Lay and roll 2 inch 3C hot mix asphalt.
    l. Stripe.
    m. Restoration of all adjacent areas.

3. Unit Prices

    a. 4 inch removable and replacement in 2 lifts after milling procedure--$____S.F.
    b. Undercutting with 21AA limestone base----------$____C.Y.
    c. 1 foot vertical rebuild of catch basins----------$____Per.
    d. Mirafi 500 Geotextile Fabric installed----------$____S.Y.

4. General Notes

    a. No trucks with a tri-axle weight loaded of 54,000 lbs. will be allowed on the site.
    b. Paving work on the Smith Middle School prints is in reference to the back parking lot only. No other paving or cement work on these prints is included in the bid. This work can begin the week of June 18, 2007 and must be done no later than August 17, 2007.
    c. Work at Troy High School is as noted on the prints and some interface with the Barton Mallow construction project for the football stadium will be necessary.
    d. The paving and cement work at Troy High will be done in three phases. Phase 1 will consist of work beginning at the Northfield Parkway entrance and include the drive and parking lot in front of the school, the roadway to the stop sign North of the Auditorium and the teachers lot and roadway to the North. Phase 2 will include the entrance road from Long Lake to the stop sign in front of the Auditorium and the student lot adjacent to the tennis courts. Phase 3 will include paving of the lot immediately North of the stadium and is to include all new areas indicated on the drawings plus the road and area down to and including the receiving area.
    e. Phase 1 work can begin on June 18, 2007, followed by Phase 2 and Phase 3 can begin on August 1, 2007 and must be complete d by August 8, 2007. All work including striping to be completed by August 17, 2007.

Cost Submission:

Contractor's price for selective Paving as outlined in the above specifications and accompanying drawings is as follows for Smith Middle School: Base Bid

$_____ written as: _____

_____.

Contractor's price for selective Paving as outlined in the above specifications and accompanying drawings is as follows for Troy High School: Base Bid

$_____ written as: _____

_____.

NOTES TO BIDDERS:

Electronic copies of CAD drawings of the requested work will not be provided by Architect or Owner for contractor's usage in preparing submittals.

Bidder has carefully read, reviewed and understands the bidding Documents and its bid Proposal is made in accordance therewith.

Bidder's Bid Proposal is based upon the materials, systems and equipment required by the Bidding Documents without exception.

Bidder certifies that it has examined the Project site, has carefully reviewed the Bidding and Contract Documents, has compared its examination of the Project site with the Bidding and Contract Documents, including the Drawings and Specifications, and is satisfied as to the condition of the Project site, any surface or subsurface obstruction, removal and demolition measurements and quantities involved in the Work, and is familiar with conditions of the Project area, and has taken account of all of these factors in preparing and presenting its Bid Proposal. Bidder further certifies that is has fully acquainted itself with the character and extent of the District' and other contractor's operations in the area of the Work, and it has taken account of coordination of operations of others its construction plans set forth in the Bid Proposal. No change orders will be issued to the **Contractor**, for, or on account of, costs or expenses occasioned by its failure to comply with the provisions of this paragraph, or by reason of error or oversight on the part of the **Contractor**, or on account of interferences by the District or other contractor's activities.

The Bidder, by submitting its bid Proposal, represents that it has carefully reviewed the project schedule, along with the related requirements Schedule and Phasing, and acknowledges that these are acceptable and have been taken into account in preparing its Bid Proposal.

Bidders may obtain Bidding Documents pursuant to the requirements in the **Advertisement to Bid.**

Bidders shall use complete sets of bidding Documents in preparing bid Proposals. Neither the District nor the Architect shall be responsible for errors, omissions or misinterpretations resulting from the bidder's use of partial sets of Bidding Documents.

Copies of the bidding Documents are being made available on the above terms for the purposes of obtaining Bid Proposals for the Work only. Bidders shall not use the bidding Documents for any other purpose. Neither the District nor the Architect warrants the completeness of the Bidding Documents.

The Contractors shall be responsible to review bid Documents before start of construction and bring any items that could be considered errors or omissions to the attention of the District. Any error omission items discovered after start of construction shall be the responsibility of the Contractor if determined to be reasonable by the District.

Bidder shall promptly notify the District of all ambiguities, inconsistencies, or errors that it may discover upon examination of the bidding Documents or upon examination of the Project site and local conditions.

Bidders requesting clarification or interpretation of the bidding documents shall make a written request, which shall reach the District at least five (5) days prior to the date for receipt of Bid Proposals. Direct all questions to:

Troy School District
Purchasing Department
1140 Rankin Street
Troy, MI 48083

Any Interpretation, correction, or change of the Bidding Documents will be made by Addendum, Interpretations, corrections, or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretation, corrections, and changes. Addenda will be mailed, faxed or delivered to all who are known to have received the Bidding Documents.

Addenda will be mailed, faxed or delivered to all who are known by the District to have a complete set of Bidding Documents. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

No addenda will be issued later than **three (3)** days prior to the date for receipt of Bids except an Addendum withdrawing the request for bid Proposals.

Each Bidder shall ascertain prior to submitting its bid Proposal that it has received all Addenda issued, and it shall acknowledge its receipt in the proper location on the bid Proposal.

Each Bidder must bid on all Alternates listed in the Bid Proposal that are applicable to its Bid. Alternates will be fully considered in awarding the Agreement.

Troy School District shall be allowed a period of **forty-five (45)** Days after date of receipt of the Bid Proposals to exercise the right to accept or reject any or all Alternates submitted on the Bid Proposal.

Successful Bidder shall perform all Work required for complete execution of accepted Alternates, and the Bid Proposal shall include all overhead and profit for the Work required.

All Bid Proposals must be based upon the Contract documents. In addition to a Base bid Proposal, the submission of voluntary alternates is acceptable and encouraged.
If a voluntary Alternate is submitted for consideration, it shall be expressed on the bid form as an add or deduct amount from the Base Bid. If a voluntary Alternate is submitted, the Bidder shall also submit sufficient information in the form of drawings, specifications, test data, delivery dates, scheduling issue considerations, and all other information necessary and sufficient for analysis of the Alternate. The District reserve the right to unilaterally accept or reject voluntary Alternates and to determine if the voluntary Alternates will be considered in the awarding of the Agreement.

Successful Bidders shall perform all Work required for complete execution of accepted Unit Prices, and such Unit Prices shall include all overhead and profit for the Work required.

This Project is subject to state Sales Tax and/or Use Tax and the Bidder's Bid Proposal shall include all applicable sales and use tax.

All bidders shall ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, national origin, age, marital status, sexual orientation or disability and in conformance with local, state and federal laws, regulations and ordinances.

PREVAILING WAGES – The successful Bidder and its Subordinate Parties shall comply with the Prevailing Wage requirements.

Bid Proposals shall be submitted triplicate on the bid Proposal Form included.

All blanks on the Bid Proposal Form shall be filled.

Where so indicated by the makeup of the Bid Proposal Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern.

All interlinear marks, alterations or erasures shall be initialed by the signer of the Bid Proposal.

All requested Alternates and/or Unit Prices shall be bid. A dollar amount of each Alternate and/or Unit Price in both words and numerals, even if the amount is $0.00, shall be included. Terminology such as "No Bid", "Not Applicable", "No Change" or "Does Not Apply" shall not be used. If the Alternate and/or Unit Price do not apply to the bidder, an amount of $0.00 shall be included.

Each copy of the bid Proposal shall include the legal name of the bidder and a statement that the Bidder is a sole proprietor, a partnership, a corporation, or some other legal entity. Each copy shall be signed by a person or persons legally authorized to bind the Bidder to a contract of the size and scope of the Agreement. A Bid Proposal by a corporation or LLC shall further indicate the state of incorporation or registration. A Bid Proposal submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the bidder.

The Work of an individual Bid Category described in these documents is the sole responsibility of the successful Bidder that Bid Category. Bids will only be accepted on the full scope of Work outlined by this Bid package/Bid Category.

Each Bid Proposal received shall be in strict conformity with requirements of the bidding Documents, including, but not limited to, the Description of the Work/Special Provisions, Work Scopes and Scheduling information.

Bid security in the form of a bid bond issued by a qualified surety, certified check or casher's check in the amount of five percent (5%) of the Base bid amount will be required, at the time of submission of the Bid Proposal. Bid bonds, shall be duly executed by the Bidder, as principal and by a surety that is properly licensed and authorized to do business in the state in which the Work is to be performed.

All sureties providing bonds for the Project must be listed in the latest version of the Department of Treasury's Circular 570, entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies", with the bond amount less than or equal to the underwriting limitation, and/or have an A.M. best rating of A-or better.

Bid bond shall pledge that the Bidder, with the understanding that if its Bid Proposal is accepted, will enter into the Agreement with the **Troy School District** for any of the bid Category (ies) accepted from its Bid Proposal and will, if required, furnish performance and payment bonds covering the faithful performance of the Agreement and payment of all obligations arising there under. The attorney-in-fact, who signs the surety bond, must submit along with the bond, a certified and effectively dated copy of his/her power of attorney.

Bid bond from AIA Document A301 is approved for use on the Project.

The bid security obliges shall be **Troy School District** and the amount of the bid security shall become **their** property in the event that the Bidder fails, within **Ninety (90)** days of notice of award or receipt of the Agreement form, to execute the Agreement and deliver the performance and payment bonds as described. In such case, the bid security shall be forfeited to **Troy School District** as liquidated damages, not as a penalty.

The District will have the right to retain the bid security (ies) of Bidders to whom an award is being considered until either (1) the Agreement has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bid Proposals may be withdrawn, or (c) all bid proposals have been rejected.

Bid security will be returned to successful Bidders after the Agreement has been executed and acceptance of required performance and payment bonds. The bid security of Bidders that are not under consideration for award of the Agreement will be returned to those bidders.

All copies of the Bid Proposal, the bid security and any other documents required to be submitted with the Bid Proposal shall be enclosed in a sealed opaque envelope.
The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, if applicable, the designated portion of the Work for which the Bid Proposal is submitted. If the Bid proposal is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face of the envelope.

Bid Proposals shall be deposited at the designated location prior to the time and date for receipt of Bid Proposals indicated in the **Advertisement to Bid.** Bid Proposals received after the date and time for receipt of bids will be returned unopened.

The bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bid Proposals.

Oral, telephonic, facsimile, emailed, or telegraphic Bid Proposals or bid securities are invalid and will not receive consideration.

A Bid Proposal may not be modified, withdrawn or canceled by the bidder after the stipulated time period and date designated for the receipt of Bid Proposals, and each bidder so agrees in submitting its Bid.

Prior to the time and date designated for receipt of Bid Proposals, and Bid Proposal submitted may be modified or withdrawn by notice to the party receiving bid Proposals at the place designated for their receipt. Such notice shall be in writing over the signature of the Bidder.

Withdrawn Bid Proposals may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these instructions to Bidders.

Bid Proposals received on time will be opened publicly.

Bid Proposals shall be held open and irrevocable for **Forty-five (45)** Days after the date of receipt of bids.

Troy School District shall have the right to reject any or all Bid Proposals and to reject a Bid Proposal not accompanied by the required bid security or by other information required by the Bidding Documents, or to reject a bid Proposal which is in any way incomplete or irregular.

Bid Proposals are considered irregular and may be rejected for any of the following reasons unless otherwise provided by law:

1. If Bid Proposal Form furnished is not used or is altered.

2. If there are unauthorized additions, qualified or conditional Bid Proposals or irregularities of any kind which may make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning.

3. If Bidder adds any provisions reserving right to accept or reject any award, or enter into the Agreement pursuant to an award.

4. If Unit or Lump Sum prices or Alternates contained in the Bid Proposal are obviously unbalanced either in excess of, or below, reasonable cost analysis values.

5. If Bidder fails to complete the Bid Proposal Form where information is requested so the Bid Proposal form cannot be properly evaluated.

6. Bidder is deemed to not be the Lowest Responsive, Responsible Bidder by definition and prevailing statues.

7. Bidder does not submit with its Bid Proposal a sworn and notarized statement of Familial Disclosure.

It is the intent of the **Troy School District** to award the Agreement to the Lowest Responsive and Responsible Bidder provided the Bid Proposal has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. **Troy School District** shall have the right to waive any informality or irregularity in any Bid Proposal received and to accept Bid Proposals, which in its judgment, are in its own best interest which includes not awarding to the low bidder. **Troy School District** reserves the right to reject any Bid Proposal in its sole discretion except where otherwise provided by law.

Troy School District shall have the right to accept Alternates in any order or combination and to determine the low bidder on the basis of the sum of the base bid, Voluntary Alternates, and Alternates accepted.

Troy School District shall have the right to accept combination bids from a Bidder for more than one Bid Category.

To the extent that theses instructions to Bidders and applicable public bidding laws, rules, regulations or ordinances conflict with each other, the provisions of the applicable bidding laws, rules, regulation or ordinances shall govern.

After the bids are received tabulated, and evaluated, the apparent low bidders if so requested by the District and/or Architect shall meet with the Architect at a post-bid meeting for the purpose of determining completeness of scope and any contract overlaps or omissions. If requested, the Bidder shall submit additional qualification forms or other information as required in the instructions to Bidders. The bidder will provide the following information at the post-bid meeting:

1. Designation of the Work to be performed by the Bidder with its own forces including manpower for the **Contractor** and that of its Subordinate Parties.

2. Detailed cost breakdown of the Bidder's Bid Proposal including labor, equipment and material unit prices.
3. A list of names of the Subordinate Parties proposed for the principal portions of the Work.

4. The proprietary names and suppliers of principal items of systems of materials and equipment proposed for the Work.

5. The names and backgrounds of the Bidder's key staff members including superintendent and assistants. Bidder shall be requested to establish the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the bidding Documents.

6. Commitment to construction schedules, identification of items requiring long lead deliveries and manpower information.

PERMITS:

Contractor shall provide and pay for all permits, assessments, governmental fees, bonds, connection charges, licenses and inspection fees and any other charges necessary for the proper execution and completion of the **Contractor's** Work.

Contractor is to provide, pay for and coordinate all other permits, fees, inspections, and city, county, state, federal and governing authority approvals required for the successful completion of the Work.

PREDEMOLITION:

PERFORMANCE BONDS AND PAYMENT BONDS

Troy School District will, require Contractor to furnish a Performance Bond and a Payment Bond, in amounts equal to the Agreement price, by a qualified surety naming the Owner as Obligees.

All Sureties providing bonds on this Project must be listed in the Department of Treasury's Circular 570, entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" with the bond amounts less than or equal to the underwriting limitation indicated in the Circular, and/or must have A. M. Best rating of A – or better. Bonds shall be duly executed by the Contractor, as principal, and by a surety that is licensed in the state in which the Work is to be performed.
The Contractor shall deliver the required bonds to Troy School District to execution of the Agreement. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder, at a minimum shall submit evidence to the satisfaction of Troy School District that such bonds will be furnished prior to commencement of on site Work. In no event may the Contractor commence on-site Work without the required bonds properly issued and delivered.

Performance Bond and Payment Bond form AIA Document A312 (1984 Edition) must be used for this Project.

The Bidder's proposed surety must be acceptable to the Owner. If, at any time, after acceptance of the **Contractor's** bonds, the surety fails to meet the criteria stated in the paragraph above, the **Contractor** must, as a precondition to continuing Work and receiving further payments, replace the bonds with bonds from a surety that meets the stated criteria.

The Performance and Payment bond penal sums (i.e. the Agreement price) must be listed as a separate line item in the schedule of values.

In the event of a Change Order to the Agreement that increases the Agreement price, the penal sum of any required Performance and Payment Bonds shall also be increased so that each penal sum equals the adjusted Agreement price, or such other percentage of the Agreement price. Owner shall have the right to request submission of bond riders, issued by the original qualified surety, evidencing that such increase to the penal sum of the bonds has been accomplished. Notwithstanding the foregoing, in the next pay application after the Agreement price has been increased by twenty-five percent (25%) or more, as a condition precedent to payment, Contractor shall deliver a bond rider issued by the original qualified surety evidencing that the appropriate increase in penal sums has been accomplished.

INSURANCE:
As a condition of performing work under this Project, Contractor will keep in force, at all times during performance of the Work, policies of insurance covering all Basic Insurance Requirements and any applicable Supplemental Insurance Requirements. The requirements identified below are minimum requirements. If the Agreement or other Contract Documents impose additional or higher standards. Contractor shall meet those as well. Where a Controlled Insurance Program ("CIP") is specified in the Contract Documents, these insurance requirements shall not apply to coverage's supplied by the CIP, but shall apply to coverage's which Contractor is required to carry outside the scope of the CIP.

Basic Insurance Requirements

Workers' Compensation covering Contractor's statutory obligations in the State(s) in which the Work is to be performed or Federal statutory obligations, if applicable to the Project and Employers' Liability insurance with minimum limits of liability of $1,000,000 per accident. Where applicable, a US Longshore and Harborworker's Compensation Act endorsement must be included.

If Contractor employs the services of leased employees for the Work or for a portion of the Work, it will be required to submit evidence, to the satisfaction of the Troy School District, that such leased employees are fully covered by the minimum limits of Workers' Compensation and Employers' Liability Insurance. Such evidence shall include, but not be limited to, submission of the applicable leasing agreement.

Automobile Liability insurance with the minimum limit of $1,000,000 per accident covering Contractor's owned, non-owned and hired automobiles.

Commercial General Liability Insurance written on the 1988 ISO OCCURRENCE policy form or subsequent versions with the minimum limits of liability as follows:

General Aggregate	$2,000,000
Products-Completed Operations Aggregate	$2,000.000
Personal/Advertising Injury	$2,000,000
Each Occurrence	$2,000.000

This coverage shall include coverage for premises-operations, independent contractors' protective products and completed operations, personal injury and broad form property damage (including coverage for explosion, collapse, and underground hazards), and Contractual Liability protection with respect to Contractor's indemnification obligations under the Contract Documents. Products-completed operations coverage must be maintained for at least two years after final completion of the Project.

General Provisions

Every policy must be written by an insurance company licensed in the state of Michigan and is reasonably acceptable to the Troy School District. For Employer's Liability, Commercial General Liability and Automobile Liability may be attained by a combination of an underlying policy with an umbrella or excess liability policy.

The Troy School District shall be endorsed as additional insured's on Contractor's liability insurance (including general liability, excess liability, automobile liability and pollution liability, where applicable, with respect to liability arising out of activities performed by or on behalf of Contractor. The coverage provided by the additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc.'s Additional insured, Form B CG 20 10 11 85 or CG 20 26 11 85. Forms that do not provide additional insured status for completed operations will not be accepted.

Contractor will furnish, before any work is started, certificates of insurance showing the required coverage's Receipt by Troy School District of a non-conforming certificate of insurance without objection, or Troy School District's failure to collect a certificate of insurance, shall not waive or alter Contractor's duty to comply with the insurance requirements. Modifications to these insurance will not be effective unless made in a writing executed by an authorized representative of the Troy School District. Upon written requested by Troy School District. Contractor will provide copies of its insurance policies.

Evidence of the required insurance is to be provided to Troy School District on ACORD Certificate Form 25-S and must indicate:

Any coverage exclusions or deviations from the 1988 ISO commercial general liability form or subsequent versions.

Best's rating for each insurance carrier at A minus VII or better.

That the issuing insurance company will provide thirty (30) days written notice of cancellation to the certificate holder and the words "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" do not apply or have been removed.

That additional insured endorsements have been provided as required under the Contract Documents.

Any deductibles over $10,000 applicable to any coverage.
All coverage must be primary and not excess over or contributory with any other valid, applicable and collectible insurance in force for Troy School District, or other insured's.

Contractor will provide full coverage for all of Contractor's equipment, property and tools used in the Work.

Contractor shall waive, and shall require (by endorsement or otherwise) its insurers providing the coverage required by these insurance requirements to waive, subrogation rights against Troy School District, and all other additional insured's for losses and damages incurred and/or paid under the insurance policies required by these insurance requirements or other insurance applicable to Contractor or its Subordinate Parties, and will include this same requirement in contracts with its Subordinate Parties. If the policies of insurance referred to in this paragraph require an endorsement to provide for continued coverage where there is a waiver of subrogation, the owners of each policies will cause them to be so endorsed.

Contractor will send or fax a copy of these insurance requirements to its agent when an insurance certificate is requested to assure that the policies comply with the insurance requirements.

If Contractor requires its Subordinate Parties to provide additional insured endorsements in favor of Contractor, those endorsements shall be extended to Troy School District and all other required additional insured's.

Contractor's duty to provide the insurance coverage set forth in these insurance requirements is a severable obligation from Contractor's indemnification obligations under the Contract Documents. Nothing in these insurance requirements shall be deemed to limit Contractor's liability under the Agreement.

Temporary Security and Controls:

Contractor is required to enclose worksite consisting of area around contractor's equipment and potential debris field (including waste hauling container). Contractor is required to establish safety barrier to ensure non-accessibility by unauthorized personnel both during construction and after hours. Barrier should also include appropriate signage.

Temporary Fire Protection:

Contractor shall maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fires losses. Such measures must include; Prohibiting smoking by all personnel on school grounds; supervise welding and/or cutting operations and similar sources of fire ignition; provide temporary fire extinguishers during all welding and/or cutting operations.

PRODUCTS

MATERIALS

General: Comply with requirements specified in other Sections.

In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance or in-place materials.

EXECUTION

PREPARATION

Protection: Protect in-place construction during cutting to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

SECTION 02920
LAWNS AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Seeding.

B. Related Sections include the following:

1. Division 2 Section "Site Clearing" for topsoil stripping and stockpiling.
2. Division 2 Section "Earthwork" for excavation, filling and backfilling, and rough grading.

1.3 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

C. Qualification Data: For landscape Installer.

D. Planting Schedule: Indicating anticipated planting dates for each type of planting.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful lawn establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

1.7 SCHEDULING

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

1. Spring Planting: April 15 through May 15.
2. Fall Planting: August 15 through September 15.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

1.8 LAWN MAINTENANCE – GENERAL LAWN AREAS

A. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Seeded Lawns: 60 days from date of Substantial Completion.

a. When full maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

B. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.

1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.

C. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches (100 mm) .

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.

2. Water lawn at a minimum rate of 1 inch (25 mm) per week.

D. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

1. Mow grass 2 to 3 inches (50 to 75 mm) high.

E. Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

PART 2 - PRODUCTS

2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 98 percent pure seed, and not more than 0.5 percent weed seed:

General Seed Mix:

Species	Mix	Purity	Germination
Annual Rye	10%	98%	95%
*Perennial Rye	30%	98%	95%
Creeping Red Fescue	20%	98%	95%
**Turf Type Tall Fescue	40%	98%	95%

*Note: Provide a minimum of two varieties of Perennial Rye from the following list: Affinity, APM, Buccaneer, Nighthawk, Partner, Saturn, Seville.

**Note: Provide a minimum of two varieties of Turf Type Tall Fescue from the following list: Jubilee, Veranda, Morgan, Stagecoach.

2.2 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch (25 mm) or larger in any dimension and other extraneous materials harmful to plant growth. Topsoil for competition and practice fields shall be screened to eliminate all stones.

1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.

a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from bogs or marshes.

2.3 PLANTING ACCESSORIES

A. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application.

2.4 FERTILIZER

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

2.5 MULCHES

A. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic; free of plant-growth or germination inhibitors; with maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

B. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

2.6 EROSION-CONTROL MATERIALS

A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect adjacent and adjoining areas from hydromulch overspray.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 LAWN PREPARATION

A. Limit lawn subgrade preparation to areas to be planted.

B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 6 inches (150 mm). Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Spread planting soil mix to a depth of 6 inches (150 mm) but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 2 inches (50 mm) of subgrade. Spread remainder of planting soil mix.

C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch (13 mm) of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

E. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.4 DRILL SEEDING / HYDROMULCHING

A. Sow seed with a Brillion or equivalent drill seeding machine. Do not broadcast or drop seed. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

1. Do not use wet seed or seed that is moldy or otherwise damaged.

B. Sow seed at the rate of 8 lb/1000 sq. ft. (3.6 kg/92.9 sq. m) .

C. Rake seed lightly into top 1/8 inch (3 mm) of topsoil, roll lightly, and water with fine spray.

D. Hydromulch within 24 hours after completing seeding operations. Combine Tupersan (or equivalent) with hydromulch to control weeds during establishment period.

1. Mix specified fertilizer and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
2. Apply slurry uniformly to all seeded areas in a one-step process. Apply mulch at a minimum rate of 1500-lb/acre (15.3-kg/92.9 sq. m) dry weight.

3.5 LAWN RENOVATION

A. Renovate existing lawn damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.

1. Reestablish lawn where settlement or washouts occur or where minor regrading is required.

B. Remove sod and vegetation from diseased or unsatisfactory lawn areas; do not bury in soil.

C. Remove topsoil containing foreign materials resulting from Contractor's operations, including oil drippings, fuel spills, stone, gravel, and other construction materials, and replace with new topsoil.

D. Mow, dethatch, core aerate, and rake existing lawn.

E. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.

F. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.

G. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches (150 mm).

H. Apply seed and hyrdromulch as required for new lawns.

I. Water newly planted areas and keep moist until new lawn is established.

3.6 SATISFACTORY LAWNS

A. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm) .

B. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.7 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

C. Remove erosion-control measures after grass establishment period.

END OF SECTION 02920

SECTION 02230
SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Protecting existing trees, plants and grass to remain.
2. Removing existing trees, plants and grass.
3. Clearing and grubbing.
4. Stripping and removing topsoil.
5. Salvaging above-grade site improvements for re-use on site.
6. Removing above- and below-grade site improvements.
7. Disconnecting, capping or sealing, and abandoning site utilities in place.
8. Removing site utilities.
9. Temporary erosion and sedimentation control measures.

B. Related Sections include the following:

1. Division 2 Section "Earthwork" for soil materials, excavating, backfilling, and site grading.

1.3 MATERIAL OWNERSHIP

A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.4 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

C. Utility Locator Service: Notify Owner before site clearing.

D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS (Not Applicable)

2.1 SOIL MATERIALS

A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Earthwork."

1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly flag trees and vegetation to remain or to be relocated.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

D. Burning: Burning is not permitted.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE PROTECTION

A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.

1. Do not store construction materials, debris, or excavated material within fenced area.
2. Do not permit vehicles, equipment, or foot traffic within fenced area.

B. Do not excavate within tree protection zones, unless otherwise indicated.

C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

1. Cover exposed roots with burlap and water regularly.
2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
3. Coat cut faces of roots more than 1-1/2 inches (38 mm) in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.
4. Backfill with soil as soon as possible.

D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Construction Manager.

3.4 UTILITIES

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Construction Manager not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Construction Manager's written permission.

B. Excavate for and remove underground utilities indicated to be removed.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

1. Where asphalt or concrete pavements are to be removed, sawcut cleanly; for concrete, sawcut to nearest joint.

3.8 DISPOSAL

A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 02230

SECTION 02741
HOT-MIX ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Cold milling of existing hot-mix asphalt pavement.
2. Hot-mix asphalt paving.
3. Parking lot pavement-marking paint.

B. Related Sections include the following:

1. Division 2 Section "Earthwork" for aggregate subbase and base courses and for aggregate pavement shoulders.

1.3 DEFINITIONS

A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.

B. MDOT: Michigan Department of Transportation.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

B. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

C. Qualification Data: For firms and persons specified in the “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project name and addresses, manes and addresses of architects and owners, and other specified information.

1.5 QUALITY ASSURANCE

A. Installer's Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Manufacturer's Qualifications: Engage a firm experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with a record of successful in-service performance.

1. Firm shall be registered and approved paving mix manufacturer with authorities having jurisdiction or with the DOT of the state which Project is located.

C. Regulatory Requirements: Comply with MDOT's *Standard Specifications for Construction*, current edition, for asphalt paving work.

D. Asphalt-Paving Publication: Comply with AI MS-22, "Construction of Hot Mix Asphalt Pavements," unless more stringent requirements are indicated

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.

B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:

1. Tack Coat: Minimum surface temperature of 60 deg F (15.5 deg C).
2. Asphalt Base Course: Minimum surface temperature of 40 deg F (4 deg C) and rising at time of placement.
3. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.5 deg C) at time of placement.

B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F (4 deg C) for oil-based materials, 50 deg F (10 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C) .

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

1. Coarse Aggregate: ASTM D 692, sound, angular crushed stone, or crushed gravel.
2. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, or combinations thereof. Limit natural sand to a maximum of 20 percent (20%) by weight of the total aggregate mass.

2.2 ASPHALT MATERIALS

A. Asphalt Cement: ASTM D 3381 for viscosity-graded material; ASTM D 946 for penetration-graded material.

B. Reclaimed Asphalt Pavement (RAP) **shall not be allowed** in the surface course of any pavements.

C. Tack Coat: ASTM D 977, emulsified asphalt or ASTM D 2397, cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

D. Water: Potable.

2.3 AUXILIARY MATERIALS

A**.** Pavement-Marking Paint:

1. Alkyd-resin type, lead and chromate free, ready mixed, complying with FS TT-P-115, Type I or AASHTO M 248, Type N.
2. Color: White or yellow, as indicated, except blue for Barrier Free parking symbols.

B. Bond Coat: SS-1h emulsion.

2.4 MIXES

A. Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction**;** designed according to procedures in AI MS-2, "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types"; and complying with the following requirements:

1. Base Course: MDOT 1100L-20AA
2. Surface Course: MDOT 1100T-20AA

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.

B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

C. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.

1. Mill to a depth of 1-1/2 inches (38 mm) .
2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.
3. Control rate of milling to prevent tearing of existing asphalt course.
4. Repair or replace curbs, manholes, and other construction damaged during cold milling.
5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled hot-mix asphalt.
6. Transport milled hot-mix asphalt to asphalt recycling facility.
7. Keep milled pavement surface free of loose material and dust.

3.3 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

3.4 HOT-MIX ASPHALT PLACING

A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
2. Spread mix at minimum temperature of 250 deg F (121 deg C).
3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

D. A bond coat of SS-1h emulsion shall be provided between the base and surface courses when either 48 hours have elapsed between placement of the courses or the surface of the pavement has been contaminated with dire, dust, or foreign material.

3.5 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.
2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
3. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
4. Construct transverse joints as described in AI MS-22, "Construction of Hot Mix Asphalt Pavements."
5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.6 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F (85 deg C) .

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Average Density: 96 percent of reference laboratory density according to AASHTO D 1559, but not less than 94 percent nor greater then 100%.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot with back of rake of smooth iron. Compact thoroughly using tamper or other satisfactory method.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.7 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and pavement have been verified with Architect.

B. Allow paving to cure for 30 days before stating pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

3.8 INSTALLATION TOLERANCES

A. Thickness: Compact each course to produce the minimum thickness indicated. No minus tolerance is allowed.

B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 1/4 inch (6 mm) .

2. Surface Course: 1/8 inch (3 mm).

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.

1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.

B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.

D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

E. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

END OF SECTION 02741

SECTION 02751
CEMENT CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes exterior cement concrete pavement for the following:

1. Curbs, pavements and walkways.
2. Detectable warning devices at curb ramps.

B. Related Sections include the following:

1. Division 2 Section "Earthwork" for subgrade preparation and grading.

1.3 SUBMITTALS

A. Product Data: For each type of manufactured material and product indicated.

B. Design Mixtures: For each concrete pavement mixture. Include alternate mixture designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:

1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Admixtures.
4. Curing compounds.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed pavement work similar in material, design and extent to that indicated for the Project and whose work has resulted in construction with a record of successful in-service performance.

B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer’s plant and each aggregate from one source.

D. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.

E. Concrete Testing Service: Owner will engage a qualified independent testing agency to perform material evaluation tests.

1.5 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.

1. Use flexible or curved forms for curves with a radius 100 feet (30.5 m) or less.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420) ; deformed.

B. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60 (Grade 420) . Cut bars true to length with ends square and free of burrs.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the same brand and type of cementitious material from the same manufacturer throughout the Project:

B. Portland Cement: ASTM C 150, Type IA Portland type, gray color.

C. Aggregate: MDOT 6A Limestone.

1. Do not use fine or coarse aggregates containing substances that cause spalling.

D. Water: ASTM C 94.

2.4 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. White Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.

2.5 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

C. Detectable Warnings: Provide Armor-Tile, Cast In Place Truncated Dome Detectable Warning System as manufactured by Engineered Plastics, Inc., 300 International Drive, Suite 100, Williamsville, NY 14221, (800 682-2525), or approved substitute.
1. Color to be selected from manufacturer's standard list. Install per manufacturer's written recommendations and as detailed on the Drawings.

2.6 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.

1. Use a qualified independent testing agency for preparing and reporting proposed concrete mixture designs for the trial batch method.

B. Proportion mixtures to provide normal-weight concrete with the following properties:

1. Compressive Strength (28 Days): 4000 psi (27.6 MPa) .

2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.

3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm) .

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 4-1/2 percent plus or minus 1.5 percent for 1-inch (25-mm) nominal maximum aggregate size.

D. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

E. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 requirements.

2.7 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.
1. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C) , reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C) , reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrades and surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll as specified in other Division 2 sections.

C. Proceed with concrete pavement operations only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

3.5 JOINTS

A. General: Construct joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour, unless pavement terminates at isolation joints.

1. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip pavement, unless otherwise indicated.
2. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

3. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.

1. Locate expansion joints at intervals of 50 feet (15.25 m) , unless otherwise indicated.
2. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.

3. Terminate joint filler not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished surface if joint sealant, specified in Division 2 Section "Pavement Joint Sealants," is indicated.
4. Furnish joint fillers in one-piece lengths for full width being placed where possible. Where more than one length is required, lace or clip joint-filler sections together.
5. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool to the following radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces. **Sawed joints will not be accepted.**

a. Radius: 1/4 inch (6 mm) .

E. Edging: Tool edges of pavement and joints in concrete after initial floating with an edging tool to the following radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

1. Radius: 1/4 inch (6 mm) .

3.6 CONCRETE PLACEMENT

A. Inspection: Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast in. Notify other trades to permit installation of their work.

B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site.

F. Do not add water to fresh concrete after testing.

G. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

H. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

I. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
2. Do not use frozen materials or materials containing ice or snow.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mix designs.

J. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

K. Place concrete in two operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay welded wire fabric or fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.

1. Remove and replace concrete that has been placed for more than 15 minutes without being covered by top layer, or use bonding agent if approved by Architect.

L. Screed pavement surfaces with a straightedge and strike off.

M. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

N. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not approved, remove and replace with formed concrete.

O. Detectable Warnings: Install per manufacturer's written recommendations and as detailed on the Drawings.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:

1. Moist Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

a. Water.
b. Continuous water-fog spray.

c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm) , and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.9 PAVEMENT TOLERANCES

A. Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/4 inch (6 mm) .
2. Thickness: Plus 3/8 inch (10 mm) , minus 1/4 inch (6 mm) .
3. Surface: Gap below 10-foot- (3-m-) long, unleveled straightedge not to exceed 1/4 inch (6 mm) .
4. Joint Spacing: 3 inches (75 mm) .
5. Contraction Joint Depth: Plus 1/4 inch (6 mm) , no minus.
6. Joint Width: Plus 1/8 inch (3 mm) , no minus.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Tests will be performed according to ACI 301.

3.11 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.

B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 02751

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Troy School District
Paving
Smith Middle School
Troy High School

SECTION 02230
SITE CLEARING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
1. Protecting existing trees, shrubs, groundcovers, plants, and grass to remain.
2. Removing existing trees, shrubs, groundcovers, plants, and grass.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Temporary erosion and sedimentation control measures.

B. Related Sections include the following:
1. Division 01 Section "Execution" for verifying utility locations and for recording field measurements.
2. Division 02 Section "Selective Structure Demolition" for partial demolition of buildings or structures undergoing alterations.
3. Division 31 Section "Earth Moving" for soil materials, excavating, backfilling, and site grading.
4. Division 23 Section "Turf and Grasses and Plants" for finish grading including preparing and placing planting soil mixes and testing of topsoil material.

1.3 DEFINITIONS

A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches (50 mm) in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.

B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly flag trees and vegetation to remain or to be relocated.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to a sediment and erosion control plan, specific to the site, that complies with requirements of authorities having jurisdiction.

B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE PROTECTION

A. Erect and maintain temporary fencing around tree protection zones before starting site clearing.
Remove fence when construction is complete.

1. Do not store construction materials, debris, or excavated material within fenced area.
2. Do not permit vehicles, equipment, or foot traffic within fenced area.
3. Maintain fenced area free of weeds and trash.

B. Do not excavate within tree protection zones, unless otherwise indicated.

C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

1. Cover exposed roots with burlap and water regularly.
2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
3. Coat cut faces of roots more than 1-1/2 inches (38 mm) in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.
4. Backfill with soil as soon as possible.

D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.

1. Employ an arborist, licensed in jurisdiction where Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
2. Replace trees that cannot be repaired and restored to full-growth status, as determined by Architect.

3.4 UTILITIES

A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.

1. Arrange with utility companies to shut off indicated utilities.
2. Owner will arrange to shut off indicated utilities when requested by Contractor.

B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

C. Excavate for and remove underground utilities indicated to be removed.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
3. Grind stumps and remove roots, obstructions, and debris extending to a depth of 18 inches (450 mm) below exposed subgrade.
4. Use only hand methods for grubbing within tree protection zone.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Limit height of topsoil stockpiles to 72 inches (1800 mm).
2. Do not stockpile topsoil within tree protection zones.
3. Dispose of excess topsoil as specified for waste material disposal.
4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.

3.8 DISPOSAL

A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

B.

END OF SECTION 311000

MICHIGAN DEPARTMENT OF
LABOR & ECONOMIC GROWTH
WAGE & HOUR DIVISION

OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE H EDULE

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.

	Monday thru Friday	Saturday	Sunday & Holidays
First 8 Hours		4	8
9th Hour	1	5	
10th Hour	2	6	
Over 10 hours	3	7	

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

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

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

The last character indicates if an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked.

2. Overtime Indicators Used in the Overtime Provision:

H - means TIME AND ONE-HALF due
X - means TIME AND ONE-HALF due after 40 HOURS worked
D - means DOUBLE PAY due
Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked
N - means NO an optional 4-day 10-hour per day workweek *can not* be worked without paying overtime after 8 hours worked

3. EXAMPLES:

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

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

REQUIREMENTS OF
MICHIGAN PUBLIC ACT 166 OF 1965, PREVAILING WAGES ON STATE PROJECTS

The Michigan Department of Labor & Economic Growth determines prevailing rates pursuant to the Prevailing Wage Law, Act 166, P.A. of 1965. The purpose of establishing prevailing rates is to provide rates of pay for 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 attached prevailing rates provide 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. The prevailing rate may be satisfied by payment in cash or payment in cash and credit for fringe benefits paid in cash or on behalf of a worker or fringe benefits provided to a worker.

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, including rates for registered apprentices, ***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 of wages and fringe benefits 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 wage and fringe benefit 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 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.

ENGINEERS - CLASSES OF EQUIPMENT LIST

UNDERGROUND ENGINEERS

CLASS I

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

CLASS II

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

CLASS III

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

CLASS IV

Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service).

HAZARDOUS WASTE ABATEMENT ENGINEERS

CLASS I

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

CLASS II

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

Regular Crane Operators rate shall include: Mechanics, Crane Operators, Dragline Operators, Boom Truck Operators, Power Shovel Operators and Concrete Pumps with booms.

Revised: 09/07/06

State of Michigan
Department of Labor and Economic Growth

Official Request 622
Requestor: TROY SCHOOL DISTRICT

Wage and Hour Division
6546 Mercantile Way, Suite 5
PO Box 30476
Lansing, MI 48909-7976
Telephone: 517-335-0400
Fax: 517-335-0077

Project Description: SITE PAVING
Project Number: TROY HIGH SCHOOL & SMITH MIDDLE SCHOOL

Oakland County

Official 2007 Prevailing Wage Rates for State Funded Projects

Issue Date: 5/9/2007
Contract must be awarded by 8/7/2007

Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Asbestos & Lead Abatement Laborer						
Asbestos & Lead Abatement Laborer		MLDC	$31.30	$41.83	$52.35	H H H X X X X D Y
Asbestos & Lead Abatement, Hazardous Material Handler						
Asbestos and Lead Abatement, Hazardous Material Handler		AS207	$31.30	$43.13	$54.95	X X X X X X X D Y
Boilermaker						
Boilermaker		BO169	$48.71	$68.13	$87.54	H H D H D D D D Y
	Apprentice Rates:					
	1st 6 months		$37.07	$50.67	$64.26	
	2nd 6 months		$38.03	$52.10	$66.18	
	3rd 6 months		$39.00	$53.56	$68.12	
	4th 6 months		$39.97	$55.02	$70.06	
	5th 6 months		$40.58	$56.11	$71.64	
	6th 6 months		$42.88	$59.38	$75.88	
	7th 6 months		$44.83	$62.31	$79.78	
	8th 6 months		$46.77	$65.21	$83.66	
Bricklayer						
Bricklayer, stone mason, pointer, cleaner, caulker		BR1	$47.76	$71.64	$95.52	H H D H D D D D N
	Apprentice Rates:					
	First 6 months		$30.33	$45.50	$60.66	
	2nd 6 months		$32.21	$48.32	$64.42	
	3rd 6 months		$34.10	$51.15	$68.20	
	4th 6 months		$35.98	$53.97	$71.96	
	5th 6 months		$37.86	$56.79	$75.72	
	6th 6 months		$39.73	$59.60	$79.46	

Official Request #: 622
Requestor: TROY SCHOOL DISTRICT
Project Description: SITE PAVING

Project Number: TROY HIGH SCHOOL & SMITH MIDDLE SCHOOL
County: Oakland

Official Rate Schedule

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Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Carpenter						
Carpet and Resilient Floor Layer, (does not include installation of prefabricated formica & parquet flooring which is to be paid carpenter rate)		CA1045	$40.22	$56.42	$72.61	H H H H D D D D N
	Apprentice Rates:					
	1st 6 months		$20.93	$25.25	$31.05	
	2nd 6 months		$24.02	$31.26	$39.07	
	3rd 6 months		$25.64	$33.59	$42.17	
	4th 6 months		$27.26	$35.95	$45.33	
	5th 6 months		$28.87	$38.28	$48.43	
	6th 6 months		$30.50	$40.64	$51.57	
	7th 6 months		$32.11	$42.96	$54.67	
	8th 6 months		$33.73	$45.30	$57.79	
Carpenter, piledriver		CA687Z1	$44.37	$62.97	$81.56	H H D H D D D D Y
	Apprentice Rates:					
	1st Year		$27.63	$37.85	$48.08	
	3rd 6 months		$29.49	$40.65	$51.80	
	4th 6 months		$31.34	$43.42	$55.50	
	5th 6 months		$33.21	$46.23	$59.24	
	6th 6 months		$35.08	$49.03	$62.98	
	7th 6 months		$36.92	$51.79	$66.66	
	8th 6 months		$38.80	$54.61	$70.42	
Cement Mason						
Cement Mason		CE514	$42.63	$60.13	$77.63	H H D H H H H D N
	Apprentice Rates:					
	1st 6 months		$24.90	$33.67	$42.43	
	2nd 6 months		$26.65	$36.28	$45.92	
	3rd 6 months		$30.15	$41.55	$52.93	
	4th 6 months		$33.66	$46.80	$59.94	
	5th 6 months		$35.40	$49.43	$63.44	
	6th 6 months		$38.92	$54.70	$70.47	
Drywall						
Drywall Taper		PT-22-D	$38.45	$50.90	$63.35	H H D H D D D D N
	Apprentice Rates:					
	First 3 months		$26.00	$32.23	$38.45	
	Second 3 months		$28.49	$35.96	$43.43	
	Second 6 months		$30.98	$39.69	$48.41	
	Third 6 months		$33.47	$43.43	$53.39	
	4th 6 months		$34.71	$45.29	$55.87	

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Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Electrician						
Inside Wireman		EC-58-IW	$46.88	$64.00	$81.13	H H H H H H H D N
	Apprentice Rates:					
	0-1000 hours		$26.33	$33.18	$40.03	
	1000-2000 hours		$28.04	$35.75	$43.45	
	2000-3500 hours		$29.75	$38.31	$46.87	
	3500-5000 hours		$31.47	$40.90	$50.31	
	5000-6500 hours		$34.89	$46.03	$57.15	
	6500-8000 hours		$38.32	$51.17	$64.01	
Sound and Communication Installer/Technician		EC-58-SC	$29.33	$41.30	$53.26	H H H H H H H D N
	Apprentice Rates:					
	Period 1		$17.16	$23.04	$28.93	
	Period 2		$18.38	$24.88	$31.37	
	Period 3		$19.59	$26.69	$33.79	
	Period 4		$20.81	$28.53	$36.23	
	Period 5		$22.02	$30.33	$38.65	
	Period 6		$23.24	$32.17	$41.09	
Elevator Constructor						
Elevator Constructor Elevator Constructor		EL 36	$47.71		$81.45	D D D D D D D D Y
	Apprentice Rates:					
	1st Year Apprentice		$31.14		$49.70	
	2nd Year Apprentice		$34.82		$56.75	
	3rd Year Apprentice		$36.66		$60.28	
	4th Year Apprentice		$40.34		$67.33	
Glazier						
Glazier		GL-357	$41.56	$55.41		H H H H H H H H Y
	Apprentice Rates:					
	1st 6 months		$28.36	$35.29		
	2nd 6 months		$29.82	$37.44		
	3rd 6 months		$32.72	$41.72		
	4th 6 months		$34.18	$43.87		
	5th 6 months		$35.64	$46.03		
	6th 6 months		$37.09	$48.17		
	7th 6 months		$38.54	$50.31		
	8th 6 months		$41.46	$54.62		
Heat and Frost Insulator						
Spray Insulation		AS25S	$20.14	$29.14		H H H H H H H H N

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Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Heat and Frost Insulator and Asbestos Worker						
Heat and Frost Insulators and Asbestos Workers		AS25	$48.20	$62.86	$77.52	H H H H H H H D Y
	Apprentice Rates:					
	1st Year		$29.59	$37.66	$45.72	
	2nd Year		$37.60	$47.13	$56.66	
	3rd Year		$39.40	$49.66	$59.92	
	4th Year		$42.34	$54.07	$65.80	
Ironworker						
Fence Erecting		IR-25-F	$39.87	$59.58	$79.29	H H D H H H D D Y
Glazing		IR-25-GZ1	$48.48	$72.64	$96.65	H H D H H H D D Y
Mesh Iron Work		IR-25-MR	$42.25	$60.43	$78.60	H H D H D D D D N
Pre-engineered Metal Work		IR-25-PE-Z1-Z2	$39.88	$50.38	$60.88	H H H X X X X D Y
	Apprentice Rates:					
	1st level		$22.79	$27.88	$32.97	
	2nd level		$24.01	$29.61	$35.21	
	3rd level		$25.25	$31.36	$37.47	
	4th level		$26.47	$33.08	$39.70	
	5th level		$27.70	$34.83	$41.95	
	6th level		$28.93	$36.56	$44.20	
Reinforced Iron Work		IR-25-RF	$47.46	$68.09	$88.71	H H D H D D D D N
Rigging Work		IR-25-RIG	$52.48	$78.56	$104.64	H H H H H H H D N
Siding & Decking		IR-25-SD	$45.10	$67.43	$89.75	H H D H H H D D Y
Structural, ornamental, conveyor, welder and pre-cast Apprentice rates apply to structural, converyor, fence, glazing, reinforced, rigging, & siding decking		IR-25-STR	$52.61	$78.69	$104.77	H H D H H H D D Y
	Apprentice Rates:					
	Level 1		$26.51	$39.54	$52.57	
	Level 2		$29.12	$43.46	$57.79	
	Level 3		$31.73	$47.37	$63.01	
	Level 4		$34.34	$51.29	$68.23	
	Level 5		$36.94	$55.19	$73.43	
	Level 6		$39.57	$59.13	$78.69	
	Level 7		$42.16	$63.02	$83.87	
	Level 8		$44.78	$66.95	$89.11	

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Industrial Door erection & construction		IR-25-STR-D	$34.69	$46.09	$57.48	H H D H H H D D Y
Laborer						
Construction Laborer, Mason Tender, Carpenter Tender, Drywall Handler, Cement Finisher tender, concrete chute and concrete Bucket Handler, Concrete Laborer, Demolition Laborer		L1076-A-A	$36.48	$51.89	$67.29	H H D H D D D D Y
	Apprentice Rates:					
	0-1,000 work hours		$30.91	$43.53	$56.15	
	1,001-2,000 work hours		$32.02	$45.20	$58.37	
	2,001-3,000 work hours		$33.14	$46.88	$60.61	
	3,001-4,000 work hours		$35.37	$50.23	$65.07	
Signal man (on sewer & caisson work); air,electric or gasoline tool operator (including concrete vibrator operator,acetylene torch & air hammer operator); scaffold builder, caisson worker		L1076-A-B	$36.74	$52.28	$67.81	H H D H D D D D Y
Lansing Burner, Blaster & Powder Man		L1076-A-C	$37.23	$53.01	$68.79	H H D H D D D D Y
Furnance battery heater tender, burning bar & oxy-acetylene gun, expediter man, top man and/or bottom man (blast furnace work)		L1076-A-D	$36.98	$52.64	$68.29	H H D H D D D D Y
Cleaner/ sweeper laborer, furniture laborer		L1076-A-E	$31.03	$43.71	$56.39	H H D H D D D D Y
Plasterer Tender, Plastering Machine Operator		LPT-1	$37.86	$53.96	$70.05	H H D H D D D D N
	Apprentice Rates:					
	0 - 1,000 hours		$30.91	$43.53	$56.15	
	1,001 - 2,000 hours		$32.02	$45.20	$58.37	
	2,001 - 3,000 hours		$33.14	$46.88	$60.61	
	3,001 - 4,000 hours		$35.37	$50.23	$65.07	

Classification Name / Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Laborer - Hazardous					
Class A Laborer - performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or federal regulations; or a laborer performing work in conjunction with the removal, handling, or containment of hazardous waste substances when used of personal protective equipment level "D" is required.	LHAZ-Z2-A	$36.48	$51.89	$67.29	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$30.91	$43.53	$56.15	
1,001-2,000 work hours		$32.02	$45.20	$58.37	
2,001-3,000 work hours		$33.14	$46.88	$60.61	
3,001-4,000 work hours		$35.37	$50.23	$65.07	
Class B Laborer - performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels "A", "B" or "C" is required.	LHAZ-Z2-B	$37.48	$53.39	$69.29	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$31.66	$44.66	$57.65	
1,001-2,000 work hours		$32.82	$46.40	$59.97	
2,001-3,000 work hours		$33.99	$48.15	$62.31	
3,001-4,000 work hours		$36.32	$51.65	$66.97	
Laborer Underground - Tunnel, Shaft & Caisson					
Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman.	LAUCT-Z1-1	$32.54	$43.21	$53.88	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.70	$35.95	$44.20	
1,001-2,000 work hours		$28.67	$37.40	$46.14	
2,001-3,000 work hours		$29.64	$38.86	$48.08	
3,001-4,000 work hours		$31.57	$41.76	$51.94	
Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder.	LAUCT-Z1-2	$32.65	$43.38	$54.10	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.79	$36.08	$44.38	
1,001-2,000 work hours		$28.76	$37.54	$46.32	
2,001-3,000 work hours		$29.73	$39.00	$48.26	
3,001-4,000 work hours		$31.68	$41.92	$52.16	

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Class III - Air tool operator (jack hammer man, bush hammer man and grinding man), first bottom man, second bottom man, cage tender, car pusher, carrier man, concrete man, concrete form man, concrete repair man, cement invert laborer, cement finisher, concrete shoveler, conveyor man, floor man, gasoline and electric tool operator, gunnite man, grout operator, welder, heading dinky man, inside lock tender, pea gravel operator, pump man, outside lock tender, scaffold man, top signal man, switch man, track man, tugger man, utility man, vibrator man, winch operator, pipe jacking man, wagon drill and air track operator and concrete saw operator (under 40 h.p.).	LAUCT-Z1-3	$32.71	$43.47	$54.22	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.83	$36.14	$44.46	
1,001-2,000 work hours		$28.81	$37.62	$46.42	
2,001-3,000 work hours		$29.78	$39.07	$48.36	
3,001-4,000 work hours		$31.73	$42.00	$52.26	
Class IV - Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.	LAUCT-Z1-4	$32.89	$43.74	$54.58	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.97	$36.36	$44.74	
1,001-2,000 work hours		$28.95	$37.82	$46.70	
2,001-3,000 work hours		$29.94	$39.31	$48.68	
3,001-4,000 work hours		$31.91	$42.26	$52.62	
Class V - Tunnel, shaft and caisson miner, drill runner, keyboard operator, power knife operator, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars)	LAUCT-Z1-5	$33.14	$44.11	$55.08	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$28.16	$36.64	$45.12	
1,001-2,000 work hours		$29.15	$38.12	$47.10	
2,001-3,000 work hours		$30.15	$39.62	$49.10	
3,001-4,000 work hours		$32.14	$42.61	$53.08	
Class VI - Dynamite man and powder man.	LAUCT-Z1-6	$33.47	$44.61	$55.74	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$28.40	$37.00	$45.60	
1,001-2,000 work hours		$29.42	$38.53	$47.64	
2,001-3,000 work hours		$30.43	$40.04	$49.66	
3,001-4,000 work hours		$32.46	$43.09	$53.72	

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Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones.		LAUCT-Z1-7	$26.75	$34.53	$42.30	H H H H H H H D Y
	Apprentice Rates:					
	0-1,000 work hours		$23.36	$29.44	$35.52	
	1,001-2,000 work hours		$24.04	$30.46	$36.88	
	2,001-3,000 work hours		$24.72	$31.48	$38.24	
	3,001-4,000 work hours		$26.07	$33.50	$40.94	
Landscape Laborer						
Landscape specialist includes; air, gas, and diesel equipment operator, lawn sprinkler installer.		LLAN-Z1-A	$23.38	$32.46	$41.54	X X H X X X H D Y
Landscape laborer; small power tool operator, lawn sprinkler installer helper, material mover, truck driver.		LLAN-Z1-B	$19.16	$26.13	$33.10	X X H X X X H D Y
Marble Finisher						
Marble Finisher		TT32-MF	$38.37	$48.46	$58.54	H H D H D D D D N
	Apprentice Rates:					
	Level 1		$18.73	$24.22	$29.71	
	Level 2		$19.79	$25.81	$31.83	
	Level 3		$23.93	$30.38	$36.83	
	Level 4		$25.23	$32.33	$39.43	
	Level 5		$26.56	$33.85	$41.14	
	Level 6		$27.99	$35.64	$43.28	
	Level 7		$29.48	$37.17	$44.85	
	Level 8		$30.80	$38.73	$46.65	
Marble Mason						
Marble Mason		TT32-MM	$44.26	$57.29	$70.32	H H D H D D D D N
	Apprentice Rates:					
	Level 1		$24.21	$31.14	$38.06	
	Level 2		$26.93	$34.56	$42.20	
	Level 3		$29.70	$37.59	$45.48	
	Level 4		$32.10	$40.83	$49.56	
	Level 5		$34.18	$43.17	$52.16	
	Level 6		$37.52	$48.11	$58.71	
	Level 7		$38.55	$49.53	$60.51	
	Level 8		$39.18	$50.47	$61.77	
Operating Engineer						
Crane with boom & jib or leads 120' or longer		EN-324-A120	$47.81	$64.26	$80.70	H H D H D D D D Y

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County: Oakland

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Classification Name / Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane with boom & jib or leads 140' or longer	EN-324-A140	$48.63	$65.49	$82.34	H H D H D D D D Y
Crane with boom & jib or leads 220' or longer	EN-324-A220	$48.93	$65.94	$82.94	H H D H D D D D Y
Crane with boom & jib or leads 300' or longer	EN-324-A300	$50.43	$68.19	$85.94	H H D H D D D D Y
Crane with boom & jib or leads 400' or longer	EN-324-A400	$51.93	$70.44	$88.94	H H D H D D D D Y
Compressor or welding machine	EN-324-CW	$36.96	$47.98	$59.00	H H D H D D D D Y
Forklift, lull, extend-a-boom forklift	EN-324-FL	$44.27	$58.95	$73.62	H H D H D D D D Y
Fireman or oiler	EN-324-FO	$35.93	$46.44	$56.94	H H D H D D D D Y
Regular crane, job mechanic, concrete pump	EN-324-RC	$46.95	$62.97	$78.98	H H D H D D D D Y
Regular engineer, hydro-excavator, remote controlled concrete breaker	EN-324-RE	$45.98	$61.51	$77.04	H H D H D D D D Y
Apprentice Rates:					
Period 1		$36.47	$47.34	$58.22	
Period 2		$38.02	$49.67	$61.32	
Period 3		$39.57	$52.00	$64.42	
Period 4		$41.12	$54.32	$67.52	
Period 5		$42.68	$56.66	$70.64	
Period 6		$44.23	$58.99	$73.74	
Operating Engineer - Marine Construction					
Diver/Wet Tender, Engineer (hydraulic dredge)	GLF-1	$49.29	$64.74	$80.19	X X H H H H H D Y
Holidays paid at $95.64 per hour					
Subdivision of county all Great Lakes, islands therein, & connecting & tributary waters					
Crane/Backhoe Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender	GLF-2	$47.79	$62.49	$77.19	X X H H H H H D Y
Holidays paid $91.89 per hour					
Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters					
Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more), Tug/Launch Operator, Loader, Dozer and like equipment on Barge, Breakwater Wall, Slip/Doc or Scow, Deck Machinery	GLF-3	$44.59	$57.69	$70.79	X X H H H H H D Y
Holidays paid at $83.89 per hour					

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Requestor: TROY SCHOOL DISTRICT
Project Description: SITE PAVING

Project Number: TROY HIGH SCHOOL & SMITH MIDDLE SCHOOL
County: 1

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Classification Name / Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Subdivision of county	All Great Lakes, islands therein, & connecting & tributary waters				
Deck Equipment Operator, (Machineryman/Fireman), (4 equipment units or more), Deck Hand, Deck Engineer, & Crane Maintenance 50 ton capacity and under or Backhoe weighing 115,000 lbs or less, Assistant Tug Operator	GLF-4	$40.19	$51.09	$61.99	X X H H H H H H D Y
Holidays paid at $72.89 per hour					
Subdivision of county	All Great Lakes, islands therein, & connecting & tributary waters				
Operating Engineer Hazardous Waste Class I					
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWCI-Z1A	$46.22	$61.89	$77.55	H H H H H H H H D Y
	Apprentice Rates:				
	1st 6 months	$36.62	$47.58	$58.55	
	2nd 6 months	$38.18	$49.92	$61.67	
	3rd 6 months	$39.75	$52.28	$64.81	
	4th 6 months	$41.31	$54.62	$67.93	
	5th 6 months	$42.89	$56.99	$71.09	
	6th 6 months	$44.45	$59.33	$74.21	
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCI-Z1B	$45.27	$60.46	$75.65	H H H H H H H H D Y
	Apprentice Rates:				
	1st 6 months	$35.95	$46.59	$57.21	
	2nd 6 months	$37.48	$48.88	$60.27	
	3rd 6 months	$39.00	$51.16	$63.31	
	4th 6 months	$40.52	$53.44	$66.35	
	5th 6 months	$42.04	$55.72	$69.39	
	6th 6 months	$43.56	$58.00	$72.43	
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1D	$43.97	$58.51	$73.05	H H H H H H H H D Y
	Apprentice Rates:				
	1st 6 months	$35.05	$45.23	$55.41	
	2nd 6 months	$36.51	$47.43	$58.33	
	3rd 6 months	$37.95	$49.58	$61.21	
	4th 6 months	$39.42	$51.79	$64.15	
	5th 6 months	$40.86	$53.95	$67.03	
	6th 6 months	$42.32	$56.13	$69.95	

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Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Level D When Capping Landfill	Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1DCL	$43.72	$58.14	$72.55	H H H H H H H D Y
	Apprentice Rates:					
	1st 6 months		$34.87	$44.96	$55.05	
	2nd 6 months		$36.31	$47.12	$57.93	
	3rd 6 months		$37.76	$49.30	$60.83	
	4th 6 months		$39.20	$51.45	$63.71	
	5th 6 months		$40.63	$53.60	$66.57	
	6th 6 months		$42.08	$55.78	$69.47	
Operating Engineer Hazardous Waste Class II						
Level A - Fully encapsulating	chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWCII-Z1A	$41.99	$55.54	$69.09	H H H H H H H D Y
Level B & C protection. B -	Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCII-Z1B	$41.04	$54.12	$67.19	H H H H H H H D Y
Level D -	Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCII-Z1D	$39.74	$52.17	$64.59	H H H H H H H D Y
Level D When Capping Landfill	Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCII-Z1DCL	$39.49	$51.79	$64.09	H H H H H H H D Y
Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 140' or longer						
Level A - Fully encapsulating	chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW140-Z1A	$48.87	$65.86	$82.85	H H H H H H H D Y
Level B & C protection. B -	Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW140-Z1B	$47.92	$64.44	$80.95	H H H H H H H D Y
Level D	Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1D	$46.62	$62.49	$78.35	H H H H H H H D Y
Level D When Capping Landfill	Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1DCL	$46.37	$62.11	$77.85	H H H H H H H D Y

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Classification Name / Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 220' or longer					
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW220-Z1A	$49.17	$66.31	$83.45	H H H H H H H D Y
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW220-Z1B	$48.22	$64.89	$81.55	H H H H H H H D Y
Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1D	$46.92	$62.94	$78.95	H H H H H H H D Y
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1DCL	$46.67	$62.56	$78.45	H H H H H H H D Y
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, and Concrete Pump with Boom Operator					
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1D	$44.94	$59.97	$74.99	H H H H H H H D Y
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with boom					
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1DCL	$44.07	$58.66	$73.25	H H H H H H H D Y
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with booms					
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWRC-Z1B	$46.24	$61.92	$77.59	H H H H H H H D Y
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operators and Concrete Pump with booms					
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWRC-Z1A	$47.19	$63.34	$79.49	H H H H H H H D Y
Operating Engineer Steel Work					
Crane w/ 120' boom or longer	EN-324-SW120	$51.51	$69.80	$88.08	H H D H H H D D Y

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Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane w/ 120' boom or longer w/ Oiler		EN-324-SW120-O	$52.51	$71.30	$90.08	H H D H H H D D Y
Crane w/ 140' boom or longer		EN-324-SW140	$52.69	$71.57	$90.44	H H D H H H D D Y
Crane w/ 140' boom or longer W/ Oiler		EN-324-SW140-O	$53.69	$73.07	$92.44	H H D H H H D D Y
Boom & Jib 220' or longer		EN-324-SW220	$52.96	$71.97	$90.98	H H D H H H D D Y
Crane w/ 220' boom or longer w/ Oiler		EN-324-SW220-O	$53.96	$73.47	$92.98	H H D H H H D D Y
Boom & Jib 300' or longer		EN-324-SW300	$54.46	$74.22	$93.98	H H D H H H D D Y
Crane w/ 300' boom or longer w/ Oiler		EN-324-SW300-O	$55.46	$75.72	$95.98	H H D H H H D D Y
Boom & Jib 400' or longer		EN-324-SW400	$55.96	$76.47	$96.98	H H D H H H D D Y
Crane w/ 400' boom or longer w/ Oiler		EN-324-SW400-O	$56.96	$77.97	$98.98	H H D H H H D D Y
Crane Operator & Job Mechanic		EN-324-SWCO	$51.15	$69.26	$87.36	H H D H H H D D Y
	Apprentice Rates:					
	0-999 hours		$40.04	$52.72	$65.39	
	1,000-1,999 hours		$41.85	$55.43	$69.01	
	2,000-2,999 hours		$43.66	$58.14	$72.63	
	3,000-3,999 hours		$45.48	$60.88	$76.27	
	4,000-4,999 hours		$47.28	$63.58	$79.87	
	5,000 hours		$49.10	$66.31	$83.51	
Crane w/ Oiler		EN-324-SWCO-O	$52.15	$70.76	$89.36	H H D H H H D D Y
Compressor or Welder Operator		EN-324-SWCW	$43.70	$58.08	$72.46	H H D H H H D D Y
Hoisting Operator		EN-324-SWHO	$50.51	$68.30	$86.08	H H D H H H D D Y
Oiler		EN-324-SWO	$42.29	$55.97	$69.64	H H D H H H D D Y
Tower Crane & Derrick where work is 50' or more above first level		EN-324-SWTD50	$52.24	$70.89	$89.54	H H D H H H D D Y
Tower Crane & Derrick 50' or more w/ Oiler where work station is 50' or more above first level		EN-324-SWTD50-O	$53.24	$72.39	$91.54	H H D H H H D D Y

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Official 2007 Prevailing Wage Rates for State Funded Projects

Issue Date: 5/9/2007

Contract must be awarded by 8/7/2007

Classification Name	Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Operating Engineer Underground						
Class I Equipment		EN-324A1-UC1	$43.72	$58.11	$72.50	H H H H H H H D Y
	Apprentice Rates:					
	0-999 hours		$34.89	$44.97	$55.04	
	1,000-1,999 hours		$36.33	$47.13	$57.92	
	2,000-2,999 hours		$37.76	$49.27	$60.78	
	3,000-3,999 hours		$39.21	$51.45	$63.68	
	4,000-4,999 hours		$40.65	$53.61	$66.56	
	5,000-5,999 hours		$42.09	$55.77	$69.44	
Class II Equipment		EN-324A1-UC2	$38.99	$51.02	$63.04	H H H H H H H D Y
Class III Equipment		EN-324A1-UC3	$38.26	$49.92	$61.58	H H H H H H H D Y
Class IV Equipment		EN-324A1-UC4	$37.69	$49.07	$60.44	H H H H H H H D Y
Master Mechanic		EN-324A1-UMM	$43.97	$58.49	$73.00	H H H H H H H D Y
Painter						
Painter (8 hours of repaint work performed on Sunday shall be paid time & one half rate)		PT-22-P	$38.01	$50.24	$62.47	H H D H D D D D N
	Apprentice Rates:					
	First 6 months		$25.78	$31.89	$38.01	
	Second 6 months		$29.45	$37.40	$45.35	
	Third 6 months		$30.67	$39.23	$47.79	
	Fourth 6 months		$31.89	$41.06	$50.23	
	Fifth 6 months		$33.12	$42.91	$52.69	
	Final 6 months		$34.34	$44.73	$55.13	
Sandblasting & spraywork performed, on highway bridges, overpases, tanks or steel, OR spraywork & sandblasting done with a scaffold height of 40' above the floor level		PT-22-S	$38.81	$51.44	$64.07	H H D H D D D D N

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Pipefitter						
Pipefitter		PF-636	$51.46	$66.44	$81.41	H H D H D D D D N
	Apprentice Rates:					
	1st & 2nd periods		$26.23	$33.23	$40.23	
	3rd period		$28.23	$36.23	$44.23	
	4th period		$29.48	$38.11	$46.73	
	5th period		$30.73	$39.98	$49.23	
	6th period		$31.98	$41.85	$51.73	
	7th period		$33.23	$43.73	$54.23	
	8th period		$34.23	$45.23	$56.23	
	9th period		$35.23	$46.73	$58.23	
	10th period		$36.66	$48.87	$61.09	
Plasterer						
Plasterer		BR1P	$41.92	$62.88	$83.84	H H H H H H H D N
	Apprentice Rates:					
	1st 6 months		$21.61	$32.41	$43.22	
	2nd 6 months		$25.00	$37.50	$50.00	
	3rd 6 months		$28.39	$42.59	$56.78	
	4th 6 months		$31.83	$47.75	$63.66	
	5th 6 months		$35.16	$50.94	$67.92	
	6th 6 months		$38.53	$57.80	$77.06	
Plasterer		PL67	$41.92	$57.03	$72.14	H H H X D D D D N
	Apprentice Rates:					
	1st 6 months		$23.71	$29.72	$35.72	
	2nd 6 months		$26.81	$34.36	$41.92	
	3rd 6 months		$29.83	$38.90	$47.96	
	4th 6 months		$32.85	$43.42	$54.00	
	5th 6 months		$35.88	$47.97	$60.06	
	6th 6 months		$38.90	$52.50	$66.10	

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Plumber						
Plumber		PL-98	$51.88	$68.40	$84.91	H H D H D D D D Y
	Apprentice Rates:					
	Period 1		$17.11	$23.41	$29.71	
	Period 2		$17.11	$23.41	$29.71	
	Period 3		$26.78	$35.13	$43.47	
	Period 4		$27.41	$36.07	$44.73	
	Period 5		$28.57	$37.81	$47.05	
	Period 6		$29.72	$39.53	$49.35	
	Period 7		$30.87	$41.26	$51.65	
	Period 8		$32.04	$43.01	$53.99	
	Period 9		$33.19	$44.74	$56.29	
	Period 10		$34.35	$46.48	$58.61	
Roofer						
Commercial Roofer		RO-149-WOM	$45.01	$58.72	$72.42	H H D H H H D D N
Straight time is not to exceed ten (10) hours per day or forty (40) hours per week.						
	Apprentice Rates:					
	Apprentice 1		$29.78	$36.88	$44.64	
	Apprentice 2		$33.80	$41.54	$49.52	
	Apprentice 3		$35.16	$43.50	$52.14	
	Apprentice 4		$36.15	$44.94	$54.06	
	Apprentice 5		$37.33	$46.64	$56.32	
	Apprentice 6		$38.67	$48.58	$58.90	
Sheet Metal Worker						
Sheet Metal Worker		SHM-80	$51.82	$69.04	$86.25	H H D H D D D D Y
	Apprentice Rates:					
	First Year		$34.61	$43.22	$51.83	
	Second Year		$35.98	$45.27	$54.57	
	Third Year		$37.36	$47.34	$57.33	
	Fourth Year		$40.11	$51.47	$62.83	
	Fifth Year		$42.86	$55.59	$68.33	
Siding & Decking		SHM-80-SD	$34.58	$46.03	$57.48	H H H H H H H D Y

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Sprinkler Fitter					
Sprinkler Fitter	SP 704	$54.02	$72.89	$91.75	H H D H D D D D Y
	Apprentice Rates:				
	1st Period	$31.38	$38.93	$46.47	
	2nd Period	$33.27	$41.76	$50.25	
	3rd Period	$35.15	$44.58	$54.01	
	4th Period	$37.04	$47.41	$57.79	
	5th Period	$38.93	$50.25	$61.57	
	6th Period	$40.81	$53.07	$65.33	
	7th Period	$42.70	$55.91	$69.11	
	8th Period	$44.59	$58.74	$72.89	
	9th Period	$46.47	$61.56	$76.65	
	10th Period	$48.36	$64.39	$80.43	
Terrazzo					
Terrazzo Finisher	TT32-TRF	$38.77	$49.06	$59.34	H H D H D D D D N
	Apprentice Rates:				
	Level 1	$19.72	$25.71	$31.69	
	Level 2	$20.39	$26.71	$33.03	
	Level 3	$23.86	$30.27	$36.69	
	Level 4	$25.16	$32.23	$39.29	
	Level 5	$26.49	$33.74	$41.00	
	Level 6	$27.92	$35.33	$42.74	
	Level 7	$29.41	$37.18	$44.96	
	Level 8	$30.73	$38.74	$46.76	
Terrazzo Worker	TT32-TRW	$43.79	$56.59	$69.38	H H D H D D D D N
	Apprentice Rates:				
	Level 1	$24.11	$30.98	$37.86	
	Level 2	$26.83	$34.42	$42.00	
	Level 3	$29.60	$37.44	$45.28	
	Level 4	$32.00	$40.68	$49.36	
	Level 5	$34.08	$43.15	$52.21	
	Level 6	$37.34	$47.85	$58.35	
	Level 7	$38.42	$49.33	$60.25	
	Level 8	$39.25	$50.58	$61.91	

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Classification Name / Description			Straight Hourly	Time and a Half	Double Time	Overtime Provision
Tile						
Tile Finisher		TT32-TF	$38.39	$48.49	$58.58	H H D H D D D D N
	Apprentice Rates:					
	Level 1		$18.63	$24.07	$29.51	
	Level 2		$19.69	$25.66	$31.63	
	Level 3		$23.83	$30.23	$36.63	
	Level 4		$25.13	$32.18	$39.23	
	Level 5		$26.46	$33.70	$40.94	
	Level 6		$27.89	$35.48	$43.08	
	Level 7		$29.38	$37.01	$44.65	
	Level 8		$30.70	$38.57	$46.45	
Tile Layer		TT32-TL	$43.69	$56.44	$69.18	H H D H D D D D N
	Apprentice Rates:					
	Level 1		$24.11	$30.98	$37.86	
	Level 2		$26.83	$34.42	$42.00	
	Level 3		$29.60	$37.44	$45.28	
	Level 4		$32.00	$40.68	$49.36	
	Level 5		$34.03	$42.94	$51.86	
	Level 6		$37.29	$47.77	$58.25	
	Level 7		$37.87	$48.51	$59.15	
	Level 8		$38.70	$49.75	$60.81	
Truck Driver						
on all trucks of 8 cubic yard capacity or less		TM-RB1	$33.66	$35.99		H H H H H H H H Y
of all trucks of 8 cubic yard capacity or over		TM-RB1A	$33.76	$36.14		H H H H H H H H Y
on euclid type equipment		TM-RB1B	$33.91	$36.36		H H H H H H H H Y
Underground Laborer Open Cut, Class I						
Construction Laborer		LAUC-Z1-1	$32.39	$42.99	$53.58	H H H H H H H D Y
	Apprentice Rates:					
	0-1,000 work hours		$27.59	$35.78	$43.98	
	1,001-2,000 work hours		$28.55	$37.22	$45.90	
	2,001-3,000 work hours		$29.51	$38.66	$47.82	
	3,001-4,000 work hours		$31.43	$41.54	$51.66	

Official Request #: 622
Requestor: TROY SCHOOL DISTRICT
Project Description: SITE PAVING

Project Number: TROY HIGH SCHOOL & SMITH MIDDLE SCHOOL
County: Oakland

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Classification Name / Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, Class II					
Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.	LAUC-Z1-2	$32.50	$43.15	$53.80	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.68	$35.92	$44.16	
1,001-2,000 work hours		$28.64	$37.36	$46.08	
2,001-3,000 work hours		$29.60	$38.80	$48.00	
3,001-4,000 work hours		$31.54	$41.71	$51.88	
Underground Laborer Open Cut, Class III					
Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodder, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger man, and directional boring man.	LAUC-Z1-3	$32.55	$43.23	$53.90	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.71	$35.96	$44.22	
1,001-2,000 work hours		$28.68	$37.42	$46.16	
2,001-3,000 work hours		$29.65	$38.88	$48.10	
3,001-4,000 work hours		$31.58	$41.77	$51.96	
Underground Laborer Open Cut, Class IV					
Trench or excavating grade man.	LAUC-Z1-4	$32.63	$43.35	$54.06	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.77	$36.06	$44.34	
1,001-2,000 work hours		$28.74	$37.51	$46.28	
2,001-3,000 work hours		$29.72	$38.98	$48.24	
3,001-4,000 work hours		$31.66	$41.89	$52.12	
Underground Laborer Open Cut, Class V					
Pipe Layer	LAUC-Z1-5	$32.69	$43.44	$54.18	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$27.82	$36.13	$44.44	
1,001-2,000 work hours		$28.79	$37.58	$46.38	
2,001-3,000 work hours		$29.77	$39.06	$48.34	
3,001-4,000 work hours		$31.72	$41.98	$52.24	

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Underground Laborer Open Cut, Class VI					
Grouting man, top man assistant, audio visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work.	LAUC-Z1-6	$30.14	$39.61	$49.08	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$25.90	$33.25	$40.60	
1,001-2,000 work hours		$26.75	$34.52	$42.30	
2,001-3,000 work hours		$27.60	$35.80	$44.00	
3,001-4,000 work hours		$29.29	$38.34	$47.38	
Underground Laborer Open Cut, Class VII					
Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes, flagstones etc.	LAUC-Z1-7	$26.76	$34.54	$42.32	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		$23.37	$29.46	$35.54	
1,001-2,000 work hours		$24.05	$30.48	$36.90	
2,001-3,000 work hours		$24.73	$31.50	$38.26	
3,001-4,000 work hours		$26.08	$33.52	$40.96	

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TROY SCHOOL DISTRICT
Bid 9418 Paving
Smith Middle School & Troy High School

Cost Submission:	**Flynn Paving Co.**	**Pro-Line Asphalt Paving**	**Nagle Paving**	**ABC Paving Co.**	**Asphalt Specialists, Inc.**
Contractor's price for selective Paving as outlined in the above specifications and accompanying drawings is as follows for Smith Middle School: Base Bid	$ 15,602.00	$ 19,000.00	$ 22,900.00	$ 17,500.00	$ 513,000.00 Base bids combined both schools
Contractor's price for selective Paving as outlined in the above specifications and accompanying drawings is as follows for Troy High School: Base Bid	483,095.00	539,000.00	525,500.00	497,000.00	22,900.00
Total Base Paving	$ 498,697.00	$ 558,000.00	$548,400.00	$ 514,500.00	$ 535,900.00
1. Unit Prices					
4 inch removable and replacement in 2 lifts after milling procedure $____S.F.	2.12	6.00		3.50	2.50
Undercutting with 21AA limestone base $____C.Y.	36.00	35.00		52.00	30.00
1 foot vertical rebuild of catch basins- $____Per	500.00	250.00		450.00	250.00
Mirafi 500 Geotextile Fabric installed $____S.Y.	1.92	2.50		1.50	1.85
		Note: all bituminous mixture is based on current Mdot standard specifications. Prices are only good for Smith if we are awarded both projects.			

Hutch Paving Inc. - No Response
James P. Contracting, Inc. - No Response
Bowen Paving, Inc. - No Response
Hart Pavement Striping Corp. - No Response
Angelo Lafrate Const. Co., - No Response