

CITY OF BELLEVILLE

5th and Liberty Parking Lot Expansion

Advertisement

Instructions to Bidders

General Conditions of Construction Contract

Contract Specifications

Mayor

Kenneth Voigt

City Manager

Jason Smith

City Clerk / Treasurer

Briana Hootman

Council

Kelly Bates, Mayor Pro-Tem

Julie Kissel

Jeremiah Beebe

Randy Priest

Director of Public Services

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TABLE OF CONTENTS

<u>PART I - BIDDING REQUIREMENTS</u>	<u>PAGE NO.</u>
Invitation to Bid	4
Site Map.....	5
Bid Sheet.....	6
Instructions to Bidders	7-10
Special Instructions to Bidders	11-13
Bid Bond	14-15
 <u>PART II - CONTRACT FORMS</u>	
Proposal EXHIBIT A	16
Agreement.....	17-20
Exhibit B: Performance Bond.....	21-22
Exhibit C: Payment Bond	23-24
Exhibit D: Maintenance and Guarantee Bond.....	25-26
Contractor's Affidavit for Current Estimate	27
Contractor's Affidavit for Final Estimate	28
Contractor's Affidavit for Construction Materials.....	29
Contractor's Affidavit for Site Visit and Understanding	30
 <u>PART III - CONDITIONS OF THE CONTRACT</u>	
Article 1 — Definitions	31-32
Article 2 — Preliminary Matters.....	33
Article 3 — Contract Documents: Intent and Reuse	34
Article 4 — Availability of Lands; Physical Conditions; Reference Points	35
Article 5 — Bonds and Insurance	36-39
Article 6 — Contractor's Responsibility.....	40-45
Article 7 — Work by Others.....	46
Article 8 — Owner's Responsibility	47
Article 9 — Engineer's Status During Construction	47-48
Article 10 — Changes in Work.....	49
Article 11 — Change of Contract Price	50-52
Article 12 — Change of Contract Time	52
Article 13 — Warranty and Guarantee: Tests and Inspections; Correction,	53-54
Removal or Acceptance of Work	
Article 14 — Payments to Contractor and Completion.....	55-58
Article 15 — Suspension of Work and Termination	59-60
Article 16 — Miscellaneous.....	60
Article 17 — Construction Follow Up	61
 <u>PART IV - STANDARD NOTES</u>	
Belleville Standard Notes	62-64

PART V – STANDARD SPECIFICATIONS

Soil Erosion and Sedimentation Control.....	65
Traffic Maintenance & Control.....	65
Subgrade Undercutting	67
Aggregate Base.....	68
Hot Mix Asphalt.....	69
Removing Pavement.....	77
Concrete Pavement	78
Parking Lot Sealcoat, Joint and Crack Sealing	82
Waterborne Pavement Markings	85
Sign Removal	86
Removing Trees	86
Grading	86
Permanent Signage	87
Restoration	87
Project Cleanup	91
Idle Equipment	91
Work Near Underground ATT and DTE Conduits	92
Utility Coordination	92

PART VI - METHODS AND MEASUREMENT OF PAYMENT

Mobilization.....	94
Soil Erosion and Sedimentation Control.....	94
Traffic Maintenance & Control.....	95
Hot Mix Asphalt.....	95
Concrete Pavement	95
Grading	96
Subgrade Undercutting	96
Removals	97
Miscellaneous Structures	97
Asphalt Parking Lot Sealcoat, Joint and Crack Sealing	97
Waterborne Pavement Markings.....	98
Restoration	98
Project Cleanup	98
Construction Observation	97

PART VIII – ATTACHMENTS

See Attached 24x36" Plans

INVITATION TO BID 5TH AND LIBERTY PARKING LOT EXPANSION

The proposed project consists of approximately 16,500 sf of asphalt parking expansion with concrete curbs and pavement. The anticipated start date is **September 1, 2024** and completion by **October 15, 2024**.

SEALED BIDS will be accepted at the address below. Bid must be clearly labeled "5TH AND LIBERTY PARKING LOT EXPANSION"

Two (2) copies of the bid proposals shall be submitted to:

City Clerk
City of Belleville
6 Main Street
Belleville, MI 48111

Deadline: July 30, 2024, 2pm (est).

Bids shall be publicly opened and read.

All RFI's shall be emailed to Alan J. Cruz, PE, ajcruz@hengineers.com. (No calls)

The deadline for Request for Information (RFI) is **July 25, 2024, 10am (est)**.

Contract Documents can be downloaded directly from BidNet.

The OWNER reserves the right to waive any information or to reject any and/or all bids. Bidders may not withdraw their bid within 60 days after the date of bid opened.

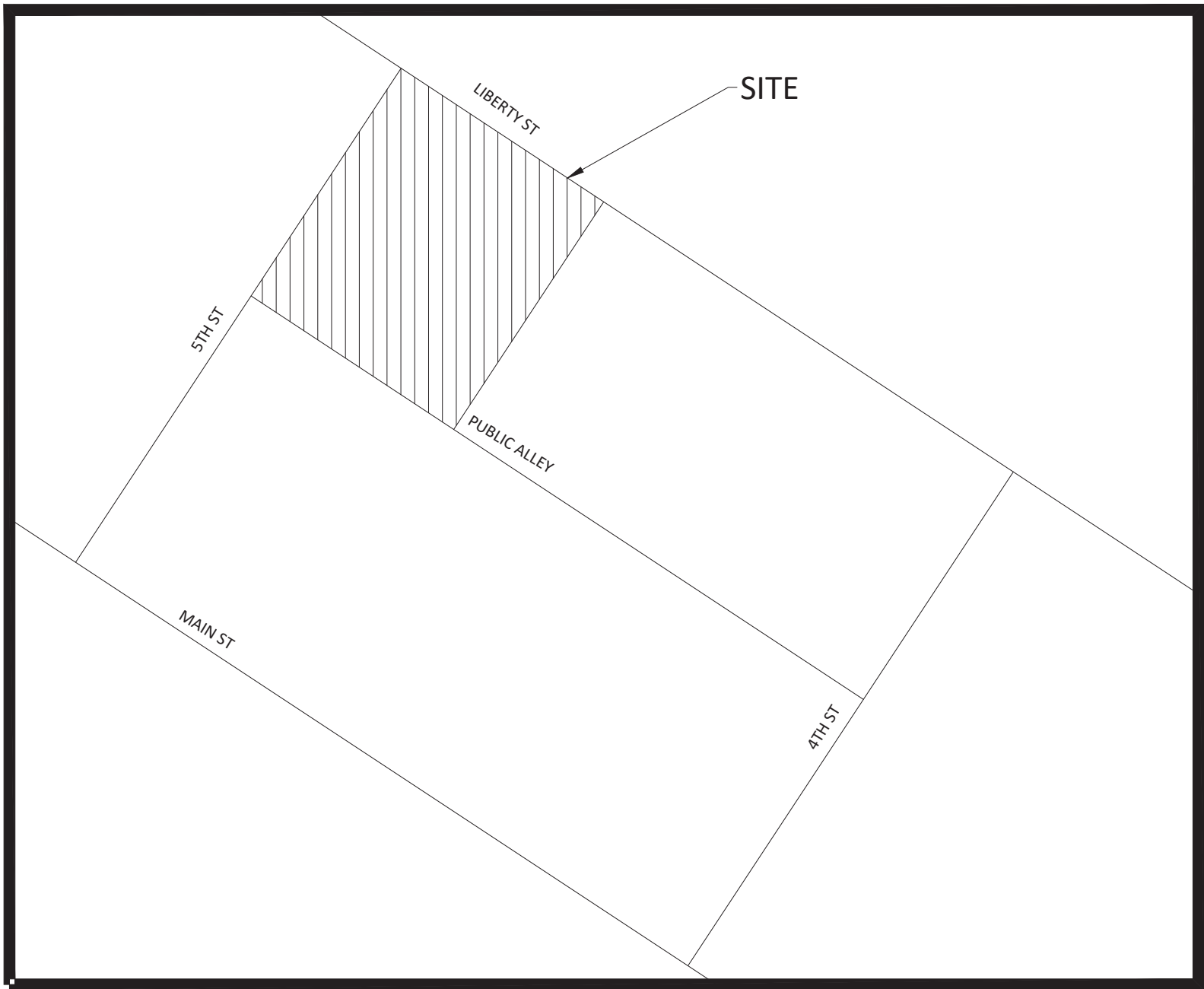
The OWNER and ENGINEER will further assess the bids based on the following criteria.

1. COST EFFECTIVENESS
2. SIMILAR PAST PROJECT EXPERIENCE
3. ABILITY TO COMPLETE PROJECT WITHIN TIMEFRAME

The following items are required for a complete bid submittal:

1. **5% Bid Bond**
2. **Completed Itemized Bid Sheet**
3. **Completed and Signed Exhibit 'A' Proposal**

**Belleville City Clerk's Office
Briana Hootman, City Clerk**



LOCATION MAP

NO SCALE

5TH AND LIBERTY PARKING LOT EXPANSION

ITEMIZED BID SHEET

Line Number	Description	Estimated Amount	Unit	Unit Price in Figures	Line Total
1	Traffic Maintenance and Control	1	LSUM		\$ -
2	HMA, 5EML, Wearing Course, 2-inch	150	TONS		\$ -
3	HMA, 4EML, Leveling Course, 1.5-inch	115	TONS		\$ -
4	Conc Pavt, Nonreinf, 8-inch	150	SYD		\$ -
5	Conc Pavt, Nonreinf, 4-inch Sidewalk + Integral	210	SYD		\$ -
6	6" MDOT F2 Curb & Gutter	650	LFT		\$ -
7	6" MDOT 21AA Crushed Limestone Aggregate Base (CIP)	1,460	SYD		\$ -
8	4" MDOT 21AA Crushed Limestone Aggregate Base (CIP)	210	SYD		\$ -
9	Inlet Filters	3	EACH		\$ -
10	Silt Fence	75	LFT		\$ -
11	Grading	1,910	SYD		\$ -
12	Subgrade Undercutting	40	CYD		\$ -
13	Pavt, Rem	780	SYD		\$ -
14	Dumpster Enclosure, Walls, Gates, complete	1	LSUM		\$ -
15	Bollards	4	EACH		
16	Demo Remove Building and Foundation	2,500	SFT		
17	Remove/Reinstall Post, Sign	1	EACH		\$ -
18	Remove/Reinstall Guy Wire	1	EACH		\$ -
19	Remove Lightpoles & Base	2	EACH		\$ -
20	New Double-head Lightpoles, Base and Conduit Wiring	2	EACH		\$ -
21	Remove Trees (6"-18"), Dia.	4	EACH		\$ -
22	Existing Asphalt Lot Crackseal & Double Sealcoat	36,000	SFT		\$ -
23	Pavement Striping Markings & Measurement	1	LSUM		\$ -
24	Restoration	1	LSUM		\$ -
25	*Construction Observation		DAYS	\$ 528.00	\$ -
	* Contractor to fill in # of construction days		PROJECT TOTAL		\$ -

INSTRUCTIONS TO BIDDERS

Defined Terms

Disputes with respect to the definitions of any terms shall be resolved by Hennessey Engineers, Inc., (“ENGINEER”). The term “Successful Bidder” shall mean the qualified Bidder but not necessarily the lowest Bidder to whom **The City of Belleville** (“OWNER”) (on the basis of OWNER’s evaluation) makes an award.

Copies of Bidding Documents

1. All Bidding Documents for the project must be downloaded directly from BidNet.
2. Sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation may be obtained from ENGINEER (unless another issuing officer is designated in the advertisement or Invitation to Bid).
3. Complete sets of Bidding Documents shall be used in preparing bids. Every Bidder shall ascertain that every set the Bidder obtains from the OWNER or ENGINEER is complete. Neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of the Bidding Documents.
4. OWNER and ENGINEER, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining bids for the work and do not confer a license or grant for any other use of the Bidding Documents by the Bidder.

Qualifications of Bidders

To demonstrate qualifications to perform the work, each Bidder must be prepared to submit within five (5) days of OWNER’s or ENGINEER’s request, written evidence of any information deemed necessary by the ENGINEER for bid evaluation, including, but not limited to, financial data, previous experience, evidence of authority to conduct business in the jurisdiction where the project is located or covenant to obtain such qualification prior to award of the contract. Failure to submit any such data within the five (5) day period shall give the OWNER and the ENGINEER the right to finally reject the CONTRACTOR’s bid.

Examination of Contract Documents and Site

5. Before submitting a bid, each Bidder must (a) examine the Contract Documents thoroughly; (b) visit the site to familiarize itself with local conditions that may, in any way, affect cost, progress or performance of the work; (c) familiarize itself with federal, state and local laws, ordinances, rules and regulations that may, in any way, affect cost, progress or performance of the work; and (d) study and carefully correlate Bidder’s observations with the Contract Documents.
6. Request may be made for the identification of those reports of investigations and tests of subsurface and latent physical conditions on the site or otherwise affecting cost, progress or performance of the work, which have been relied upon by ENGINEER in preparing the Contract Documents. OWNER may make copies of such reports available to any Bidder requesting them. Before submitting its bid, each Bidder shall, at its own expense, prepare additional investigations and tests as the Bidder may deem necessary to prepare its bid for performance of the work. The OWNER and ENGINEER make no guarantee as to the accuracy or the completeness of the reports. Nor are they included in the Contract Documents.

7. On request, OWNER will provide each Bidder access to the site to conduct investigations and tests as each Bidder deems necessary for submission of his bid.
8. It is the responsibility of the CONTRACTOR to make whatever arrangements it deems necessary to obtain access to the property that is not included within the project, including, but not limited to, land necessary to obtain access to the project, land for storage of material and equipment, etc.
9. The submission of a bid will constitute an incontrovertible representation by the Bidder that it has complied with every requirement of this Article 4 and all other provisions of the Contract Documents and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work.

Interpretations

All questions relating to the meaning or intent of the Contract Documents shall be submitted to the ENGINEER in writing. Replies, if any, may be issued if ENGINEER decides it to be in the interest of the project, by addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. ENGINEER reserves the right not to answer questions received less than 10 days prior to the date for opening of bids. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

Contract Time

The number of days within which, or the date by which, the work is to be completed (the Contract Time) is set forth in the Bid Form and shall be included in the Agreement.

Substitute Material and Equipment

The Notice of Award shall be based on the materials and equipment described in the Contract Documents without consideration of possible substitute of "or equal" items.

Subcontractors

If the ENGINEER requires the identity of certain SUBCONTRACTORS and other persons and organizations to be submitted to OWNER in advance of the Notice of Award, the Successful Bidder, and any other Bidder so requested shall, within five (5) days after the day of the bid opening, submit to OWNER a list of all SUBCONTRACTORS and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the work as to which such identification is so required.

Such a list shall be accompanied by an Experience Statement with pertinent information as to similar projects and other evidence of qualifications for each such SUBCONTRACTOR, persons and organization. If OWNER or ENGINEER has any objection to any proposed SUBCONTRACTOR, other person or organization, either may, before giving the Notice of Award, request the Successful Bidder to submit an acceptable substitute without an increase in bid price. If the apparent Successful Bidder declines to make any such substitution, the Contract shall not be awarded to the Successful Bidder. The Successful Bidder's unwillingness to make such substitution will not constitute grounds for sacrificing its bid security. After giving the Notice of Award, if the OWNER or ENGINEER, after due investigation, has reasonable objection to any SUBCONTRACTOR, other person or organization, either may request the Successful Bidder to provide an acceptable substitute without an increase in the contract price. In such a case, neither the OWNER nor the ENGINEER shall be liable for any damages

or remedies of either the CONTRACTOR or the SUBCONTRACTOR and other person or organization, of this provision of the Contract prior to the parties being contractually bound.

Bid Form

10. The Bid Form attached hereto; additional copies may be obtained from ENGINEER after payment of the required charge.
11. Bid Forms must be completed in ink or by typewriter but not pencil. The bid price of each item on the form must be stated in words and numerals. In the event of an inconsistency, the words will take precedence. However, if, in the opinion of the ENGINEER, the inconsistency is substantial, then the ENGINEER shall have the authority to consider the CONTRACTOR's bid non-uniform, and void and award the contract to another Bidder without the ENGINEER or OWNER incurring any liability to the rejected Bidder.
12. Bids by corporation must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate office must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
13. Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature. The address of the partnership must be included below the signature of the partner.
14. All names must be type or printed below the signature.
15. The bid shall contain an acknowledgment of receipt of all addenda prepared by the ENGINEER (the numbers of which shall be filled in on the Bid Form).
16. The address to which communications regarding the bid are to be directed must be included.

Submission of Bids

Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be included in an opaque sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.

Modification and Withdrawal of Bids

17. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the opening of bids.
18. If, within 24 hours after bids are opened, any Bidder files a duly-signed written notice with OWNER, and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of his bid, that Bidder may withdraw his bid and the bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the work.

Opening of Bids

Bids will be opened publicly; they will be read aloud and an abstract of the amounts of the base bids and major alternates, if any, will be made available after the opening of bids.

Bids to Remain Open

All bids shall remain open for 60 days after the date of the bid opening. However, the OWNER may, in its sole discretion, release any bid and return the bid security prior to that date.

Award of Contract

19. OWNER shall have the right to reject any bid, to waive any and all informalities, to negotiate contract terms with the Successful Bidder, and to disregard all non-conforming, non-responsive or conditional bids. Discrepancies between the indicated sum of any column of figures and the correct sum thereof shall be resolved in favor of the correct sum. However, if, in the opinion of the ENGINEER, the conflict is substantial, then the OWNER shall have the right to consider the CONTRACTOR's bid non-uniform, void the bid and award the Contract to another Bidder. The ENGINEER or OWNER shall incur no liability to the rejected Bidder.
20. In evaluating bids, the OWNER and ENGINEER shall consider the qualifications of the Bidders, whether or not the bids comply with the prescribed requirements, alternates and unit prices, if requested in the Bid Forms, and any other consideration the OWNER or ENGINEER deems pertinent. OWNER may accept alternates in any order or combination.
21. The OWNER and ENGINEER may consider the qualifications and experience of SUBCONTRACTORS and other persons and organizations (including those who are to furnish the principal items or material or equipment) proposed for those portions of the work as to which the identity of SUBCONTRACTORS and other persons or organizations must be submitted. Operating costs, maintenance considerations, performance data and guarantee of materials and equipment also may be considered by OWNER and ENGINEER.
22. The OWNER and ENGINEER may conduct such investigations as they deem necessary to assist in the evaluations of any bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed SUBCONTRACTORS and other persons and organizations to do the work in accordance with the Contract Documents.
23. The OWNER shall have the right to reject the bid of any Bidder who does not pass any such evaluation to OWNER's and ENGINEER's satisfaction.
24. If the contract is to be awarded, it will be awarded to the Bidder whose evaluation by OWNER confirms to OWNER that the award will be in the best interests of the project.
25. If the contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within 60 days after the date of the bid opening.

Signing of the Agreement

When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by at least five (5) unsigned counterparts of the Agreement and all other Contract Documents. Within 10 days thereafter, CONTRACTOR shall sign and deliver all signed counterparts of the Agreement to the OWNER with all other Contract Documents attached. Within 15 days thereafter, OWNER will deliver all fully signed counterparts to CONTRACTOR. ENGINEER will identify those portions of the Contract Documents not fully signed by OWNER and CONTRACTOR and such identification shall be binding on all parties.

These instructions to bidders are incorporated in the contract and made a part thereof.

SPECIAL INSTRUCTIONS TO BIDDERS

It is the intent of the OWNER that the CONTRACTOR shall complete all work as provided in the contract documents. However, the OWNER reserves the right to delete locations shown in the contract documents and to add additional locations within the **City**.

Bid Prices

Bid prices shall remain firm for 60 days and shall include all costs associated with materials, equipment, tools, labor, signing, incidentals and transportation necessary to fully complete the project in compliance with the Specifications.

ENGINEER

1. The Engineer, Hennessey Engineers, Inc., shall have general supervisory authority to stop the work whenever such stoppage may be necessary to ensure the proper execution of the contract. The Engineer also shall have authority to reject any work or materials, which do not conform to the contract, to resolve any questions regarding the Contract Documents, and to provide any interpretation of the Contract Documents.
2. The CONTRACTOR shall immediately report to the Engineer any questionable or obvious error or omission in the Contract Documents and shall not proceed with the work until the Engineer has addressed the error or omission.
3. Questions regarding the plans and specifications for this project may be directed to Alan Cruz at (734) 759-1600. The Engineer shall have the right to inspect any materials to be used by the CONTRACTOR in performing its work with respect to this contract.
4. The OWNER and Engineer do not assume any liability for the availability of materials, equipment or components required under this contract.
5. Materials, equipment, components or completed work not in compliance with the Contract Documents may be rejected by the Engineer or designated representative, and shall be replaced by the CONTRACTOR at no cost to the OWNER or Engineer.

Responsibility of CONTRACTOR

6. The CONTRACTOR shall be responsible for its work. The CONTRACTOR assumes all risk of damage to its work under the contract and agrees to defend and indemnify the OWNER and Engineer against any and all claims arising out of, or related to, its work under the contract.
7. 2. The CONTRACTOR shall be held responsible for the satisfactory and complete execution of its work under the contract. The CONTRACTOR shall provide, without extra charge, all incidental items required as a part of its work under the contract, even if not particularly specified or indicated.
8. All work performed by the CONTRACTOR shall comply with any and all industry standards and federal, state and local codes, statutes and ordinances which shall be considered as included as part of the Contract Documents.
9. Any reference in these documents to Standard Specifications shall mean the latest revision of those Specifications and shall become a part of the Contract Documents. Any part of the work

not completely detailed in these documents, or referenced in a Standard Specification, shall be governed by the latest edition of the proper industry document.

10. The CONTRACTOR shall supervise its work under the contract and shall have a competent person on site at all times when work is performed.
11. The CONTRACTOR shall daily remove all rubbish and accumulated materials resulting from its work under this contract.
12. The CONTRACTOR shall comply with all applicable OSHA and MIOSHA regulations.

Site Inspection

The CONTRACTOR is required to investigate and become familiar with all conditions relating to the work to be performed by it under this contract; shall verify all measurements and materials required under this contract; and shall be responsible for correctness of same. The CONTRACTOR shall not be entitled to any extra charges or compensation for any errors, omissions or miscalculations on the part of the CONTRACTOR, or because of the failure on the part of the CONTRACTOR to investigate or inspect the site.

Site Security

The CONTRACTOR shall be solely responsible for job site security of his materials and tools. The OWNER and ENGINEER shall not be liable to the CONTRACTOR for any loss or damage to the CONTRACTOR's materials and tools.

Site Access

The OWNER will provide fair and reasonable access to the job site within the working schedule of both parties.

Protection of Work, Property and Public

13. The CONTRACTOR shall maintain adequate protection of its work from damage and shall protect all public and private abutting property from injury or loss arising in connection with this contract. The CONTRACTOR shall provide and maintain all barricades, lights, fences, watch persons or other facilities necessary to protect all persons from danger or hazardous conditions resulting from its work under this contract.
14. The CONTRACTOR shall confine its equipment and operations to those areas of the work site necessary for the completion of its work, or as authorized by the ENGINEER. The CONTRACTOR shall protect and preserve from damage any facilities, utilities or features including trees, shrubs and turf, which are not required to be disturbed by the requirements of the work.
15. The CONTRACTOR shall supply and maintain all necessary lights, signs and barricades for the protection of the work and of the public. Traffic control devices used by the CONTRACTOR shall conform to the Michigan Manual of Uniform Traffic Control Devices (abstracted in a MDOT publication, "Construction Signing").
16. All protection and control devices within the "area of construction" shall be considered as incidental to the performance of the work by the CONTRACTOR and, therefore, the CONTRACTOR shall not be entitled to any extra payment of compensation for providing same. For purposes of this contract, the "area of construction" is defined as any city block in which the work of the CONTRACTOR may affect the safe travel of the public.

Construction Schedule and Coordination

17. Time is of the essence with respect to the work to be performed by the Contractor. Failure on the part of the CONTRACTOR to complete the work within the stated time it has set forth in the contract and agreed to herein, the CONTRACTOR shall be liable to the OWNER for any damages incurred by the OWNER as a result of such delay.
18. The CONTRACTOR shall coordinate with all other CONTRACTORS who may be working on the site in order to allow for the orderly progress of work being done on the site.
19. The CONTRACTOR shall supply the ENGINEER with an agreed upon Construction Schedule before commencing any work under this contract. The Construction Schedule shall detail beginning and completion dates for each major component of the project.
20. Construction delays resulting from tardiness on the part of the CONTRACTOR will be reviewed by the ENGINEER in the event of any request for extension by the CONTRACTOR.
21. The CONTRACTOR shall schedule all work to accommodate the City's schedule. In the event CONTRACTOR's schedule falls on weekends, nights or overtime work is required, no additional compensation will be allowed. All work shall be part of this Contract without regard to when it is done.
22. Note that this is a project requiring planning, scheduling and cooperation on the part of all parties concerned.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____

_____ as Principal, and

_____ as Surety, are

hereby held and firmly bound unto **City of Belleville, 6 Main Street, St. Belleville, Michigan 48111**

as owner in the penal sum of _____

for payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed this _____ day of _____ 20__.

The Condition of the above obligation is such that whereas the Principal has submitted to

_____ a certain Bid, attached hereto and hereby made a part thereof to enter into a contract in writing for the:

5TH AND LIBERTY PARKING LOT EXPANSION

NOW, THEREFORE,

1. If said Bid shall be rejected, or in the alternate,
2. If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish bonds for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connecting therewith, and shall, in all other respects, perform the agreement created by the acceptance of said Bid,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or directed by any extension of the time within which the OWNER may accept such Bid; and said Surety does hereby waive notice of any such extension.

IT WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their property officers, the day and year first set forth above.

(L.S.)

Principal

Surety

By: _____

IMPORTANT: Surety companies executing bonds must appear of the Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the state where the project is located.

EXHIBIT A: PROPOSAL
5th and Liberty Parking Lot Expansion

TO: City of Belleville
6 Main Street
Belleville, Michigan 48111

The undersigned has examined the plans, specifications and locations of the above-described work and is fully informed as to the nature of the work and conditions relating to its performance and understands the quantities shown on the attached Itemized Bid Sheet(s) are approximate only and are subject to either increases or decreases unless specifically mentioned otherwise in this Contract; the undersigned fully understands all the Contract Documents including, but not limited to, Article 5 (Bonds and Insurance) of the General Conditions.

The undersigned hereby proposes to furnish all necessary machinery, tools, equipment, and other means of construction to do all the work, furnish all materials, except as herein specified, and to complete the work in strict conformity with the requirements of the Proposal and Specifications, all at unit prices set forth in the Itemized Bid Sheet(s).

The undersigned further agrees, if awarded the contract, to deliver executed contract and bonds and furnish evidence of insurance within 10 days after the date of award.

The undersigned encloses a certified or cashier's check or bid bond in the amount of five percent (5%) of the bid payable to the City and included with the bid submittal.

Signed: _____ Address : _____

Firm Name: _____

Contact Name: _____

Email: _____

Telephone: _____

All erasures or alterations must be initialed by the bidder.

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____
in the year 20____, by and between the City of Belleville, 6 Main Street, St. Belleville, Michigan
48111 hereinafter called OWNER, and _____

herein after called CONTRACTOR, whereas OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. **WORK**

CONTRACTOR shall complete all work as specified or indicated in the Contract Documents. The work is generally described as follows:

5th and Liberty Parking Lot Expansion

Article 2. **ENGINEER**

The proposal has been completed by Hennessey Engineers, Inc., 13500 Reeck Road, Southgate, Michigan 48195, which is hereinafter called ENGINEER, which will have the right and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. **CONTRACT TIME**

- 3.1 The Work shall be substantially completed as provided in Article 2 of the General Conditions, and completed and ready for final payment in accordance with Article 12 of the General Conditions.

The work for this project shall be substantially completed on the date specified in the Invitation to Bid document.

The itemized bid sheets have an item for Construction Observation. The contractor is to enter the number of days they will need to complete the project. Any days that exceed the number of days the contractor bids will be at the cost of the contractor and will be deducted from the contract.

- 3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the work is not substantially completed within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in presiding in a legal or arbitration proceeding and the actual loss suffered by OWNER if the work is not substantially completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER, City of Belleville, \$500 for each day that expires after the time specified in paragraph 3.1 for completion until the work is completed.

Article 4. CONTRACT PRICE

OWNER shall pay CONTRACTOR for performance of the work in accordance with the Contract Documents in current funds as shown in Exhibit A: Proposal.

Article 5. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions. CONTRACTOR is to use AIA Document G-702 for all Applications of Payment.

- 5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER about 35 days after submittal of pay request by CONTRACTOR. Progress payments will be on the basis of the progress of the work, the amount of which will be decided by the ENGINEER. Progress payments will be made in accordance with State Act 524.
- 5.2 Final Payment. Upon final completion and acceptance of the Work in accordance with Article 14 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Article.

Article 6. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

- 6.1 Whenever anywhere in these Contract Documents insurance is required, the name of the OWNER.
- 6.2 CONTRACTOR has fully and completely familiarized himself with the nature and extent of the Contract Documents, work, locality and with all local conditions and federal, state and local laws, ordinances, rules and regulations that, in any manner, may affect cost, progress or performance of the work.
- 6.3 CONTRACTOR has studied carefully all reports of investigation and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work which were relied upon by ENGINEER in the preparation of the drawings and specifications and which have been identified in the Supplementary Conditions.
- 6.4 CONTRACTOR has fully and completely made or caused to be made at CONTRACTOR'S expense, examinations, investigations, tests and studies of data, in addition to those referred to in paragraph 6.3 of the Agreement, including, but not limited to, subsurface conditions, soil and underground strength conditions, whether latent or not, and any underground utility structures or obstacles and any other data that may possibly be deemed pertinent to the performance of the work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, and any additional examinations, investigations, tests, reports or similar data as will be required by CONTRACTOR's agent at CONTRACTOR's expense. Such work should be considered incidental to the Contract Price.
- 6.5 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- 6.6 CONTRACTOR has given the ENGINEER written notice of all conflicts, errors, discrepancies that he has discovered in the Contract Documents and the written resolution thereof by the ENGINEER is acceptable to the CONTRACTOR.

- 6.7 The CONTRACTOR accepts all risk directly or indirectly connected with the performance of the Contract.
- 6.8 The CONTRACTOR warrants that he has not been influenced by an oral statement or promise of the OWNER or the ENGINEER, but only by the Contract Documents.

Article 7. CONTRACT DOCUMENTS

- 7.1 This Agreement
- 7.2 Exhibit A: Proposal and Itemized Bid Sheet(s)
- 7.3 All bonds identified as Exhibit B: Performance Bond, Exhibit C: Payment Bond and Exhibit D: Maintenance and Guarantee Bond
- 7.4 Notice of Award
- 7.5 General Conditions
- 7.6 Instructions to Bidders
- 7.7 Specifications and Special Provisions bearing the title:

5th and Liberty Parking Lot Expansion

- 7.8 Included Addendums
- 7.9 CONTRACTOR's Bid
- 7.10 Documentation submitted by CONTRACTOR prior to Notice of Award
- 7.11 Any modification, including Change Orders, duly delivered after execution of Agreement:
There are no Contract Documents other than those listed above in Article 7 of this Agreement.
The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Section 1 of the General Conditions)

Article 8. MISCELLANEOUS

- 8.1 Terms used in this Agreement, which are defined in Article 1 of the General Conditions, shall have the meanings indicated in the General Conditions.
- 8.2 No assignment by the CONTRACTOR hereto of any rights under or interest in the Contract Documents will be binding on the OWNER hereto without the written consent of the part sought to be bound; and, specifically, any not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and, unless specifically stated to the contrary in any written consent to an agreement, no assignment will release or discharge the CONTRACTOR from any duty or responsibility under the Contract Documents.
- 8.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

Article 9. RESOLVING CONFLICTS

In resolving conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Modification, Addenda, Supplementary Conditions, Instructions to Bidders, General Conditions, Special Provisions, Supplemental Specifications, Project Technical Specifications and Standard Notes. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All parties of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on _____ 20__.

OWNER: City of Belleville, 6 Main Street, St. Belleville, Michigan 48111

By: _____

CONTRACTOR: _____

By: _____
PRINT NAME SIGNATURE

EXHIBIT B: PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of CONTRACTOR)

(CONTRACTOR Address)

CONTRACTOR Telephone: _____ Fax: _____

Hereinafter called Principal, and _____
(Name of Surety)

(Surety Address)

Surety Telephone: _____ Fax: _____

Hereinafter called Surety, are held and firmly bound unto:

CITY OF BELLEVILLE

(Name of OWNER)

City of Belleville, 6 Main Street, St. Belleville, Michigan 48111
(OWNER Address)

OWNER Telephone: _____

hereinafter called OWNER, in the penal sum of _____ Dollars,

(\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas the Principal entered into a certain Contract with the OWNER, dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

5th and Liberty Parking Lot Expansion

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract, including any change of work which may be required by OWNER, with or without notice to the Surety, during the original term thereof, any extensions thereof which may be granted by the OWNER, with or without notice to the Surety, including any change of work which may be required by OWNER, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless

the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alternation, or addition to the terms of the Contract or to work to be performed, thereunder, or the Specifications accompanying the same shall, in any way, affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in five (5) counterparts, each one of which shall be deemed an original, this ____ day of _____, 20__.

ATTEST:

Principal

(Principal) Secretary

(SEAL)

By:

Address: _____

ATTEST:

Witness to Principal

(Surety)

Address: _____

Phone: _____ Fax: _____

ATTEST:

By: Attorney-In-Fact

(Surety) Secretary

(SEAL)

Address: _____

Phone: _____ Fax: _____

NOTE: Date of Bond must not be prior to date of Contract. If CONTRACTOR in Partnership, all Partners should execute Bond.

EXHIBIT C: PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of CONTRACTOR)

(CONTRACTOR Address)

CONTRACTOR Phone: _____ Fax: _____

Hereinafter called Principal, and _____
(Name of Surety)

(Address of Surety)

Surety Phone: _____ Fax: _____

Hereinafter called Surety, are held and firmly bound unto:

CITY OF BELLEVILLE

(Name of OWNER)

City of Belleville, 6 Main Street, St. Belleville, Michigan 48111

(OWNER Address)

OWNER Telephone _____

Hereinafter called OWNER, in the penal sum of _____

Dollars, (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents:

THE CONDITION OF THIS OBLIGATION is such that whereas the Principal entered into a certain Contract with the OWNER, dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

5th and Liberty Parking Lot Expansion

NOW THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and

for all labor, performed in such work whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to work to be performed thereunder, or the Specifications accompanying the same shall, in any way, affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IT WITNESS WHEREOF, this instrument is executed five (5) counterparts, each one of which shall be deemed an original, this the ____ day of _____ 20____.

ATTEST:

Principal

(Principal) Secretary

(SEAL)

By:

Address: _____

ATTEST:

Witness to Principal

(Surety)

Address: _____

Phone: _____ Fax: _____

ATTEST:

By:

Attorney-In-Fact

(Surety) Secretary

(SEAL)

Address: _____

Phone: _____ Fax: _____

NOTE: Date of Bond must not be prior to date of Contract. If CONTRACTOR is Partnership, all Partners should execute Bond.

**EXHIBIT D:
MAINTENANCE AND GUARANTEE BOND**

KNOW ALL MEN THESE PRESENTS: that

_____, CONTRACTOR, as Principal, and
_____, as Surety, are held and firmly

bound into the **City of Belleville, 6 Main Street, St. Belleville, Michigan 48111**

HEREINAFTER CALLED THE OWNER, in the sum of _____
_____ Dollars (\$_____) good and lawful money of the
United States of America, to be paid to said OWNER, its legal representatives and assigns, for which
payment well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors and assigns, and each and every one of them jointly and severally firmly by these presents.

WHEREAS, the above named Principal has entered into a certain written Contract with the OWNER,
dated the _____ day of _____, 20____, for construction of work entitled:

5th and Liberty Parking Lot Expansion

(Hereinafter called the Contract). Which Contract and Specifications for said work shall be deemed a
part herein as fully as if set out herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that by and under said
CONTRACTOR, the above named Principal has agreed with OWNER that, for a period of two years
from the date of payment of Final Estimate, to keep in good order and repair any defect in all the work
done under said Contract either by the Principal or his SUBCONTRACTOR, or his material suppliers,
that may develop during said period due to improper materials, defective equipment, workmanship
or arrangements, and any other work affected in making good such imperfections, shall also be made
good, all without expense to the OWNER and that whenever directed so to do by the OWNER by
notice served in writing, either personally or by mail on the Principal at:

OR

legal representatives, or successors, or on the Surety at:

WILL PROCEED at once to make such repairs as directed by said OWNER and, in case of failure to do so within one (1) week from the date of service of such notice, or within reasonable time not less than one (1) week, as shall be fixed in said notice, then the OWNER shall have the right to purchase such materials and employ such labor and equipment as may be necessary for the purpose, and to undertake, do and make such repairs, and charge the expense thereof to, and receive same from said Principal or Surety. If any repair is necessary to be made at once to protect life and property, then and in that case, the OWNER may take immediate steps to repair or barricade such defects without notice to the CONTRACTOR. In above accounting, the OWNER shall not be held to obtain the lowest figures for doing of the work, or any part thereof, but all sums actually paid therefore shall be charged to the Principal or Surety. In this connection, the judgment of the OWNER is final and conclusive. If the said Principal for a period of two (2) years from the date of payment of Final Estimate shall keep said work so constructed under said Contract in good order and repair and shall, whenever notice is given as hereinbefore specified, at once proceed to make repair as in said notice directed, or shall reimburse said OWNER for any expense incurred by making such repairs, should the Principal or Surety fail to do as hereinbefore specified, and shall fully indemnify, defend and save harmless the OWNER from all suits and actions for damages of every name and description brought or claimed against it for, or on account of, any injury or damage to person or property received or sustained by any party or parties by, or from, any of the acts or omissions or through the negligence of said Principal, servants, agents or employees, in the prosecution of the work included in said Contract, then the above obligation shall be void, otherwise to remain in full force and effect. The OWNER's opinion as to whether the work performed is in good order and repair should be final.

IT WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their respective authorized officers this ____ day of _____, 20____.

Signed, Sealed and Delivered
In the Presence of:

Principal _____(Seal)

Surety _____(Seal)

CONTRACTOR'S AFFIDAVIT
Current Estimate

STATE OF _____ COUNTY OF _____,

The undersigned, _____,

Hereinafter called the CONTRACTOR, hereby represents that on _____,

_____ he/it was awarded a Contract by

City of Belleville, 6 Main Street, St. Belleville, Michigan 48111

hereinafter called the OWNER, to _____

in accordance with the terms of this Contract; and the undersigned further represent that all progress payments heretofore received from the OWNER on account of the work have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR's obligations incurred in connection with the work by all prior estimates.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this ____ day of _____, 20____.

CONTRACTOR

By: _____

Title

Subscribed and sworn to before me this ____ day of _____, in the year 20____.

Notary Public

My Commission expires on: _____

CONTRACTOR'S AFFIDAVIT
Final Estimate

STATE OF _____ COUNTY OF _____,

The undersigned, _____,

Hereinafter called the CONTRACTOR, hereby represents that on _____,

_____ he/it was awarded a Contract by

City of Belleville, 6 Main Street, St. Belleville, Michigan 48111

hereinafter called the OWNER, to _____

in accordance with the terms of this Contract; and the undersigned further represent that subject work has now been accomplished, and the said Contract has now been completed.

The undersigned hereby warrants and certifies that all of his (its) indebtedness arising by reason of the said Contract has been fully paid or satisfactorily secured; and that all claims from SUBCONTRACTORS and others for labor and material used in accomplishing said project, as well as all other claims arising from the performance of said Contract, have been fully paid or satisfactorily settled. The undersigned further agrees that, if any such claim should hereinafter arise, he (it) shall assume responsibility for the same immediately upon request to do so by the OWNER.

The undersigned, for a valuable consideration, the receipt of which is hereby acknowledged, does further hereby waive, release and relinquish any and all claims or right of lien which the undersigned has or may hereafter acquire upon the subject premises for labor and material used in accomplishing said project owned by the OWNER.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this ____ day of

_____, 20____.

CONTRACTOR

By: _____

Title

Subscribed and sworn to before me this ____ day of _____, in the year, 20____.

Notary Public

My Commission expires on: _____

CONTRACTOR'S AFFIDAVIT
Construction Materials

STATE OF _____ COUNTY OF _____,

The undersigned, _____,

Hereinafter called the CONTRACTOR, hereby represents that on _____,

_____ he/it was awarded a Contract by

City of Belleville, 6 Main Street, St. Belleville, Michigan 48111

hereinafter called the OWNER, to _____

in accordance with the terms and conditions of this Contract; and the undersigned further represent that all materials used and installed on the project were received by a certified manufacturer's supplier and was installed per all applicable manufacturer's recommendations.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this ____ day of

_____, 20____.

CONTRACTOR

By: _____

Title

Subscribed and sworn to before me this ____ day of _____, in the year, 20____.

Notary Public

My Commission expires on: _____

CONTRACTOR'S AFFIDAVIT
Site Visit and Understanding

STATE OF _____ COUNTY OF _____,

The undersigned, _____,

Hereinafter called the CONTRACTOR, hereby represents that on _____,

in accordance with the terms and conditions of this Contract; and the undersigned further acknowledges that he has visited the site and has an understanding of the proposed project and proposed site.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this

_____ day of _____, 20_____.

CONTRACTOR

By: _____

Title

Subscribed and sworn to before me this ____ day of _____, in the year, 20_____.

Notary Public
My Commission expires on: _____

GENERAL CONDITIONS

ARTICLE 1: DEFINITIONS

Whenever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural thereof.

Addenda: Written or graphic instruments issued prior to the opening of Bids that clarify, correct or change the bidding documents or the Contract Documents.

Agreement: The written agreement between OWNER and CONTRACTOR covering the work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment: The form that is to be used by CONTRACTOR in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

Bid: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the work to be performed.

Bonds: Bid, performance and payment bonds and other instruments of security submitted on forms as required by Contract Documents.

Change Order: A written order to CONTRACTOR, signed by OWNER, authorizing an addition, deletion or revision in the work, or an adjustment in the Contract Price or the Contract Time issued after the effective date of the Agreement.

Contract Documents: The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications, the Drawings as the same are more specifically identified in the Agreement, together with all modifications issued after the execution of the Agreement and the Instructions to Bidders.

Contract Price: The monies payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement.

Day: A calendar day of 24 hours measured to the next midnight.

Defective: An adjective which, when modifying the word "work," refers to work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEERS's recommendation of final payment.

Drawings: The drawings which show the character and scope of the work to be performed and are referred to in the Contract Documents.

Effective Date of Agreement: The date indicated in the Agreement on which it becomes effective; but, if no date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER: The person, firm or corporation named as such in the Agreement.

Modification: (a) A written amendment of the Contract documents signed by both parties, (b) a Change Order. A modification may only be issued after the effective date on the Agreement.

Notice of Award: The written notice by OWNER to the apparent Successful Bidder stating that, upon compliance by the apparent Successful Bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

OWNER: The public body of authority, corporation, association, partnership or individual with whom CONTRACTOR has entered into the Agreement and from whom the work is to be provided.

Project: The total construction of which the work is to be provided under the Contract Documents may be the whole or a part, as indicated elsewhere in the Contract Documents.

Shop Drawings: All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by CONTRACTOR, a SUBCONTRACTOR, manufacturer, fabricator, supplier or distributor to illustrate some portion of the work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a manufacturer, fabricator, supplier or distributor and submitted by CONTRACTOR to illustrate material or equipment for some portion of the work.

Specifications: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the work and certain administrative details applicable thereto.

SUBCONTRACTOR: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the work at the site.

Substantial Completion: The work (or a specified part thereof) has progressed to the point where it is sufficiently complete, in accordance with the Contract Documents, so that the work (or specified part) can be utilized for the purpose for which it was intended; or, if there is no such point established, when final payment is due in accordance with Article 14. The terms “substantially complete” and “substantially completed,” as applied to any work, refer to substantial completion thereof.

Work: The entire completed construction, or the various separately identifiable parts thereof, are required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction — all as required by the Contract Documents.

GENERAL CONDITIONS

ARTICLE 2: PRELIMINARY MATTERS

Delivery of Bonds

When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR may be required to furnish in accordance with Article 5.

Copies of Documents

OWNER shall furnish to CONTRACTOR up to five (5) copies (unless otherwise specified in the General Requirements) of the Contract Documents as are reasonably necessary for the execution of the work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Time: Notice to Proceed

The contract time will be presumed to commence to run on the first day after the effective date of the Agreement, without a need for notice to proceed. Only if that is not possible, for reasons within the contract of the OWNER, then a notice to proceed shall be given by the OWNER stating the date when the contract time will commence.

Starting the Project

CONTRACTOR shall start to perform the work on the date when the contract time commences to run, but no work shall be done at the site prior to the date on which the contract time commences to run.

Before Starting Construction

1. CONTRACTOR shall start to perform the work. CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report, in writing to ENGINEER, any conflict, error or discrepancy which CONTRACTOR may discover; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the drawings and specifications, unless CONTRACTOR had actual knowledge thereof or should reasonably have know thereof.
2. Before work at the site is started, CONTRACTOR shall deliver to OWNER certificates (and other evidence of insurance requested by OWNER), which CONTRACTOR is required to purchase and maintain in accordance with Article 5.
3. Within 20 days after the effective date of the Agreement, but before CONTRACTOR starts the work at the site, a conference will be held for review and acceptance of the schedules to establish procedures for handling shop drawings and other submittals and for processing applications and payment and to establish a working understanding among the parties as to the work.

GENERAL CONDITIONS

ARTICLE 3: CONTRACT DOCUMENTS: INTENT AND REUSE

Intent

1. The Contract Documents comprise the entire Agreement between OWNER and CONTRACTOR concerning the work. They may be altered only by a modification.
2. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If during the performance of the work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall report it to ENGINEER in writing at once and before proceeding with the work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the specifications or drawings unless CONTRACTOR has actual knowledge thereof or should reasonably have known thereof.
3. It is the intent of the specifications and drawings to describe a complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any work that may reasonably be inferred from the specifications or drawings as being required to produce the intended result shall be applied whether or not it is specifically called for. When words that have a well-known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the code of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual or code in effect at the time of opening of bids (or on the effective date of the Agreement if there were no bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their agents or employees from those set forth in the Contract Documents.
4. The Contract Documents will be governed by the law of the place of the project.

Reuse of Documents

Neither CONTRACTOR nor any SUBCONTRACTOR, manufacturer, fabricator, supplier or distributor shall have or acquire any title to or ownership rights in any of the drawings, specifications or other documents (or copies of any thereof) prepared by or bearing the seal or logo of ENGINEER; and they shall not reuse any of them or part thereof on extensions of the project or any other project without the written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

GENERAL CONDITIONS
ARTICLE 4: AVAILABILITY OF LANDS,
PHYSICAL CONDITIONS, REFERENCE POINTS

Availability of Lands

CONTRACTOR shall arrange for all lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Physical Conditions — Investigations and Reports

Reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work which have been relied upon by ENGINEER in preparation of the drawings and specifications — are not guaranteed as to accuracy or completeness and are not part of the Contract Documents.

Unforeseen Physical Conditions

By signing the contract, the CONTRACTOR has represented that he has fully and completely made or caused to be made at CONTRACTOR's expense, examinations, investigations, tests and studies of data in addition to those referred to in Article 6 of the Agreement, including but not limited to, subsurface conditions, soil and underground strength conditions, whether latent or not, and any underground utility structure or obstacle and any other data that may possibly be deemed pertinent to the performance of the work at the contract price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents; and any additional examinations, investigations, tests, reports or similar data as will be required by CONTRACTOR for such purposes will be performed by CONTRACTOR or CONTRACTOR's agent at CONTRACTOR's expense. Such work should be considered incidental to contract price.

Reference Points

OWNER shall provide engineering surveys for construction to establish reference points that, in his judgment, are necessary to enable CONTRACTOR to proceed with the work. CONTRACTOR shall be responsible for laying out the work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER such changes being deducted from CONTRACTOR's payment estimate.

GENERAL CONDITIONS

ARTICLE 5: BONDS AND INSURANCE

Performance and Other Bonds

1. CONTRACTOR shall furnish performance and payment bonds, each in an amount at least equal to the contract price, as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These bonds shall remain in effect at least until one year after the date of final payment. CONTRACTOR also shall furnish such bonds as are required in this article. All bonds shall be in the forms prescribed by the bidding documents in the state where the project is located. All bonds, signed by an agent, must be accompanied by a certified copy of the authority to act.
 - a. The insurance and bonds required herein may be increased after award of project if said increase is found reasonably necessary or required for the proper performance of the project. Said increase shall be at the CONTRACTOR's expense.
 - b. The CONTRACTOR is under a continued obligation to submit insurance and bonds as required herein. If, at any time prior to final acceptance, the OWNER discovers that any insurance or bonds required herein were either not submitted by CONTRACTOR or not submitted in full compliance with the Contract Documents, then the OWNER has the option to require the CONTRACTOR to submit insurance and bonds as required in the contract. In case of failure of CONTRACTOR to submit such bonds or insurance, the OWNER may elect any remedy that may reasonably protect the OWNER's interest. However, the originally submitted bonds and insurance would continue to have full effect and force.
 - c. All bonds shall be in the forms prescribed by the bidding documents or supplementary general conditions and be executed by such sureties as (i) are licensed to conduct business in the state where the project is located, and (ii) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds, signed by an agent, must be accompanied by a certified copy of the authority to act.
2. If the surety on any bond furnished by CONTRACTOR is declared bankrupt, becomes insolvent or its right to do business is terminated in any state where any part of the project is located or it ceases to meet the requirements of Article 5, CONTRACTOR shall, within five (5) days thereafter, substitute another bond and surety, both of which shall be acceptable to the OWNER.

Contractor's Liability Insurance

3. The insurance certificates required herein from a part of this contract and until such required certificates are delivered to OWNER and approved by the OWNER and ENGINEER, no valid Contract shall exist between the parties hereto. It is absolutely necessary that all certificates be approved by the corporation counsel before any work is started pursuant to this contract.
4. CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance that will provide protection from claims set forth below which may arise out of, or result

from, CONTRACTOR's performance of the work and CONTRACTOR's other obligations under the Contract Documents, whether such performance is by CONTRACTOR, by any SUBCONTRACTORS, by anyone directly or indirectly employed by any of them, or by anyone for whom acting on their behalf may be liable.

5. THE CONTRACTOR SHALL FURNISH FIVE (5) CERTIFIED COPIES OF ALL CERTIFICATES OF INSURANCE POLICIES REQUESTED HEREIN. The OWNER and ENGINEER shall be named insured on each and every insurance policy required herein. The CONTRACTOR must furnish certificates for the following insurance:

A. Workmen's Compensation

Compensation	Statutory
Employer's Liability	
Each Accident	\$100,000
Disease – Policy Limit	\$500,000
Disease – Each Employee	\$100,000

B. Comprehensive General Liability

General Aggregate	\$3,000,000
Products – Com/Ops Aggregate	\$1,000,000
Personal and Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000
Fire Damage (any one person)	\$ 50,000
Medical Expense (any one person)	\$ 5,000

*Certificates shall show that X, C and U coverage is included

C. Comprehensive Automobile Liability – Coverage shall include Owned, Non-owned and Hired Autos

Bodily Injury – Per Person	\$ 500,000
Bodily Injury – Per Accident	\$2,000,000
Property Damage	\$1,000,000
or	
Combined Single Limit	\$2,000,000

D. Owner's Protective Liability – Policy to be written with the City of Belleville as the insured

General Aggregate	\$1,000,000
Each Occurrence	\$1,000,000

E. Umbrella or Excess Liability

Contractor is granted the option of arranging coverage under a single policy for the full limits required or by a combination of underlying policies with the balance provided by an Excess Liability or Umbrella Liability policy, with Each Occurrence and the Aggregate Limits equal to the total limits requested.

This insurance required by this Article 5 shall include the specific coverage and be written for not less than the limits of liability and coverages provided herein or in the Supplementary Condition, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All such insurance shall contain a

provision that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and ENGINEER. All such insurance shall remain in effect until final payment and, at all times thereafter, when CONTRACTOR may be correcting, removing or replacing defective work in accordance with Article 13. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two (2) years after final payment and furnish OWNER and ENGINEER with evidence of continuation of such insurance at final payment and one (1) year thereafter.

6. The comprehensive general liability insurance required to Article 5 will include contractual liability insurance applicable to CONTRACTOR's obligations under Article 6.
7. The CONTRACTOR shall maintain, during the life of this contract, OWNER'S and CONTRACTOR'S Protective Liability Coverage in the name of:
 - A. The OWNER
 - B. The ENGINEER
 - C. Others, if specifically required by special permission in the Contract Documents.

This coverage shall include the entire work. The CONTRACTOR shall furnish a Certificate of Insurance certifying that this OWNER'S and CONTRACTOR'S Protective Liability Insurance includes all SUBCONTRACTORS's engaged in the work. The OWNER's and CONTRACTOR'S Protective Liability Coverage shall contain the following endorsement:

"It is hereby understood and agreed that such insurance as is afforded shall include specific coverage for the so-called Explosion, Collapse and Underground Hazards, which covers damage or structural injury to buildings or adjacent structures arising from operations under this Contract including excavation or tunneling and damage sustained by wires, conduits, mains, sewers and the like, occasioned by the CONTRACTOR's sub-surface operations."

Property Insurance

8. Unless otherwise provided in these General Conditions, CONTRACTOR shall purchase and maintain property insurance upon the work at the site to the full insurable value thereof (subject to such deductible amounts as required by law). This insurance shall include the interests of OWNER, ENGINEER, CONTRACTOR and SUBCONTRACTOR in the work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage, including theft, vandalism and malicious mischief, collapse and water damage and such other perils as may be provided in these General Conditions, and shall include damages, losses and expenses arising out of, or replacement of, any property (including fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance in transit when such portions of the work are to be included in an Application for Payment. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5 shall contain a provision that the coverage afforded will not be canceled or materially changed until at least 30 days prior written notice has been given to the OWNER and ENGINEER.
9. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR or SUBCONTRACTORS in the work to the extent of any deductible amounts that are provided in this contract. If CONTRACTOR wishes property insurance coverage

within the limits of such amounts, CONTRACTOR may purchase and maintain it at his own expense.

10. OWNER and CONTRACTOR waive all rights against each other and the SUBCONTRACTOR and their agents and employees and against ENGINEER and separate CONTRACTORS (if any) and their SUBCONTRACTOR's agents and employees for damages caused by fire or other perils to the extent covered by insurance provided under Article 5 or any other property insurance applicable to the work, except such rights as they may have to the proceeds of such insurance held by OWNER as trustee. CONTRACTOR shall require similar written waivers from each SUBCONTRACTOR (in accordance with Article 6 as applicable); each such waiver will be in favor of all other parties enumerated in this Article.
11. Any insured loss under the policies of insurance required by this Article shall be adjusted with OWNER and made payable to OWNER as trustee for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause and of this Article. OWNER shall deposit, in a separate account, any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged work shall be repaired or replaced, the monies so received applied on account thereof and the work and the cost thereof covered by an appropriate Change Order.
12. OWNER, as trustee, shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing, within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection is made, OWNER, as trustee, shall make settlement with the insurers in accordance with such agreements as the parties in interest may reach. If required in writing by any party in interest, OWNER, as trustee, shall, upon occurrence of an insured loss, give bond for the proper performance of his duties.

Acceptance of Insurance

13. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5 on the basis of its not complying with the Contract Documents, OWNER will notify the CONTRACTOR in writing thereof within 30 days of the date of delivery of such certificates to OWNER in accordance with Article 2.
14. If OWNER finds it necessary to occupy or use a portion or portions of the work prior to Substantial Completion of all work, such use or occupancy may be accomplished in accordance with Article 14; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and, in writing, effected the changes in coverage necessary thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.
15. In order to determine financial strength and reputation of insurance carriers, all companies providing the coverage required shall be licensed or approved by the Insurance Bureau of the State of Michigan and shall have a financial rating not lower than XI and a policyholder's service rating no lower than A- as listed in A.M. Best's Key Rating Guide, current edition. Companies with ratings lower than A- and XI will be acceptable only upon written consent of the OWNER.

GENERAL CONDITIONS

ARTICLE 6: CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence

16. CONTRACTOR shall supervise and direct the work competently and efficiently, devoting such attention thereto and apply such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. CONTRACTOR shall be responsible to see that the finished work complies accurately with the Contract Documents.
17. CONTRACTOR shall keep on the work site at all times, during its progress, a competent resident superintendent who shall not be replaced without written notice to OWNER and ENGINEER, except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.
18. CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the work and perform construction as required by the Contract Documents. CONTRACTOR shall, at all times, maintain good discipline and order at the site. Except in connection with the safety or protection of persons, or the work or property at the site, or adjacent thereto, and, except as otherwise indicated herein, all work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday without OWNER's consent.
19. CONTRACTOR shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities, and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the work.
20. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by OWNER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment.
21. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier or distributor, except as otherwise provided in the Contract Documents.
22. Whenever materials or equipment are specified or described in the drawings or specifications by using the name of a proprietary item or the name of a particular manufacturer, fabricator, supplier or distributor, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other manufacturers, fabricators, suppliers or distributors may be accepted by OWNER if sufficient information is submitted by CONTRACTOR to allow OWNER to determine that the material or equipment proposed is equivalent to that named. The procedure for review will be as set forth in Article 6 below or as supplemented in the General Requirements.
 - A. Requests for review of substitute items of material and equipment will not be accepted by OWNER and ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to

furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER through the ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions called for by the general design, be similar and of equal substance to that specified, and be suited to the same use and capable of performing the same functions that specified. The application will state whether, in the drawing or specifications, to adapt to, the design to the substitute and whether or not the incorporation or use the substitute in connection with the work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified shall be identified in the application, and available maintenance, repair and replacement service will be indicated. The application also will contain an itemized estimate of all costs that will result directly or indirectly from acceptance of each substitute, including costs of redesign and claims of other CONTRACTORS' affected by the resulting change. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense additional data about the proposed substitute. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

- B. ENGINEER will record time required by ENGINEER and ENGINEER's consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the drawings or specifications occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the changes of ENGINEER and ENGINEER's consultants for evaluating any proposed substitute.

Concerning SUBCONTRACTOR

- 23. CONTRACTOR shall not employ any SUBCONTRACTOR or other person or organization (including those who are to furnish the principal items of materials or equipment), whether initially, or as a substitute, against whom OWNER may have any objection. Acceptance of any SUBCONTRACTOR, other person or organization by OWNER shall not constitute a waiver of any rights of OWNER to reject defective work. After the giving of the Notice of Award, if the OWNER, after the investigation, has reasonable objection to any SUBCONTRACTOR, other persons or organizations, the OWNER may request the Successful Bidder to provide an acceptable substitute without an increase in the contract price. In such a case, neither the OWNER nor the ENGINEER would be liable for any damages or remedies of either the CONTRACTOR or SUBCONTRACTOR or any other said person or organization. It is the responsibility of the CONTRACTOR to inform the SUBCONTRACTOR or other person or organization to the provision of the contract prior to the parties being contractually bound.
- 24. CONTRACTOR shall be fully responsible for all acts and omissions of his SUBCONTRACTOR and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that CONTRACTOR is responsible for the acts and omissions of persons directly employed by CONTRACTOR. Nothing in the Contract Documents shall create any contractual relationship between OWNER and ENGINEER and any SUBCONTRACTOR or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of the OWNER or ENGINEER to pay or to see to the payment of any monies due any SUBCONTRACTOR or other persons or organizations.
- 25. The divisions and sections of the specifications and the identifications of any drawings shall not control CONTRACTOR in dividing the work among SUBCONTRACTORS or delineating the work to be performed by any specific trade.

26. All work performed for CONTRACTOR by a SUBCONTRACTOR will be pursuant to an appropriate agreement between CONTRACTOR and the SUBCONTRACTOR, which specifically binds the SUBCONTRACTOR to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER, and contains waiver provisions as required by Article 5. CONTRACTOR shall pay each SUBCONTRACTOR a just share of any insurance monies received by CONTRACTOR on account of losses under policies issued pursuant to Article 5.

Patent Fees and Royalties

27. CONTRACTOR shall pay all license fees and royalties and assume costs incidental to the use in the performance of the work or the incorporation of the work of any invention, design, process, product or device, which is the subject of patent rights or copyrights held by others.
28. The CONTRACTOR shall familiarize himself with any such possible costs prior to bidding. CONTRACTOR hereby indemnifies and holds harmless OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of patent rights or copyrights incidental to the use in the performance of the work, or resulting from the incorporation of the work or any invention, design, process, product or device, and shall defend all such claims in connection with any alleged infringement of such rights.

Permits

Unless otherwise provided herein, CONTRACTOR shall obtain and pay for all construction permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the work that are applicable at the time of opening of bids. CONTRACTOR shall pay all charges of utility service companies for connections to the work and for capital costs related thereto.

Permits will be required from the following agency for work within their right-of-way

- Wayne County Roads

Laws and Regulations

CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If CONTRACTOR observes that the specifications and drawings are at variance therewith, CONTRACTOR shall give ENGINEER prompt written notice thereof, any necessary changes shall be adjusted by an appropriate modification. If CONTRACTOR performs any work knowing or having reasons to know that it is contrary to such laws, ordinances, rules and regulations, the CONTRACTOR shall bear all costs arising therefrom. It shall be the CONTRACTOR's responsibility to make certain that the specifications and drawings are in accordance with such laws, ordinances, rules and regulations.

Taxes

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the law of the place of the project.

Use of Premises

29. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits or the requirements

of the Contract Documents and shall not reasonably encumber the premises with construction equipment or other materials or equipment.

30. During the progress of the work, CONTRACTOR shall keep the premises free from accumulation of waste materials, rubbish and other debris resulting from the work. At the completion of the work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore, to their original condition, those portions of the site not designated for alteration by the Contract Documents.
31. CONTRACTOR shall not load and permit any part of any structure to be loaded in any manner that will endanger the structure nor shall CONTRACTOR subject any part of the work or adjacent property to stresses or pressures that will endanger it.

Record Documents

CONTRACTOR shall keep one (1) record copy of all specifications, drawings, addenda, modifications, shop drawings and samples at the site in good order and annotated to show all changes made during the construction process. These shall be available to ENGINEER for examination and shall be delivered to ENGINEER for OWNER upon completion of the work.

Safety and Protection

32. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. CONTRACTOR shall take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to (but not limited to) the following:
- A. All employees on the work and other persons who may be affected thereby
 - B. All the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and
 - C. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners or adjacent property and utilities when prosecution of the work may affect them. All damage, injury or loss to any property referred to in Article 6 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for who acts on behalf of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for the safety and protection of the work shall continue until such time as the work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with Article 14, that the work is acceptable.

33. CONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

Emergencies

In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice of any significant changes in the work or deviations from the Contract Documents caused thereby.

Shop Drawings and Samples

34. After checking and verifying all field measurements, CONTRACTOR shall submit to ENGINEER for review, in accordance with the accepted schedule of shop drawings submission (see Article 2), five (5) copies (unless otherwise specified in the General Requirements) of all shop drawings will be complete with respect to dimensions, design criteria, materials of construction and like information to enable ENGINEER to review the information as required. The review by the ENGINEER is for the purpose of familiarizing the ENGINEER with the work of the CONTRACTOR and does not constitute an approval by the ENGINEER of any of the submitted material. The CONTRACTOR is solely responsible for the correctness and accuracy of all submitted material.
35. CONTRACTOR also shall submit to ENGINEER for review, with such promptness as to cause no delay in work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of CONTRACTOR, identified clearly as to materials, manufacturer, any pertinent catalog numbers and the use for which intended. The review of the ENGINEER is for the purpose of familiarizing the ENGINEER with the work of the CONTRACTOR and does not constitute an approval by the ENGINEER of any of the submitted materials. The CONTRACTOR is solely responsible for the correctness and accuracy of all submitted material.
36. At the time of each submission, CONTRACTOR shall, in writing, call ENGINEER's attention to any deviations that the shop drawings or samples may have from the requirements of the Contract Documents.
37. ENGINEER will review the shop drawings and samples, but ENGINEER's review shall be only for general and approximate conformance with the design concept of the project and for general and approximate compliance with the information given in the Contract Documents and shall not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate a review of the assembly in which the item functions. CONTRACTOR shall make any corrections required by ENGINEER and shall return the required number of corrected copies of shop drawings and resubmit new samples for review (as stated above for general and approximate compliance). CONTRACTOR shall direct specific attention, in writing, to reviews other than the correction called for by ENGINEER on previous submittals. CONTRACTOR's stamp of approval on any shop drawing or samples shall constitute a representation to OWNER and ENGINEER that CONTRACTOR has determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data and assumes full and sole responsibility for doing so, and that CONTRACTOR has reviewed or coordinated each shop drawing or sample with the requirements of the work and the Contract Documents.

38. Where a shop drawing or sample is required by the specifications, no related work shall be commenced until the submittal has been reviewed by ENGINEER.
39. ENGINEER's review of shop drawings or samples shall not relieve CONTRACTOR from any responsibility for any deviations from the Contract Documents unless CONTRACTOR has, in writing, called ENGINEER's attention to such deviation at the time of submission and ENGINEER has given written concurrence and approval to the specific deviation at the time of submission and ENGINEER has given written concurrence and approval to the specific deviation, nor shall any concurrence or approval by ENGINEER relieve CONTRACTOR from his sole responsibility for error or omissions in the shop drawings.
40. CONTRACTOR shall carry on the work and maintain the progress schedule during all disputes or disagreements with OWNER, including, but not limited to, disputes and disagreements concerning change of conditions, change of quantities or change of scope of work. No work shall be delayed or postponed pending resolution of any damages or disagreements, except as CONTRACTOR and OWNER may otherwise agree in writing.

Indemnification

41. To the fullest extent permitted by law, CONTRACTOR agrees to indemnify, defend and save harmless the OWNER their officials, employees and agents, from and against all claims, damages, loss or expense (including, but not limited to, costs and attorney fees) by reason of any liability asserted or imposed upon the OWNER, their officials, agents or employees, for damages because of bodily injury, including death, at any time resulting therefrom, sustained by any person or persons or on account of damage to property including loss of use thereof, arising out of, or in consequence of, the performance of the work described herein, whether such injuries to persons or damage to property is due, or claimed to be due, directly or indirectly, to the negligence or omission of the CONTRACTOR, any SUBCONTRACTOR, the OWNER or their officials, employees or agents.
42. In any and all claims against OWNER and ENGINEER or any of their agents or employees by any employee of CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnifications obligation under Article 6 shall not be limited, in any way, by any limitation, on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any SUBCONTRACTOR, under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

GENERAL CONDITIONS

ARTICLE 7: WORK BY OTHERS

OWNER may perform additional work related to the Project by himself or have additional work performed by utility service companies or other direct contracts that shall contain General Conditions similar to these. CONTRACTOR shall afford the utility service companies and the other CONTRACTORS, who are parties to such direct contracts (or OWNER, if OWNER is performing the additional work with OWNER'S employees) all possible opportunity for the introduction and storage of materials and equipment and the execution of work and shall properly connect and coordinate his work with theirs.

If any part of CONTRACTOR's work depends, for proper execution of results, upon the work of any such other CONTRACTOR or utility service company (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER, in writing, defects or deficiencies in such work that render it unsuitable for such proper execution and results. CONTRACTOR's failure to report shall constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's work except for latent or non-apparent defects and deficiencies in the other work.

CONTRACTOR shall do all cutting, fitting and patching of his work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work.

If the performance of additional work by other CONTRACTORS or utility service companies or OWNER was not noted in the Contract Documents, written notice, thereof, shall be given to CONTRACTOR prior to starting any such additional work.

GENERAL CONDITIONS

ARTICLE 8: OWNER'S RESPONSIBILITY

OWNER shall issue all communications to CONTRACTOR through ENGINEER.

The ENGINEER is designated as the representative of the OWNER during the period of the contract. Since ENGINEER had relied on this employment by OWNER, ENGINEER is entitled to all damages and remedies in law and equity in case of termination by OWNER.

GENERAL CONDITIONS

ARTICLE 9: ENGINEER'S STATUS DURING CONSTRUCTION

Owner's Representative

ENGINEER will be OWNER's representative during the construction period, but authority to bind the OWNER is limited as set forth in Article 10 of these General Conditions.

Visits to Site

ENGINEER, through the ENGINEER's inspector and construction engineer, will make visits to the site at intervals appropriate to the various stages of construction, and possibly on a daily basis, to observe the progress and quality of the executed work. ENGINEER's inspector will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed work will conform to the contract documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the work. Limitations on responsibility of ENGINEER, stated above, shall not be deemed altered even if ENGINEER has full-time inspector on the site.

Clarifications and Interpretations

ENGINEER may issue, within a reasonable time, such written clarifications or interpretations of the contract documents (in the form of drawings or otherwise) as ENGINEER may determine necessary. No increase in contract price or contract time is justified or allowed if the clarification or interpretation of the contract documents is inferable from the overall intent of the contract documents.

Project Presentation

If OWNER and ENGINEER agree, ENGINEER will furnish an inspector to assist OWNER in observing the performance of the work. The duties, responsibilities and limitations of authority of any such inspectors, construction engineers and assistants will be provided in Article 9 above.

Decisions on Disagreements

ENGINEER will be the initial interpreter of the requirements of the contract documents. Claims, disputes and other matters relating to the acceptability of the work or the interpretation of the

requirements of the contract documents pertaining to the execution and progress of the work shall be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render within the time the ENGINEER deems required to complete any related investigation of the claim. Written notice of each such claim, dispute and other matter shall be delivered by the claimant to ENGINEER and other party to the Agreement within 15 days of the occurrence of the event, giving rise thereto, together with any supporting data. In his capacity as interpreter, ENGINEER will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

The rendering of a decision by ENGINEER pursuant to Article 9 with respect to any such claim, dispute or other matter (except any which have been waived by the marking or acceptance of final payment as provided in Article 14) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the contract documents or at law in respect of any such claim, dispute or other matter.

Limitations on ENGINEER'S Responsibility

1. Neither ENGINEER's authority to act under this Article 9 or elsewhere in the contract documents, nor any decision made by ENGINEER, either to exercise, or not exercise such authority, shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, or any SUBCONTRACTOR, any manufacturer, fabricator, supplier or distributor, or any of their agents or employees or any other person performing any of the work.
2. Whenever in the contract documents the terms "as ordered," "as directed," "as required," "as allowed," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory," or adjectives of like effect or import are used to describe requirement, direction, review or judgment of ENGINEER as to the work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the work for compliance with the contract documents. The use of any such term or adjective never indicates that ENGINEER shall have authority to undertake responsibility contrary to the provisions of Article 9.
3. ENGINEER will not be responsible for any of CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for any of CONTRACTOR's failure to perform the work in accordance with the contract documents. The CONTRACTOR shall be solely responsible for any of CONTRACTOR's means, methods, techniques, sequences or procedures, or the safety precautions and programs incidents thereto.
4. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any SUBCONTRACTORS or of the agents or employees of any CONTRACTOR or SUBCONTRACTOR or of any persons at the site or otherwise performing any of the work. The CONTRACTOR will be solely responsible for the acts or omissions of CONTRACTOR or of any SUBCONTRACTOR or of any other persons at the site or otherwise performing any of the work.

GENERAL CONDITIONS

ARTICLE 10: CHANGES IN THE WORK

Without invalidating the Agreement, OWNER may, at any time, or from time to time, order additions, deletions or revisions in the work; these will be authorized by Change Orders. Upon receipt of a Change Order, CONTRACTOR shall proceed with the work involved. All such work shall be executed under the applicable conditions of the contract documents. If any Change Order causes a decrease in the contract price or a shortening of the contract time, an equitable adjustment will be made.

ENGINEER may authorize changes in the work, which, in his judgment, are reasonably required for the proper fulfillment of the contract.

Additional work performed without authorization will not entitle CONTRACTOR to an increase in the contract price or an extension of the contract time, except in the case of an emergency as provided in Article 6 and except as provided in this Article.

OWNER shall execute appropriate Change Orders prepared by ENGINEER covering changes in the work, which are required by OWNER or required because of emergencies or because of uncovering work found not to be defective or as provided in Article 11 or because of any other claim of CONTRACTOR for a change in the contract time or the contract price, which is recommended by ENGINEER.

If notice of any change affecting the general scope of the work or change in the contract price is required by the provisions of any bond to be given to the surety, it will be CONTRACTOR'S sole responsibility to so notify the surety, and the amount of each applicable bond shall be adjusted accordingly. CONTRACTOR shall furnish proof of such adjustment to OWNER and ENGINEER without the need for either OWNER or ENGINEER requesting such proof.

GENERAL CONDITIONS

ARTICLE 11: CHANGE OF CONTRACT PRICE

The contract price constitutes the total compensation (subject to authorized adjustment) payable to CONTRACTOR for performing the work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the contract price.

The contract price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered to OWNER and ENGINEER within 15 days of the occurrence of the event, giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered within 30 days of such occurrence unless ENGINEER allows an additional period of time to ascertain accurate cost data. All claims for adjustment in the contract price shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree on the amount involved.

The value of any work covered by a Change Order, or of any claim for an increase or decrease in the contract price, shall be determined in one of the following ways:

1. Where the work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of Article 11).
2. By mutual acceptance of a lump sum.
3. On the basis of the cost of the work (determined as provided in Article 11) plus a CONTRACTOR's fee for overhead and profit (determined as provided in Article 11).

Cost of the Work

The term "cost of the work" means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the project, shall include only the following items, and shall not include any of the costs itemized in Article 11.

4. The payroll costs for employees necessary for efficient and acceptable production in the direct employ of CONTRACTOR in the performance of the work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include, but not be limited to, salaries and wages, plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmens' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.
5. Cost of materials and equipment furnished and incorporated in the work provided those materials and equipment are necessary for efficient and acceptable production as determined by ENGINEER.

6. Payments made by CONTRACTOR to the SUBCONTRACTORS for Work performed by SUBCONTRACTORS. If required by OWNER, CONTRACTOR shall obtain competitive bids from SUBCONTRACTORS acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids will be acceptable. If a SUBCONTRACTOR provides that the SUBCONTRACTOR is to be paid on the basis of cost of the work plus a fee, the SUBCONTRACTOR's cost of the work shall be determined in the same manner as CONTRACTOR's cost of the work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

The term "cost of the work" shall not include any of the following:

7. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR, whether at the site or in his principal, or a branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in Article 11 — all of which are to be considered administrative costs covered by the CONTRACTOR's fee.
8. Expenses of CONTRACTOR's principal and branch offices, other than CONTRACTOR's office at the site.
9. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the work and charges against CONTRACTOR for delinquent payment.
10. Cost of premiums for all bonds and for all insurance, whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same, including additional bonds and insurance required because of changes in the work.
11. Costs due to the negligence of CONTRACTOR, any SUBCONTRACTOR, or anyone directly or indirectly employed by any of them or for whose acts any of them, may be liable, including, but not limited to, the correction of defective work, disposal of materials or equipment wrongly applied and making good any damage to property.
12. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in this Article.

The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall not exceed 15 percent of cost of labor and materials.

For costs incurred under this Article, the CONTRACTOR's fee shall be five percent (5%); and if a subcontract is on the basis of cost of the work plus a fee, the maximum allowable to the SUBCONTRACTOR as a fee for overhead and profit shall be 10 percent.

The amount of credit to be allowed by CONTRACTOR to OWNER for any such charge that which results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

Whenever the cost of any work is to be determined pursuant to this Article, CONTRACTOR will submit, in form acceptable to ENGINEER, an itemized cost breakdown together with supporting data.

Where the quantity of the work with respect to any item that is covered by a unit price differs materially and significantly from the quantity of such work indicated in the Contract Documents, an appropriate Change Order may be issued on recommendation of ENGINEER to adjust the unit price.

In general, if the actual quantity of work is within 30 percent of the quantity indicated in the Contract Documents (whether more or less), the difference shall not be considered material or significant. For larger differences, the ENGINEER's decision as to whether the amount of actual quantity of work is materially and significantly different from the quantity indicated on the Contract Documents is final.

Cash Allowances

It is understood that CONTRACTOR has included in the contract price all allowances so named in the Contract Documents and shall cause the work so covered to be done by such SUBCONTRACTORS, manufacturers, fabricators, suppliers or distributors and for such sums within the limit of the allowances as may be acceptable to ENGINEER. CONTRACTOR agrees that the original contract price includes such sums as CONTRACTOR deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection will be valid.

GENERAL CONDITIONS

ARTICLE 12: CHANGE OF CONTRACT TIME

The contract time may only be changed by a Change Order. Any claim for an extension in the contract time shall be based on written notice delivered to OWNER and ENGINEER within 15 days of the occurrence of the event, giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within 30 days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the contract time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the contract time resulting from any such claim shall be incorporated in a Change Order.

The contract time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR, if a claim is made, therefore, as provided in this Article. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 7 or to fires, floods, epidemics or acts of God, but not labor disputes or severe weather conditions.

All time limits for CONTRACTOR stated in the Contract Documents are of the essence to the OWNER and are incorporated, as such, in the contract.

GENERAL CONDITIONS
ARTICLE 13: WARRANTY AND GUARANTEE
TESTS AND INSPECTIONS CORRECTION, REMOVAL OR ACCEPTANCE
OF DEFECTIVE WORK

Warranty and Guarantee

CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all work will be in accordance with the Contract Documents and will not be defective. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

Tests and Inspections

CONTRACTOR shall give OWNER's representative timely notice of readiness of the work for all required inspections, tests or approvals.

If any law, ordinance, rule, regulation, code or order of any public body having jurisdiction requires any work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith, and furnish OWNER the required certificates of inspection, testing or approval. CONTRACTOR also shall be responsible for, and shall pay all costs in connection with, any inspection or testing required in connection with OWNER's acceptance of a manufacturer, fabricator, supplier or distributor of materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the work.

If any work that is to be inspected, tested or approved is covered without concurrence of OWNER'S representative, it must, if required by OWNER, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense.

Neither observations by ENGINEER nor inspectors, tests or approvals by ENGINEER, OWNER or others shall relieve CONTRACTOR from any of his obligations to perform the work in accordance with the Contract Documents.

Owner May Stop the Work

If the work is defective or CONTRACTOR fails to supply sufficient skilled workmen or suitable materials or equipment, OWNER may order CONTRACTOR to stop the work, or any portion thereof, until the cause of such order has been eliminated. CONTRACTOR shall incur all the expenses related directly or indirectly to such work stoppage.

Correction or Removal of Defective Work

If required by OWNER, CONTRACTOR shall promptly, without cost to OWNER, either correct any defective work, whether or not fabricated, installed or completed, or, if the work has been rejected by ENGINEER, remove it from the site and replace it with non-defective work without any change in Contract Price.

Two-Year Correction Period

If within two (2) year after the date of substantial completion, or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER, and in accordance with OWNER's written instructions, either correct such defective work or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective work. If CONTRACTOR does not promptly comply with the terms of such instructions, or, in an emergency, where delay would cause serious loss or damage, OWNER may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by CONTRACTOR.

Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective work, OWNER prefers to accept it, OWNER may do so. In such case, if acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the contract price or, if the acceptance occurs after such recommendation, an appropriate amount shall be paid by CONTRACTOR to OWNER.

If CONTRACTOR fails, within a reasonable time after written notice to proceed, to correct defective work or to remove and replace rejected work in accordance with Article 13, or if CONTRACTOR fails to perform the work in accordance with the Contract Documents (including any requirements of the progress schedule. OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporated in the work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise his rights under this paragraph. All direct and indirect costs of OWNER in exercising such rights shall be charged against CONTRACTOR, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the contract price. Such direct and indirect costs shall include, in particular, but without limitation, compensation for additional professional services required and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective work. CONTRACTOR shall not be allowed an extension of the contract time because of any delay in performance of the work attributed to the exercise by OWNER of OWNER's rights hereunder.

GENERAL CONDITIONS

ARTICLE 14: PAYMENTS TO CONTRACTOR AND COMPLETION

Schedules

At least 10 days prior to submitting the first Application for a progress payment, CONTRACTOR shall (except as otherwise specified in the General Requirements) submit to OWNER a progress schedule, a final schedule of shop drawing submission and, where applicable, a schedule of values shall include quantities and unit prices aggregating the contract price and shall subdivide the work into component parts. These schedules are submitted strictly as information that may help the OWNER in scheduling and shall not be construed as binding the OWNER to pay the CONTRACTOR in accordance with such values if used in the progress payment.

Application for Progress Payment

At least 10 days before progress payment falls due (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the work completed as of the date of the Application and accompanied by supporting documentation. Each subsequent Application for Payment shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the work have been applied to discharge in full all of CONTRACTOR's obligations reflected in prior Applications for Payment. Retainage with respect to progress payments will be at least 10 percent, unless state law required otherwise.

CONTRACTOR's Warranty of Title

CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by any Application for Payment, whether incorporated in the project or not, will pass to OWNER at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens").

Review of Applications for Progress Payment

ENGINEER will, within 15 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating, in writing, ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. OWNER shall, within 25 days of presentation to him of the Application for Payment with ENGINEER's recommendation, pay CONTRACTOR the amount recommended.

By recommending any payments to the CONTRACTOR, ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the work or that the means, methods, techniques, sequences and procedures of construction have been reviewed or that any examination has been made to ascertain how or for what purpose, CONTRACTOR has used the monies paid or to be paid to CONTRACTOR on account of the contract price or that title or any work, materials or equipment has passed to OWNER free and clear of any liens.

ENGINEER may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such recommendation to OWNER. He also may refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify such payment previously recommended to such extent as may be reasonable in ENGINEER's opinion to protect OWNER from loss because:

1. The work is defective or completed work has been damaged requiring correction or replacement.
2. Written claims have been made against OWNER or liens have been filed in connection with the work.
3. The contract price has been reduced because of modifications.
4. OWNER has been required to correct defective work or complete the work in accordance with Article 13.
5. Of CONTRACTOR's unsatisfactory prosecution of the work in accordance with the Contract Documents.
6. CONTRACTOR's failure to make payment to SUBCONTRACTORS or for labor, materials or equipment.
7. Previous overpayments to CONTRACTOR.

Substantial Completion

When CONTRACTOR considers the entire work ready for its intended use, CONTRACTOR shall, in writing to OWNER and ENGINEER, certify that the entire work is substantially complete and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, CONTRACTOR, ENGINEER, and/or OWNER shall make an inspection of the work to determine the status of completion. If ENGINEER does not consider the work substantially complete, ENGINEER will notify CONTRACTOR, giving his reasons therefore. If ENGINEER considers the work substantially complete, ENGINEER may prepare and deliver to OWNER a Statement of Substantial Completion, which may fix the date of Substantial Completion. There also may be attached to the statement a tentative list of items to be completed or corrected before final payment. OWNER shall have 21 days after receipt of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the work is not substantially complete, ENGINEER will, within 21 days, notify CONTRACTOR, in writing, stating his reasons therefore.

OWNER shall have the right to exclude CONTRACTOR from the work after the date of substantial completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization

Use of OWNER of completed portions of the work may be accomplished prior to substantial completion of all the work subject to the following:

8. OWNER, at any time, may request CONTRACTOR, in writing, to permit OWNER to use any part of the work that OWNER believes to be substantially complete and which may be used without significant interference with construction of the other parts of the work.

9. In lieu of the issuance of a Certificate of Substantial Completion as to part of the work, OWNER may take over operation of a facility constituting part of the work whether or not it is substantially complete if such facility is functionally and separately useable; provided that prior to any such takeover, OWNER and CONTRACTOR have agreed as to the division of responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, correction period, heat, utilities and insurance with respect to such facility.

Final Application for Payment

After CONTRACTOR has completed all the work and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents and other documents — all as required by the Contract Documents — and after ENGINEER has indicated that the work appears to be acceptable (subject to the provisions of this Article), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents and such other data and schedules as OWNER may reasonably require, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all liens arising out of, or filed in connection with, the work. In lieu thereof, and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a lien could be filed; and that all payrolls, material and equipment bills, and other indebtedness or otherwise satisfied; and consent of the surety, if any, to final payment. If any SUBCONTRACTOR, manufacturer, fabricator, supplier or distributor fails to furnish a release or receipt in full, CONTRACTOR may furnish a bond or other collateral satisfactory to OWNER to indemnify OWNER against any lien.

Final Payment and Acceptance

If, on the basis of ENGINEER's review of the final Application for Payment and accompanying documentation — all as required by the Contract Documents — ENGINEER is satisfied that the work has been completed and CONTRACTOR has fulfilled his obligations under the Contract Documents, ENGINEER may, within 20 days after receipt of the final Application for Payment, indicate in writing his recommendation of payment and present the Application to OWNER for payment. Thereupon, ENGINEER will give written notice to OWNER and CONTRACTOR that the work is acceptable subject to the provisions of this Article. Otherwise, ENGINEER will return the Application to CONTRACTOR indicating, in writing, the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. If the Application and accompanying documentation are appropriate as to form and substance, OWNER shall, within 30 days after receipt thereof, pay CONTRACTOR the amount recommended by ENGINEER.

CONTRACTOR's Continuing Obligation

CONTRACTOR's obligation to perform and complete the work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER nor the recommendation of any progress or final payment by ENGINEER nor the issuance of a notice of acceptability by ENGINEER pursuant to Article 14 nor any correction of defective work by OWNER shall constitute an acceptance of work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the work in accordance with the Contract Documents.

Waiver of Claims

The making and acceptance of final payment shall:

10. Not constitute any waiver of any claims by OWNER against CONTRACTOR, including claims arising from unsettled liens, from defective work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; also, it shall not constitute a waiver by OWNER of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents; and
11. Constitute a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

GENERAL CONDITIONS

ARTICLE 15: SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work

OWNER may, at any time, and without cause, suspend the work or any portion thereof for a period of not more than 120 days by notice, in writing, to CONTRACTOR. CONTRACTOR shall resume the work with 2 weeks notice by OWNER. CONTRACTOR will be allowed an increase in the Contract Price only as attributable to demobilization and remobilization cost and not to any other expense, including rental fee during suspension. The CONTRACTOR shall have the sole duty of informing, in advance, all SUBCONTRACTORS and any interested parties about the provision. OWNER and ENGINEER are not liable for any loss of any party arising out of invoking this section.

OWNER May Terminate

Upon the occurrence of any one or more of the following events:

12. If CONTRACTOR is adjudged bankrupt or insolvent.
13. If CONTRACTOR makes a general assignment for the benefit of creditors.
14. If a trustee or receiver is appointed for CONTRACTOR or for any of CONTRACTOR's property.
15. If CONTRACTOR files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws.
16. If CONTRACTOR repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment.
17. If CONTRACTOR fails to make payments to SUBCONTRACTORS or for labor, materials or equipment within 60 days of receiving said payment from OWNER.
18. If CONTRACTOR disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction.
19. If CONTRACTOR disregards the authority of ENGINEER.
20. If CONTRACTOR otherwise violates, in any substantial way, any provisions of the Contract Documents. Restoration work always shall be deemed as a substantial provision of the Contract Documents.

OWNER may, after giving CONTRACTOR and his surety seven (7) days' written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporating in the work all materials and equipment stored at the site for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the work as OWNER may deem expedient. In such case, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER shall be verified by ENGINEER and incorporated in a Change Order; but, in finishing the work, OWNER shall not be required to obtain the lowest figure for the work performed.

Where CONTRACTOR's services have been so terminated by OWNER, the termination shall not affect any rights of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

Upon seven (7) days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any of the OWNER's other rights or remedies, elect to abandon the work and terminate the Agreement with the CONTRACTOR. In such a case, CONTRACTOR shall be paid for work executed and demobilization expenses only.

GENERAL CONDITIONS

ARTICLE 16: MISCELLANEOUS

Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice to the CONTRACTOR, it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by mail to the last business address known to the giver of the notice. Notice to the ENGINEER is validly given if mailed by certified mail to his business office.

Computation of Time

When any period of time is referred to in the Contract Documents by days, it shall be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction such day shall be omitted from the computation.

General

The duties and obligations imposed by these General Conditions upon the CONTRACTOR and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by Articles 6, 13, 14 and 15 and all of the rights and remedies available to either ENGINEER or OWNER which are otherwise imposed or available by law or contract, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in Contract Documents by CONTRACTOR shall survive final payment and termination or completion of the Agreement.

GENERAL CONDITIONS

ARTICLE 17: CONSTRUCTION FOLLOW-UP

The ENGINEER shall supply construction observer(s) during construction, and it shall be the responsibility of the bidder to include cost of construction follow-up time in his bid. Cost of the follow-up will be computed by multiplying the number of construction follow-up days times \$464.00. Construction follow-up days shall be determined from the tabulation listed below for the time each observer will be assigned to each work unit determined by the ENGINEER and as required to complete the project. Follow-up time may be charged to the contract for each day for the availability of an observer on the project until such time as the CONTRACTOR is ready for final payment. Charges for each observer assigned to the project shall be made in accordance with the following schedule:

Chargeable Inspection Hours:

- | | | |
|----|--|---------|
| 1. | For a working day of less than 4 hours | 4 |
| 2. | For a working day of more than 4 hours,
but less than 8 hours | 8 |
| 3. | For each working hour, or fraction thereof,
in excess of 8 hours and on Saturdays,
Sundays and holidays. | 1 x 1.5 |

An inspector day shall be computed by adding the above listed total chargeable hours, and dividing such total number of chargeable by eight (8). When the CONTRACTOR elects not to work, the minimum show-up time for each inspector shall be four (4) hours. Notwithstanding any other provision in this contract, the show-up time will be charged against the CONTRACTOR and deducted from the CONTRACTOR's payment invoice recommended to the OWNER. No show-up time will be charged against the CONTRACTOR when the CONTRACTOR gives the ENGINEER at least one (1) day's notice of his intent not to work. The CONTRACTOR shall give the ENGINEER at least 72 hours' notice before beginning each operation, such as installing materials or restoring operations. The amount included in the bid for construction follow-up time for this project is in the Itemized Bid Sheet.

None of this amount would be paid to the CONTRACTOR. Rather, the ENGINEER shall submit monthly construction follow-up fee invoices to the OWNER that would be paid out of the above amount. If the construction shall need less than the indicated days, the OWNER shall retain the unused fee. If the construction shall need more than the indicated days, the payment for the construction follow-up fee, in excess of the amount allocated shall be deducted from the CONTRACTOR's invoices.

CITY OF BELLEVILLE STANDARD NOTES

1. Prior to construction, the contractor shall attend a preconstruction meeting, at a time and place as arranged by the community, in which various utility companies and governmental agency representatives will be present.
2. Prior to construction, the contractor must have in his possession a copy of all permits necessary to construct a connection to, or an extension of, the water supply, sanitary sewer, or storm sewer systems.
3. The contractor shall maintain his construction operations within the presently existing road rights-of-way and easements as noted on the plans throughout the project. In the event that the contractor deems it necessary or advisable to operate beyond the limits of the existing rights-of-way or easements, he shall be responsible for making special written agreements with the property owners and shall furnish such copies of agreements to the community engineer.
4. The contractor shall notify "Miss Dig" (800-482-7171) 3 days (not including holidays or weekends) before starting construction. The contractor shall make any necessary arrangements with utility companies for relocation of existing utilities. These arrangements shall be made with sufficient time to allow the relocation work to be completed without interfering with or delaying the construction schedule.
5. The contractor shall notify all utility companies and the engineer 48 hours prior to uncovering any existing utilities.
6. In all work within the Wayne County right-of-way, the contractor shall notify the County Road Commission, Engineer, and the community 72 hours prior to the start of any construction.
7. The contractor shall maintain all traffic at all times as per the Michigan Manual of Uniform Traffic Control Devices.
8. The contractor at all times shall provide emergency access to the property in the vicinity of the construction influence area for police and fire equipment, ambulances or other emergency vehicles to protect life, health, and property.

The contractor shall maintain public roads affected but the construction operations in a passable condition until such time as final restoration of these improvements can be made. If the public safety is in danger or the necessity exists for maintaining traffic, backfilling must be completed immediately. In the event that the necessary backfill material and equipment are not available when direction is given for immediate backfill, the trench shall be backfilled with native material to provide for the necessary maintenance of traffic and safety; however, the native material shall be removed within 48 hours and the trench properly backfilled.

9. No street, road, or section thereof, shall be closed to through traffic unless authorized by the agency with jurisdiction over the roads. Prior to closing a street, road, or section thereof, the contractor shall provide the engineer with a copy of a detour plan approved by the agency with jurisdiction over the roads.

In the event roads are to be closed, the contractor shall notify the local fire department, police department, local road authority, ambulance and emergency services, department of public works, public transit authority, public school system, local trash pickup authority, and public and

private utilities daily as to what streets will be partly blocked or closed, the length of time the streets will be blocked or closed and when the streets will be reopened to traffic.

10. Paved streets and driveways shall be maintained in a reasonable state of cleanliness and the contractor shall remove accumulations of debris caused by his operations. The contractor shall have, as a minimum, a wet, vacuum, pickup sweeper on the site at all times. The pavement shall be cleaned at the close of each days operation and as often as necessary before that time. Failure to comply shall be cause to stop construction. Contractor shall also comply with the local air pollution control ordinance.
11. All gravel and dirt roads, streets or driveways used shall be maintained by grading, placing dust palliatives, and maintenance gravel in sufficient quantities to eliminate dust and maintain traffic as directed by the engineer.
12. Contractor shall provide all necessary sheeting, shoring, dewatering, bracing, trench boxes, etc. to perform work safely and protect existing utilities and improvements.
13. The flow in the existing sewers shall be maintained at all times during construction
14. Culverts, ditches, drain tiles, tile fields, drainage structures, etc. that are disturbed by the contractor's operations shall be immediately restored.
15. All property irons and monuments, if disturbed or destroyed by the contractor's operations, shall be replaced by a licensed land surveyor at the contractor's expense.
16. After all the pipe, structures, etc. have been laid, constructed and backfilled, the system shall be tested and final inspected. The inspection and testing shall consist of a first inspection, television inspection (if applicable) testing, and final inspection and measurement. The contractor shall provide the necessary supervision, labor, tools, equipment, and the materials necessary for the tests which shall be conducted in the presence of the engineer. The engineer shall be notified two (2) working days in advance of all testing.

The first inspection shall be completed and all repairs made in ample time so that the television inspection of the underground portion of the system can be completed within four (4) weeks of the completion of the construction. When re-television is necessary, an additional two (2) weeks will be allowed for completion. Testing of the system as herein described shall immediately follow the television inspection and shall be completed within a two (2) week period.

Failure to maintain a schedule in compliance with these terms will automatically cause the stoppage of other work at the particular site in question until such time as the final inspection of the completed underground portion of the system has progressed to acceptable limits.

The contractor shall have the underground portion of the sewer system ready for the first inspection within two (2) weeks after the completion of utility.

The first inspections shall consist of a variable and audible check of sewers, manholes, gate wells, and other structures to ascertain that the structure steps have been placed, all lift holes plugged, the channeling of the manhole bottoms completed, all visible or audible leaks stopped, all pipe has been placed straight and true to the proper grades and elevation, the required adjusting rings and frame and cover properly installed, all trenches and structures backfilled in acceptable manner and that the system has been thoroughly cleaned.

The first inspection shall be considered completed when all the repairs have been made and the system is ready for television inspection and subsequent testing.

The contractor shall provide for television inspection of the sanitary sewer lines.

The contractor shall arrange for, engage, and pay for all expenses involved for the services of a competent company to perform this television inspection.

The television inspection shall be observed by the representatives of the owner, engineer, and the contractor. Any television viewing performed in the absence of the engineer will not be considered as a part of the final inspection.

The inspection shall involve the visual observation by closed circuit television of all sanitary sewer installed as part of this contract. The inspection shall be performed at a rate of speed which will allow examination of all points of infiltration, cracked or crushed pipe, defective joints, misalignment in line or grade, location of all WYE openings and any defects or items of poor workmanship which may appear. Any items which, in the opinion of the engineer, require repair shall be precisely located and photographed along with a detailed statement of the condition. The contractor shall take immediate action to repair such defects including excessive infiltration at any specific location, even though the infiltration limits as herein specified have not been exceeded for the entire length of the sewer being inspected. Following completion of the repair, the engineer at their discretion, may require a second television inspection of any repaired areas. The contractor shall arrange for and pay all costs involved in performing this re-inspection.

After all testing, television inspection, final restoration and clean-up have been completed, a final inspection and measurement will be done. The final inspection shall be requested by the contractor and consist of, but is not limited to, checking for proper alignment, proper grade, cleanliness, leaks, conformance to the plans and specification, proper structural and mechanical adjustments and restoration. Final measurement includes structure elevations, distance between structures, and confirmation utilities are located within the easement and right-of-way areas.

Successful completion of any test or inspection shall not relieve the contractor from their responsibility to correct any deficiency or nonconformance to the plans or specification which may thereafter become known.

SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

Description

This work shall be in accordance with Division 2, Section 208 of the 2020 MDOT Standard Specifications except as herein specified.

1. The CONTRACTOR shall furnish and install of all soil erosion and sedimentation control measures as called for in the plans or as directed by the ENGINEER.
2. The CONTRACTOR shall maintain of all measures to ensure that sediment does not build up in the drainage structure. This does not include poking holes in the silt sacks to allow flow into the structure. The silt sack has to be removed from the structure, cleaned thoroughly, and reinstalled in the structure.
3. The CONTRACTOR shall clean the sediment out of all the drainage structures after the project has been completely restored.
4. All measures must remain in place until the project area has been completely restored and vegetation has been established.

SPECIFICATIONS FOR TRAFFIC MAINTENANCE AND CONTROL

General

Traffic shall be maintained in accordance with Division 1, Section 103 and Division 8, Section 812, of the 2020 MDOT Standard Specifications for Construction and the traffic control plans provided in the plan set including any Supplemental Specifications, and as herein specified.

The CONTRACTOR shall coordinate his operations with CONTRACTORS performing work on other projects within or adjacent to the Construction Influence Area (CIA) as described below.

Construction Influence Area (CIA)

HMA must be installed a maximum of 72 hours after milling. Phasing and maintenance of traffic measures should be installed accordingly and included in the TRAFFIC AND MAINTENANCE CONTROL pay item.

The CIA shall extend for one (1) mile beyond the project limits in all directions. Also included in the CIA are the advance signs at various locations to alert motorists of pending or ongoing construction activities of this project, including detour routes.

Traffic Restrictions

No work shall be performed during the 4th of July, Labor Day or Thanksgiving holiday period as defined by the ENGINEER. The actual date that all roads shall be open and no traffic stoppages shall be made as directed by the ENGINEER.

Traffic Control Devices

General

1. All traffic control devices and their usage shall conform to the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), current edition, as revised and as specified herein.
2. Signs and barricades, when required by the ENGINEER, are to be cleaned over the entire reflective surface. The CONTRACTOR is responsible for the operation, inspection maintenance (cleaning) repositioning and removal of the devices.
3. During non-working periods, any site work with uncompleted work shall have advance signs, W20-1a ("ROAD WORK AHEAD"), and lighted Type II Barricades (plastic drums) at specific locations as directed by the ENGINEER.
4. All warnings signs shall be 48" x 48", unless otherwise noted in the plans or special provisions and must be mounted at a seven-foot (7') minimum bottom height.
5. If any existing road signs need to be removed for construction, the CONTRACTOR is responsible for salvaging and reinstalling the signs, including the posts and all necessary hardware required to perform the proper reinstallation.

Channelizing Devices

1. Channelizing devices required for all lane closures shall be Type II Lighted Barricades (plastic drums). Cones shall not be used for a lane closure.
2. When utilized, Type II Barricades shall be placed at 30-foot intervals along transition tapers and at 60-foot intervals along work areas or as directed by the ENGINEER.

Road Closures

The CONTRACTOR shall notify the ENGINEER a minimum of 72 business hours prior to the implementation of any detours or road closures.

The CONTRACTOR shall maintain closure notifications to the Hamtramck Police and Fire Departments at all times during the project.

The Contractor shall periodically inspect and maintain all temporary traffic control devices at his expense.

Maintaining Traffic Notes

Botsford Street and Trowbridge Street are one-way streets both with westbound traffic. The CONTRACTOR shall maintain traffic as much as possible throughout the duration of the project.

The CONTRACTOR must complete Concrete Base Repairs in phases to allow residents to park at designated locations throughout the project.

The CONTRACTOR must provide a Traffic Maintenance and Control Plan for approval by the ENGINEER prior to start of construction.

SPECIFICATIONS FOR SUBGRADE UNDERCUTTING

Description

This work shall be in accordance with Division 2, Section 205 of the 2020 MDOT Standard Specifications except as herein specified.

1. The excavation of all unsuitable materials below the proposed pavement subbase course will be as determined by the ENGINEER.
2. Subgrade Undercutting shall be accomplished within the limits as established by the ENGINEER. All such excavated material shall be disposed of by the CONTRACTOR.
3. The areas excavated of unsuitable material that are excavated shall be backfilled with MDOT 21AA crushed limestone as directed by the ENGINEER. If free water, due to seepage, is present in the area that is excavated, the CONTRACTOR shall install storm sewer, and backfill the areas as directed by the ENGINEER.

SPECIFICATIONS FOR AGGREGATE BASE (CIP)

Description

This work shall be in accordance with Division 3, Section 302 of the 2020 MDOT Standard Specifications, except as herein specified.

1. Removal of Existing Pavement on Aggregate Base: The CONTRACTOR is responsible for the removal of existing pavement, and existing aggregate base to the depth required to provide for the proposed cross section. Additional base material shall be placed where there are areas of deficiency, as directed by the ENGINEER.
2. Removal of Existing Pavement on Clay Subgrade: The CONTRACTOR is responsible for the removal of existing pavement and the clay subgrade to the minimum depth call out in the plans in order to place aggregate base material, as directed by the ENGINEER. The CONTRACTOR must proof roll the clay subgrade prior to placement of the base.
3. New pavement and shoulders: The CONTRACTOR shall be responsible for excavation to the bottom elevation of the aggregate base, proof rolling of the clay subgrade, and installation of the aggregate base per the plans and as directed by the ENGINEER.
4. The CONTRACTOR shall be responsible to haul away all of the spoils, including loading, trucking and disposal generated from installation of the base to an offsite location designated by the CONTRACTOR.

Materials

The material shall be 21AA crushed aggregate, except as revised below, and shall conform to the grading and physical requirements of Division 9, Section 902 of the 2020 MDOT Standard Specifications (Note: 21AA slag shall be blast furnace slag only).

21AA crushed limestone shall conform to the following grading and physical requirements:

% Passing 1/2" Sieve	100
% Passing 1" Sieve	85-100
% Passing 1/2" Sieve	50-75
% Passing No. 8 Sieve	20-45
% Loss by Washing	3-8*
Wear by Los Angeles Abrasion	
% Loss, Max	45
Crushed Material, % Min	25

*When the material is produced entirely by crushing rock, boulders, pebbles or slag, the maximum limit for loss by washing will be increased to 10 percent.

SPECIFICATIONS FOR HOT MIX ASPHALT (HMA)

Description

This work shall be in accordance with Division 2, Section 204 and Division 5, Sections 501, 502, 503, 504, and 505 of the 2020 MDOT Standard Specifications For Construction, MDOT's Special Provision for Marshall Hot Mix Asphalt Mixture (SP501(F)), Table 1 of MDOT's Special Provision for Acceptance of HMA Mixture on Local Agency Projects (12SP-501J-03), MDOT's Local Agency Programs Hot Mix Asphalt (HMA) Selection Guidelines and except as herein specified.

Any possible inconsistencies that may exist between the requirements included herein, will be resolved by the ENGINEER at the time such inconsistency is identified.

The CONTRACTOR shall install the Hot Mix Asphalt (HMA) to the dimensions and thickness shown on the plans.

Mixtures

1. All HMA on this project shall be MDOT Mix Types: 5E1, PG 64-22, application rate 220 LBS/SY.
2. The Job Mix Formula (JMF) and Mix Design shall be submitted to the ENGINEER for approval a minimum of 10 business days prior to paving. Do not begin production and placement of the HMA until receipt of the ENGINEER's approval of the JMF.
3. The PG binder grade, application rate and Aggregate Wear Index (AWI) will be as defined in the MDOT Local Agency Program's Hot Mix Asphalt (HMA) Selection Guidelines. Alternative mixes will not be allowed.
4. The HMA will be designed using Marshall Mixture Design Methods in accordance with the MDOT Standard Specifications For Construction and as modified in the MDOT Special Provision For Marshall Hot Mix Asphalt Mixture (12SP501(F)). Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture(s) within the Range 1 uniformity tolerance limits in Table 1 of MDOT Special Provision (12SP-501J-03). For all mixtures, field regress air void content to 3.5% with liquid asphalt cement unless specified otherwise on the HMA application estimate.
5. Aggregates produced from steel furnace slag, reverberatory furnace slag or crushed concrete shall not be permitted in any HMA mixture. Topsoil, clay, or loam cannot be added to aggregates which are to be used in plant mixed HMA mixtures.
6. The aggregate portion retained on the No. 4 sieve shall not contain by weight more than 6% particles which are soft or non durable.
7. Recycled Asphalt Pavement (RAP) may be substituted for a portion of new materials required to produce the HMA mixture(s) as follows:
 - a. For the HMA Top Course, a maximum of 17% RAP binder by weight of the total binder in the mixture will be allowed.
 - b. For HMA Base Course and Leveling Course mixtures, a maximum of 27% RAP binder by weight of the total binder in the mixture will be allowed. For HMA Base Course and Leveling Course mixtures containing 18% to 27% RAP, the required asphalt binder grade Must be at least one grade lower for the lower temperature than the design binder grade required for the specified mixture type. For instance, for a design binder grade of PG-58-22, the required grade for the binder in the HMA mixture containing 18% to 27% RAP would be a PG 58-28.
8. **No Recycled Asphalt Shingles (RAS) will be allowed in the HMA mixture(s).**
9. The CONTRACTOR will specify the temperature of the HMA mixture(s) at placement when

submitting the JMF to the ENGINEER for review and approval.

Installation

1. The HMA shall be placed by the self-propelled mechanical paver or spreader to a depth that, when compacted, the mixture will have the thickness, width and slope specified or as directed by the ENGINEER.
2. Paths placed in thickness of 250 pounds per square yard, or less, may be placed in one course.
3. When placing the top course on paths eight feet (8') in width or greater, the material shall be placed using a paver having an automatically controlled and activated screed and strike-off assembly and corresponding grade referencing equipment as directed by the ENGINEER.
4. A tolerance of $\pm 20^{\circ}$ F from the specified target placement temperature will be allowed. Occasional loads slightly outside the $\pm 20^{\circ}$ F may be permitted, provided that adjustments are being made to bring the temperature of the HMA mixture back to the specified target placement temperature.
5. Any load having a temperature below 250° F or above 350° F at time of discharge from the Hauling unit will be rejected.

Quality Control (QC)

1. The CONTRACTOR will be responsible for providing the QC for the HMA during production at no expense to the ENGINEER. Testing will be completed by individuals holding the following MDOT certifications: HMA or Bit Level 1 or HMA or Bit QC/QA.
2. The CONTRACTOR is responsible for providing a Quality Control Plan (QCP) for the HMA in accordance with the HMA Production manual at the time of submittal of the JMF. The CONTRACTOR is responsible for establishing a testing frequency. At a minimum, (1) set of tests will be taken per day of production. It is the responsibility of the CONTRACTOR to notify the ENGINEER of the QC tests results immediately upon completion. In the event the QC tests fail to meet specification, additional QC testing will be performed until the CONTRACTOR is able to demonstrate to the ENGINEER that the JMF is being maintained. All QC test results must be provided to the ENGINEER no later than 3 business days after the date the tests were completed. All "failing" QC test results must be provided to the ENGINEER no later than the next business day.
3. At the direction of the ENGINEER, a maximum of 500 tons of each HMA mix type can be accepted by Visual Inspection (V.I.) per project (not per day).
4. Utilizing the appropriate ASTM or MTM Test Methods, the QC tests results will include and not be limited to the following:
 - Stability and Flow
 - Bulk Specific Gravity
 - Sieve Analysis and % Passing #200
 - Maximum Theoretical Specific Gravity
 - % Crushed
 - % of Recovered Asphalt
 - % Air Voids
5. After the JMF is established, the aggregate gradation, crushed and bitumen content of the HMA mixture(s) furnished for the project shall be maintained within the Range 1 uniformity Tolerance limits permitted for the JMF as specified in Table 1 titled "Uniformity Tolerance Limits For HMA Mixtures" in the MDOT Special Provision For Acceptance of Hot Mix Asphalt Mixture On Local Agency Projects (12SP-501J-03).

If, however, the CONTRACTOR's QC testing indicates that two (2) consecutive aggregate gradations on one (1) sieve, crushed or bitumen content(s) are outside of Range 1 but within Range 2 as shown in Table 1 of 12SP-501J-03, the CONTRACTOR shall suspend all operations. Contract time shall continue during these times when the HMA plant is down. Before resuming production, the CONTRACTOR shall propose, for the ENGINEER's approval, all necessary alterations to the materials or plant so that the JMF can be maintained. If the necessary alterations cannot be maintained, the ENGINEER may require a new JMF. If, in the ENGINEER's judgement, the non-conforming mixture requires removal, the CONTRACTOR shall remove the mixture at their own expense and replace with a mixture meeting specification requirements. If, in the ENGINEER's judgement the non-conforming mixture can remain in place, the unit price for the non-conforming mixture will be reduced according to the following schedule:

<u>Non-Conforming Item</u>	<u>Penalty Reduction per SYD</u>
Asphalt Binder (minus).....	10%
Asphalt Binder (plus).....	5%
Each Sieve.....	5%

For any one (1) mixture, if the CONTRACTOR's QC tests indicate (2) or more consecutive parameters, such as aggregate gradation on one (1) sieve, crushed or binder content exceed the uniformity tolerance of Range 2 shown in Table 1 of 12SP-501J-03, the mixture will be rejected. If in the ENGINEER's judgement the defective areas warrant removal, the CONTRACTOR shall remove and replace the areas, at the CONTRACTOR's expense, with mixtures meeting specification requirements. If in the ENGINEER's judgement the defective material can remain in place the contract unit price for the material outside of Range 2 will be decreased by 15% for each parameter.

Rolling and Compacting

1. Each layer of the HMA shall be compacted to the required density with approved rollers. At least two rollers will be required when the lay-down rate exceeds 800 square yards per hour.
2. Steel three-wheel rollers may be used for initial paving immediately following the paving immediately following the paver.
3. The final rolling operation on each layer of HMA shall be accomplished by use of tandem steel-wheel rollers or by use of vibratory rollers operated in the static mode.
4. Roller wheels will be kept properly moistened with water.
5. Pneumatic-tired rollers will not be permitted on wearing courses.
6. Pneumatic-tired rollers shall be operated in a competent manner and shall not mark or rut surface or displace the pavement edge.
7. The pneumatic-tired roller shall be ballasted to obtain the required ground contact pressures as directed by the ENGINEER. In order to obtain a uniformly textured mat and the desired pavement density, the ENGINEER may direct the CONTRACTOR to raise or lower tire pressures at any time during the rolling operations. The roller operations shall be conducted in such a manner as to prevent scuffing or chatter marks in the pavement surface. The number of passes made by the pneumatic-tired roller shall not be less than two (2) round trip passes over each area.

8. Rolling of the mixture shall begin as soon after placing as it will bear the roller without undue displacement, picking up the mat or cracking. Rolling shall start longitudinally at the extreme sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drive wheel of the roller. Alternate trips of the roller shall be of slightly different lengths. The maximum roller speed for the type of mixture or thickness of the layer being placed.
9. When compacting an adjoining lane, the longitudinal joint shall be rolled first with the roller supported mainly on the cold lane with only three-to-six inches (3-6") of the roller extending onto the freshly placed HMA.
10. Finish rolling shall continue until all roller marks are eliminated.
11. Areas inaccessible to the standard eight (8) ton tandem rollers shall be compacted by self-propelled trench rollers of suitable width, approved by the ENGINEER, and weighing not less than 300 pounds per inch of width.
12. Skin patching will not be permitted on any area that has been rolled.
13. Any mixture that becomes mixed with foreign material or is any way defective shall be removed and replaced at the CONTRACTOR's expense.
14. Rolling shall proceed continuously until the required compaction is obtained.
15. The measurement of field compacted density will be accomplished utilizing a nuclear density gauge. The percent (%) compaction shall be determined by using the Gmm from the JMF for the density control target. The required in place density of the HMA mixture must be 92.0 % to 96.0 % of the density control target.
16. Unless otherwise directed by the ENGINEER, field density tests utilizing the nuclear density gauge will be obtained at a frequency of one (1) test for every 250 lineal feet of paving lane (unit), except for the last unit which will be 250 lineal feet plus any fractional unit less than 125 lineal feet in length, or will be a fractional unit 125 lineal feet or more in length. Miscellaneous areas such as intersections, crossovers and widened lanes less than 125 feet in length will be tested at the discretion of the ENGINEER.
17. Nuclear density tests will be taken on a random basis longitudinally within each unit and transversely within each unit. Tests will be taken at the discretion of the ENGINEER in areas that have received the least amount of compactive effort. Individual tests failing to meet the required in place density will be penalized as described below:
 - a. When individual density tests fail to meet 92.0 % to 96.0 % of the density control target as determined above, two (2) additional density tests will be taken in the 250 lineal foot pavement unit. The two (2) additional density tests will be taken at a minimum of 25 feet from the original test.
 - b. The average of the three (3) tests will be used to base the penalty and compute an adjusted price in accordance with the following schedule:

AVERAGE TEST RESULTS	PRICE ADJUSTMENT per SYD
92.0% to 96.0%.....	100%
91.0% to 91.9% and 96.1% to 97.0%.....	90%
90.0% to 90.9% and 97.1% to 98.0%.....	80%
89.0% to 89.9%.....	70%
88.0% to 88.9% and 98.1% to 99.0%.....	50%
Less than 88.0% and Greater than 99.0%.....	No Payment or Removal as Directed by the ENGINEER

The Square Yard's (SYD) to be penalized will be computed by the ENGINEER based on the length of unit and width of paving lane.

Weather and Seasonal Limitations

1. HMA shall not be placed, nor the prime coat or bond coat applied when rain is threatening or when the moisture on the existing surface would prevent satisfactory bonding.
2. Unless otherwise approved by the ENGINEER in writing, temperature and seasonal requirements for placing hot mix asphalt shall be in accordance with the current MDOT standards.
3. HMA paving will not be allowed when there is frost in the grade.

Protection of Structures

Structures shall be protected to prevent their surfaces from being discolored during the application of HMA to the road surface.

Equipment

1. The CONTRACTOR shall furnish sufficient equipment for the placing of the hot mix asphalt.
2. The equipment shall be on the job site and ready for normal operation before the placing of material is started.
3. All equipment shall be in good working order.
4. The equipment shall be subject to inspections and testing during construction.
5. The equipment shall be of sufficient capacity that the operation can be continuous and a rate of production obtained which insures good workmanship and eliminates overloading of the equipment or frequent interruptions or delays.
6. The equipment shall conform to the requirements as specified in Division 5, Section 501 of the 2020 MDOT Standard Specifications.
 - A. Flasher Lights for Bituminous Concrete Equipment
 - On HMA construction, where traffic is being maintained, chip spreaders, distributors and rollers shall be equipped with at least one (1) approved flashing, rotating or oscillating amber light, and pavers shall be equipped with at least one (1) such light on each side of the paver.
 - The lights shall be mounted so that the warning signal will be visible to traffic in both directions. The lights shall be in operation all the while the work is in progress.
 - B. Hauling Equipment
 - Trucks used for hauling hot mix asphalt shall have tight, clean, smooth beds that have been thinly coated with lime solution or other approved release agent to prevent the mixture from adhering to the beds.
 - Each truck shall have an adequately secured cover of such size and material as to completely protect the mixture from the weather and to retard the escape of heat from the mixture.
 - C. Pressure Distributor
 - The distributor shall be mounted upon a vehicle that is capable of maintaining the uniform speeds required for proper application of the hot mix asphalt.
 - The vehicle shall be equipped with an accurate tachometer, which is calibrated to indicate speed in feet per minute.
 - The pressure distributor shall have a capacity of at least 800 gallons.

- It shall be equipped with heating facilities capable of maintaining the hot mix asphalt at the specified temperature.
- A positive displacement-type pump, installed so as to permit circulation of the material in the tank and between the tank and the spray bar shall be provided.
- The pump power shall be independent of the vehicle power of the pump which shall be operated by a power take-off from the vehicle power motor in such a manner that uniform distribution of the hot mix asphalt at the rate specified will be obtained.
- The distributor shall be equipped with a tachometer calibrated in revolutions per minute or gallons per minute.
- Full circulating spray bars shall be available for application widths of three feet (3') to 24 feet in one-foot (1') increments.
- The nozzles shall produce a uniform fan spray, and the shutoff shall be instantaneous with no dripping. Nozzles in various sizes between one-eighth inch (1/8") and one-quarter inch (1/4") inclusive shall be available.
- The spray bar shall be set at the proper height to provide a uniform application at the specified coverage rate.

D. Pavers

- The paver shall be an approved self-powered machine capable of spreading and finishing the mixture in a uniform layer at the desired thickness and cross section and ready for compaction.
- The use of any machine in poor mechanical or worn condition will not be permitted.
- The paver shall be of such design that the supporting wheels, treads or other devices ride on the prepared base.
- The full width of surface being applied shall be screeded by an oscillating or vibrating screed.
- The paver shall at all times produce a uniformly finished surface, free from tearing or other blemishes that would require hand work.
- The screed shall be adjustable to provide for tilting to secure the proper drag or compressive action necessary to produce the desired surface texture.
- The paver shall be equipped with a hopper and an automatic material-depth control device so that each distributing auger and corresponding feeder shall respond automatically to provide for a constant level of mix ahead of the screed unit to the full width of the lane being paved.
- In order to ensure that adequate material shall be fed to the center portion of the lane being paved, reverse pitch augers or paddles shall be installed at the inside of one or both ends of the auger shafts to force the mix to the middle portion of the lane.
- If necessary to prevent segregation of the mix as it drops of the feed conveyor, battle plates shall be installed at the required location.
- When extensions are added to the paver, they shall be provided with the same vibrating screed or tamper action as the main unit of the paver, except for paving variable width areas.

- The extensions also shall be equipped with a continuation of the automatically controlled spreading augers.
- The screed and any extensions shall be provided with an approved method of heat distribution.
- Unless specified otherwise, hot mix asphalt pavers shall be equipped with an automatically controlled and activated screed and strike-off assembly capable of grade reference and transverse slope control.
- A manufacturer approved grade referencing attachment, not less than 30 feet in length, shall be used for all lower courses and the first lane of the wearing course.
- After the first lane of the wearing course has been placed, a 10-foot or longer grade referencing attachment may be substituted for constructing subsequent adjacent lanes of wearing course.
- A self-propelled mechanical spreader capable of maintaining the proper width, depth, and slope without causing segregation of the material may be used for base courses and for surface courses less than eight feet (8') in width.
- When surfacing ramps or shoulders, or when the grade of concrete gutter or other existing installation must be met, the manner of use or the automatic grade reference and slope control devices shall be determined by the ENGINEER.
- Whenever a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually for the remainder of the normal working day, provided this method of operation will produce results meeting the specification requirements.

E. Mixers

- Mixers shall be self-propelled and a combination scarifier, pulverizer, mixer and liquid distributor. Unless otherwise specified, a minimum of two (2) mixers will be required.
- If hot mix asphalt is used as a stabilizer, one mixer shall be self-propelled single-pass stabilizer, combining a cutting rotor, a blending rotor and at least one mixing rotor in the mixing chamber.
- The spray bar for distribution of the liquid shall operate in such a manner that all asphalt will be uniformly applied through the mixer at the time of mixing.
- The equipment for distributing the bituminous material shall be adjustable and shall measure accurately the amounts of bituminous material being applied.
- The bitumen pump shall be a positive displacement type pump. It shall be equipped in such a manner as to make it possible to check accurately the rate of application of the bitumen at any time.
- The mixer shall meet the approval of the ENGINEER.

F. Joint Heaters

- Joint heaters shall be infrared or other approved heaters, equipped with automatic ignition and extinguishing system to ensure that the heater operates only when the paver is moving.
- It shall be of sufficient length and heating capacity to adequately soften the edge of the mat.

- The heater shall be oriented parallel to the joint edge.
 - The hot mix asphalt shall not be heated by a direct open flame.
- G. Rollers
- Steel-Wheel — Steel-Wheel rollers shall weigh at least eight (8) tons and shall be self-propelled, vibratory or static, tandem rollers or shall be self-propelled static three-wheel rollers.
 - a. Steel-wheel rollers shall be free from backlash, faulty steering mechanism, or worn king bolts.
 - b. The steering device shall respond readily and permit the roller to be directed on the alignment desired.
 - c. Rollers shall be equipped with wheel sprinklers and scrapers.
 - d. Roller wheels shall be smooth and free from openings or projections that will mar the surface of the pavement.
 - e. Vibratory rollers shall have a shutoff to deactivate the vibrators when the roller speed is less than 0.5 mph and shall have provisions to lock in the manufacturer's recommended speed, the vibrations per minute, and the amplitude of vibration (Dynamic force) for the type of bituminous mixture being compacted.
 - Pneumatic-Tired
 - a. The pneumatic-tired roller shall be of the self-propelled type with a total weight, including ballast, no greater than 30 tons.
 - b. It shall be equipped with a minimum of seven (7) wheels situated on the axles in such a way that the rear group of tires will not follow in the tracks of the forward group but will be so spaced that a minimum tire path overlap of one-half inch ($\frac{1}{2}$ ") is obtained.
 - c. The tires shall be smooth and shall be capable of being inflated to or adapted to achieve a pressure necessary to provide ground-contact pressures of at least 80 pounds per square inch.
 - d. The tire pressures shall not vary by more than five (5) pounds per square inch between individual tires.
 - e. The CONTRACTOR shall furnish the ENGINEER charts or tabulations showing the contact areas and the contract pressures for the full range of tire inflation pressures and tire loadings for the type and size roller used.
 - f. The roller shall be equipped with a mechanism capable of reversing the motion of the roller smoothly.
 - g. The roller shall be equipped with wheel sprinklers and scrapers or mats.
- H. Chip Spreader
- The chip spreader shall be self-propelled and shall be equipped with pneumatic tires.
 - The spreader shall be equipped with a screen mounted below the metering gage.

- The spreader shall be capable of spreading the cover material uniformly at widths of three-to-twelve feet (3-12'), or separate spreaders shall be provided for the specific required.
 - The rate of discharge of the spreader shall be adjustable to spread uniform layers of 10 to 50 pounds per square yard.
- I. Drag
- An approved drag to level and properly distribute the cover material shall be available for use.
 - Such a drag may be made from one layer of chain link fencing eight-feet (8') wide and at least 10-feet long, so constructed and hitched as to cover half the road width when dragged over the surface, or may be a brush broom drag of approved design.
- J. Miscellaneous Equipment
- Sufficient equipment for handling and hauling covered material shall be provided to insure prompt and continuous covering of hot mix asphalt.
 - A self-propelled power broom, straight edges for testing, thermometers and all necessary small tools to completely and satisfactorily finish the work shall be provided by the CONTRACTOR.

SPECIFICATIONS FOR REMOVING PAVEMENT

Description

This work shall be in accordance with Division 2, Section 204 of the 2020 MDOT Standard Specifications, except as herein specified & include the complete removal of existing pavement, including concrete pavement, asphalt pavement, asphalt cap, reinforcement and integral curb, as called for in the plans.

Existing base material shall be removed to the required depth to provide for proposed cross section and be included as part of pavement removal.

All pavements removed shall be sawcut to full depth. If pavements are removed and identified as not sawcut to full depth, CONTRACTOR shall re-cut to full depth at his expense.

Any damage to existing pavements to remain must be completely removed and replaced at the Contractor's expense.

All material removed shall be disposed of at an offsite location designated by the CONTRACTOR.

SPECIFICATIONS FOR CONCRETE PAVEMENT

3-19-19

Description

This work shall be as specified in Division 6, Section 601 and 602 of the MDOT 2020 Standard Specifications for Construction, except as herein specified.

Mix Designs

Design concrete mixtures must meet the requirements specified in Table 601-2 of the MDOT Standard Specifications for Construction. A variance can be requested in writing and must be approved by the ENGINEER when proposing a mix design that exhibits temperature, slump or air content other than those specified. Do not use a grade of concrete with a minimum specified 28 day compressive strength greater than what is designated for in the application.

The mix shall have an entrained air content of 5.5% to 8.5%, a maximum slump of three (3) inches which can be increased to six (6) inches with a MDOT approved mid-range water reducer and have a minimum 28 day compressive strength of 4000 psi unless otherwise specified.

Mix designs must be submitted to the ENGINEER for review and approval 10 working days before the anticipated date of placement. Mix designs submitted that do not include all of the required documentation will be considered incomplete and returned without review.

Materials:

1. **The 6AA coarse aggregate shall have a freeze thaw dilation less than 0.040 % per 100 cycles and have a maximum absorption of 2.0%.** It will be the responsibility of the Contractor to provide to the Engineer a copy of all delivery tickets of the 6AA coarse aggregate used by the concrete supplier for each day of concrete placement within 48 hours of the concrete placement. **In the event the concrete supplier can not provide the shipping tickets that indicate the 6AA coarse aggregate used for a particular placement came from the source approved in the concrete mix design to the Engineer's satisfaction, the Engineer will reduce payment of the contract unit price for the contract item by 30%.**
2. The maximum slump for P1 and P2 concrete is 3 inches unless as otherwise allowed in the approved mix design. The slump can be increased to a maximum of 6" with the addition of a Mid-Range (MR) water reducer listed in the MDOT Quality Assurance Manual at a dosage rate prescribed therein.
3. The maximum water/cementitious materials ratio must not exceed 0.45. Cementitious materials is defined as the combined weight of all cementitious materials such as cement or ground granulated blast furnace slag (GGBFS).
4. **The concrete mix shall contain 30 - 35% replacement of the Portland cement with GGBFS (Grade 100 minimum).** A blended cement meeting the requirements of ASTM C 595 containing Portland cement and slag cement (30-35%) may also be used.
 - 4a. Documentation must be provided for each concrete mix design submitted that the GGBFS is able to control the effects of Alkali Silica Reactivity (ASR). Submit ASTM C 1567 test data using the mix proportions and constituent sources for both the aggregates and the cementitious materials that will be used for the project. The test data should show at least (3) test specimens (mortar bars) for each cementitious

materials aggregate combination. If the average of 3 mortar bars for a given cementitious materials aggregate combination produces an expansion less than 0.10 % (rounded to the nearest 0.01%) at 14 days of immersion, the submitted mix design is considered to be non-deleterious to ASR. If the average expansion is 0.10% (rounded to the nearest 0.01%) or greater, the submitted mix design will be considered insufficient to mitigate ASR and will be rejected.

- 4b. In lieu of ASTM C 1567, test data from ASTM C 1260 or ASTM C 1293 is acceptable. If the data from the ASTM C 1260 test shows the mortar bars to have expanded less than 0.10% (rounded to the nearest 0.01%) at 14 days of immersion the concrete mix will be considered to be non-deleterious to ASR. If the test data ASTM C 1293 test shows the expansion of the concrete prisms is not greater than 0.040% (rounded to the nearest 0.001) after 1 year, the concrete mix will be considered non-deleterious to ASR.
5. **Between November 1st and April 1st the concrete mixture(s) must utilize a non-chloride accelerator listed in the MDOT Quality Assurance Manual at a dosage rate prescribed therein.**
6. **Unless otherwise directed by the Engineer, the air content shall be 5.5% to 8.5%.** Tests for air content will be completed from samples taken at the point of discharge, at the outlet hose or before the paving machine.

When directed by the Engineer, an air test will be taken from a sample obtained from concrete that has just passed through the paving machine and has not been finished. If the concrete sampled from behind the paver, when tested, fails to contain a minimum air content of 5.0%, or indicates an air content exceeding 8.5%, paving shall cease. It will be the Contractor's responsibility to make those changes necessary to the concrete such that a minimum of 5.0% and no more than a maximum of 8.5% air content is present in the concrete after having passed through the paver. Paving shall only be allowed to continue after the Contractor has taken sufficient corrective action and the follow up test for air content after (or behind) the paver indicates a minimum air content of 5.0% and no more than 8.5%.

Construction Methods

1. Provide an automated printout of target, actual batch weights and material sources with each delivery ticket. If target, batch weight and material source(s) information is computer generated on a separate document, include the serial number of the corresponding delivery ticket or other means of cross reference. Attach the automated printout of target, actual batch weights and material sources to the corresponding delivery ticket. A copy of the concrete batch/delivery ticket(s) will be provided to the inspector upon delivery. **Concrete delivered to the project without the target, material source and batch weight information on each delivery ticket as described previously will be rejected and not allowed to be placed.**
2. Add water to concrete transported in truck mixers only if additional mixing water is needed for the concrete to achieve the slump specified in the approved mix design. Do not add more water than specified in the approved mix design, based on the maximum water content and maximum water to cementitious material ratio. After adding water provide at least 30 revolutions of the truck mixer drum at mixing speed before discharging concrete. Document on the delivery ticket the amount of additional water added. Do not add water to the

- concrete during discharge or placement. DO not add water in truck chutes or pump or slipform hopper beyond the minimum necessary to wet the surfaces for lubrication.
3. The CONTRACTOR shall designate, with the approval of the ENGINEER, an area that can be utilized to clean the chutes of the concrete delivery trucks. Cleaning of the chutes into the pavement grade is forbidden.

Curing

Curing shall be in accordance with Division 6, Section 602 of the 2020 MDOT Standard Specifications for Construction, except that for textured surfaces, there shall be one application of curing compound at the rate of one (1) gallon per 150 square feet. **Application of the curing compound will begin as soon as the free water leaves the surface of the pavement.**

Integral Curb

1. Integral curbs shall be constructed monolithically with the pavement slab.
2. The curb material shall be placed before the pavement has started its initial set, and shall be of the same mix and shall conform, in all respects, to the requirements for concrete in the pavement.
3. For nonslip-form paving, immediately following the final floating of the pavement, the area where the curb material is to be placed shall be roughened so as to secure a good bond between the pavement and the curb.
4. For nonslip-form paving, face and back forms will be required when constructing curb.
5. The curb shall be spaded sufficiently to eliminate all voids, and tamped to bring the mortar to the surface.
6. Immediately after the removal of the forms, any visible areas of honeycomb or minor defects shall be filled with mortar, composed of one (1) part Portland cement and two (2) parts of fine aggregate from the same source as used in the pavement, applied with a wooden float.
7. Immediate steps shall be taken by the CONTRACTOR to correct the conditions contributing to these defects.

Slip-Form Paving

1. The slip-form paving equipment shall have automatic horizontal and vertical controls.
2. If the CONTRACTOR cannot maintain the required horizontal and vertical controls using his selected method, the use of slip-form methods shall be discontinued and the pavement shall be placed by means of fixed forms.

Sectioning (Hand Work)

1. Any full depth pavement removal and replacement over 150' in length shall use a paving apparatus (mechanical means) to place, strike off and finish the concrete. The paving apparatus shall have vibrators of the internal type attached to the apparatus capable of affecting the concrete approximately 12" from the vibrator head. The vibrators shall start and stop with the movement of the paving apparatus.
2. Vibratory screeds or rollers may be used if APPROVED in advance by the ENGINEER. The CONTRACTOR is still responsible to provide internal vibration if a vibratory screed or roller is used. Internal vibration utilizes a hand held portable immersion type device with a head diameter of 2-1/2" to 3" and a recommended frequency of 8,000 to 12,000 vibrations per minute (vpm). The vibrator shall be lowered vertically into the concrete at regularly spaced intervals. Dragging of the portable vibrator is not allowed.

3. Concrete pavement in areas less than 150' in length that is placed, screeded and finished by manual methods (hand work) shall use an internal vibrator as described in item 2. The CONTRACTOR shall demonstrate to the ENGINEER prior to the placement of any concrete the presence of and operational ability of a portable internal immersion type vibrator(s).

Paving Joints

1. Joints in the concrete pavement shall be placed as required in Division 6, Section 602 of the 2020 MDOT Standard Specifications for Construction and shall conform to the current MDOT Standard Plans and positions shown on the plans.
2. Expansion joints with load transfer shall be placed at spring points, at locations shown on the on the plans, and at locations indicated as follows:
 - A. Where necessary to relieve horizontal pressure at sharp vertical curves, expansion joints shall also be placed as shown on the plans or where directed by the Engineer.
 - B. Expansion joints shall be placed at the P.C. and P.T. or horizontal curves where the degree of curvature is 2°30' or more.
 - C. During the period of September 15th to April 15th, expansion joints shall be spaced at maximum intervals of 324 feet. On curves, expansion joints need not necessarily be placed at the P.C. or P.T. of curve. If any portion of a multiple lane pavement is to be placed between September 15th and April 1st, expansion joints for the entire width of the pavement shall be spaced at maximum intervals of 324 feet.
3. The edges of all transverse joints in the integral curb shall be rounded with an approved finishing tool have a radius of one-quarter inch (1/4") or mats shall be lapped approximately 12 inches, and the pavement reinforcement shall stop (6") from all expansion or contraction joints.
4. End-of-pour joints shall be placed at the location of the full-width pavement and the start of non-reinforced concrete temporary transition tapers as shown on the plans and elsewhere as directed by the ENGINEER.
5. External Longitudinal Pavement Joints shall be placed as shown on the plans.

Paving Requirements

1. Slip-form paving equipment shall have automatic horizontal and vertical controls.
2. If the CONTRACTOR cannot maintain the required horizontal and vertical controls using his selected method, the use of slip-form methods shall be discontinued and the pavement shall be placed by means of fixed forms.
3. The CONTRACTOR shall demonstrate to the ENGINEER prior to the commencement of the paving operation the presence of and operation of a portable hand held immersion type vibrator(s).

SPECIFICATION FOR PARKING LOT SEALCOAT, JOINT AND CRACK SEALING

GENERAL

The Contractor shall furnish all materials, equipment, labor and supervision and shall provide all other means that may be necessary to complete all the work in conformity in all respects to the requirements as set forth in these specifications.

The Contractor shall interfere as little as possible with the convenience of the public during the progress of the work. He shall construct and maintain suitable barricades and lights as may be necessary for the safety and convenience of the public and protection of the work. Oil burning pots or lanterns will not be permitted.

The schedule of items under which the work is to be done is given with as much accuracy as is practicable beforehand. Quantities must be regarded as approximate only and are given as a guide to the bidder and for comparison of bids. The Owner reserves the right to increase or diminish these quantities and the Contractor will be paid for only as much work as he is required by the Owner to do at the unit price stated in the proposal.

PREPARATION

The surface of the pavement at the location of the joint or crack shall be cleaned and broomed, to remove all dirt and debris. The joint opening shall be thoroughly blown clear of dust or chips with compressed air through a nozzle from a power driven air compressor immediately before applying the filling compound to the joints. The preparation and application of the sealing compound shall be in accordance with the manufacturer's specifications.

MATERIALS

Hot-poured rubber-asphalt type joint sealing compound shall conform to the requirements of the Federal Specifications for Sealing Compound, Hot-Poured Type, for joints in concrete, SS-S-1401C, or the latest revision thereof.

The material shall be a mixture of virgin polymer, asphalt, plasticizers, and inert reinforcing fillers. Under no circumstances shall ground, cured rubber scrap be used. The sealing compound shall contain no foreign material and shall be free from lumps when melted.

The compound shall be packed in substantial commercial containers of a size which can be conveniently handled on the job so that the covering may be readily removed from the material without waste. Containers shall be legibly marked with the description, manufacturer's name and brand, weight, safe heating temperature and batch number. The batch number shall be specified designation to represent the compound manufactured from one batch of raw material, irrespective of the number of mixers involved in the production of the batch.

The material shall be properly identified and certified that it has been inspected and tested by a reputable independent testing laboratory in accordance with the requirements of the Federal specification (methods for Sampling and Testing) SS-R-406, Method 223.11, prior to its use on the job.

Backer rod shall be solid round, heat resistant, closed-cell, cross-linked, polyethylene rod conforming to ASTM D5249.

JOINT CLEANING EQUIPMENT

A complete list of the Contractor's equipment for performing work under this contract must be submitted to the Engineer for approval prior to use on the project.

The equipment used for cleaning and preparing the joints and cracks for sealing in existing pavement may include the following:

Tractor-Mounted Plow: Equipped with a hydraulically operated depth control and replaceable rectangular bits may be used to remove the bulk of old material from the joints. The equipment shall be so designed and operated as to preclude spalling or otherwise damaging the concrete.

Saw Machine: Equipped with a hydraulically operated depth control and diamond blade. The equipment shall be operated as to preclude spalling or otherwise damaging the concrete.

Routing Machine: A self-powered machine operating a vertical revolving cutting tool designed to completely remove any old joint sealer and all foreign matter reface each side wall of the crack without spalling or otherwise damaging concrete.

Air-Compressor: Air compressors shall be portable and capable of furnishing not less than 100 cubic feet of air per minute at a pressure of not less than 90 pounds per square inch. Suitable traps shall be employed to maintain the compressed air free of oil and moisture.

Sandblasting Equipment: Sandblasting equipment shall furnish a minimum of 300 cubic feet of air per minute at a pressure of not less than 90 p.s.i.

Sweeping Equipment: Self-propelled vacuum power sweepers of sufficient size and capacity for sweeping up debris from the joint cleaning operations will be required on the job site at all times.

EQUIPMENT FOR FILLING AND SEALING JOINTS

For Hot-Poured Rubber-Asphalt Type Compound. The heating kettle for hot-poured rubber-asphalt type sealer shall be of the indirect heating or double-boiler type, using oil as the heat transfer medium. It shall have a thermostatically controlled heat source, a built-in automatic agitator, and thermometers installed to indicate both the temperature of the melted sealing material and that of the oil bath. The contractor may be required to demonstrate that the equipment proposed for use will consistently produce a joint sealer of proper pouring consistency.

The hot-poured sealing material shall be poured at the required temperature for application by the use of a separate pouring pot or from the heating kettle. The pouring equipment shall force the sealing material to the bottom of the joint and completely fill it to the surface of the pavement. The pouring equipment shall be able to make a second application of the sealing material after the first application has cooled and settled below the surface of the pavement. The rate of application shall be controlled so as to completely fill the joint and not spill the material on the surface of the pavement.

When a separate pouring pot is used, it shall be of the indirect heating or double-boiler type, using oil as the heat transfer medium. It shall have a thermostatically controlled heat source, a built-in automatic agitator and thermometers installed to indicate both the temperature of the melted sealing material and that of the oil bath. The pouring pot shall be mounted on rubber-tired wheels. On projects where the material requirements for continuous operation do not exceed the capacity of the pour pot, the mechanical pour pot may be used for both melting and applying the sealing material.

When the hot-poured sealing material is applied directly from the heating kettle, the kettle shall be equipped with a pressure pump, hose and nozzle suitable for forcing the sealing material to the bottom of the joint and completely filling the joint. The hose and nozzle shall maintain the temperature of the sealing material so that the loss in temperature is not over 10 degrees Fahrenheit between the nozzle and the heating tank. Heat from a direct flame on the nozzle shall be mounted on rubber-tired wheels and only rubber-tired equipment shall be used to move the heating equipment on the pavement.

CONSTRUCTION METHODS

The following procedure shall be used in resealing joints and cracks in pavement:

Removing Old Sealer: The old joint sealer and foreign matter shall be plowed or sawed out of the expansion joints to the existing filler or to a depth of one inch, whichever is less, and contraction and longitudinal joints shall be plowed or sawed to a depth of one inch. Previously sealed open cracks shall be cleaned to new pavement by routing with a vertical shaft router or by sawing.

Random Crack Routing or Sawing: All new random cracks shall be prepared for sealing by routing with a vertical shaft router or by sawing.

Sandblasting: Just prior to the application of the sealer material, all joints or cracks will be thoroughly cleaned by sandblasting. This operation will be performed in such a manner as to result in the complete removal of all existing joint material and other foreign matter from the sidewalls and upper edges of the joint. The sandblasting shall continue until the entire joint space is free of dust, oil, water, old joint material and/or any other objectionable foreign matter which may prevent bonding of the sealing compound to the joint or crack wall. The sand used shall be of proper size and quality necessary for the operation.

Air: Following sandblasting operations, the joints and cracks will be thoroughly cleaned by means of an air jet under a pressure of not less than 90 p.s.i. Compressed air may be used at any time during joint cleaning operations, however, to insure removal of all loose material, a jet of compressed air will be required immediately ahead of sealing operations.

Debris Removal: All debris and objectionable material resulting from cleaning operations will be removed from the pavement surface prior to sealing operation with vacuum power sweepers. The areas involved shall be swept clean of all such debris before traffic can be permitted to re-enter such areas.

SEALING

As soon as the joints are cleaned with the compressed air jet, they shall be sealed. The surface of the joint shall be dry at the time of sealing.

Joints and cracks that have openings for the full depth of the slab shall be filled with a backer rod to prevent the sealing compound from flowing down to the subgrade. For expansion joints, the backer rod shall not extend above the joint filler. Contraction joints, longitudinal joints and cracks shall have a space of one inch above the backer rod that shall be filled with the sealing compound.

During the process of sealing, the Engineer may, at his discretion, require that sufficient compound be taken from the melting unit to make flow tests in accordance with Federal Specification SS-S-1401. If the flow is greater than two (2) centimeters, the Contractor will be required to so modify the method of heating or of charging the heating unit with the compound so that subsequent samples will show satisfactory results.

SEALCOAT MATERIALS

Sealcoat products shall meet or exceed all composition and performance requirements of ASTM D 5727, 140, 466-42, 490-92, 529, 2939, 3320, ASTM B 117.

SPECIFICATIONS FOR WATERBORNE PAVEMENT MARKINGS

Description

This work shall be in accordance with Division 8, Section 811 of the 2020 MDOT Standard Specifications, except as herein specified.

1. This work shall consist of furnishing and applying specified reflectorized pavement markings at locations shown on the plans, in the proposal, or as directed by the ENGINEER, in accordance with the Michigan Manual of Uniform Traffic Control Devices and as herein specified.
2. The CONTRACTOR is responsible for all layout work necessary for the location and placement of pavement markings shown on the plans, in the proposal, or as directed by the ENGINEER.
3. All markings, shapes and dimensions shall conform to the latest Michigan Department of Transportation (MDOT) typical plans for pavement markings.
4. The CONTRACTOR shall be responsible for removing all curing compound prior to the placement of pavement markings as shown on the plans, in the proposal, or as directed by the ENGINEER.
5. The CONTRACTOR shall be responsible for installing all waterborne paint pavement markings as shown on the plans and as specified.

Construction Methods

Waterborne paint shall be applied uniformly at the rate shown in the following table. Application rates will be determined by dividing the quantity used by the length of line painted.

Application Limitations

Environmental – Waterborne paint shall be applied when the surface temperature of the pavement is 50 degrees Fahrenheit or higher and the pavement is dry. The CONTRACTOR shall be responsible for making the decision to apply waterborne paint on any specific day. If applied lines are washed away because of rain, the CONTRACTOR shall be responsible for reapplying the lines at no additional expense to the «ctywnpvllg». Waterborne pavement marking material shall not be placed before May 1 or after October 1.

SPECIFICATIONS FOR SIGN REMOVAL

Description

This work shall be in accordance with Division 8, Section 810 of the 2020 MDOT Standard Specifications except as herein specified.

1. The CONTRACTOR shall remove all traffic signs within the right-of-way, shown on the construction plans or as directed by the ENGINEER and be delivered to the City of Garden City Department of Public Services yard located at 31800 Beechwood Avenue.
2. Any signs removed or destroyed during construction and not taken to the Department of Public Services yard shall be replaced by the CONTRACTOR at his expense.

SPECIFICATIONS FOR REMOVING TREES

Description:

This work shall be in accordance with Division 2, Section 202 of the 2020 MDOT Standard Specifications, except as herein specified.

This item shall include the complete removal of existing trees, bushes and hedges as called for on the plans. Removal shall include the complete removal of stump and associated root ball. Trees removed shall be disposed of immediately at an off-site location designated by the CONTRACTOR. Tree removal shall be conducted carefully so not to cause damage to adjacent properties or items such as pavements, sidewalks and landscaped areas within the ROW. Any damage caused by tree removal shall be repaired and paid for by the CONTRACTOR.

SPECIFICATIONS FOR GRADING

Description

The work shall be in accordance with Division 2, Section 205 of the 2020 MDOT Standard Specifications, except as herein specified.

1. The CONTRACTOR is responsible to perform all earthwork (excavation, road embankment, grading) required to obtain the proper elevation of the subgrade in order to install the proposed concrete pavement to the required depth and aggregate base course [six inches (6") minimum].
2. The CONTRACTOR is responsible to perform all earthwork (excavation, embankment, grading) required to obtain the proper elevation and slope of the proposed storm sewer and roadway.
3. All existing base material must be disposed of by the CONTRACTOR.
4. The CONTRACTOR shall use 21AA Crushed Limestone as specified in the Specifications for "Aggregate Base Course (CIP)." This material must be approved by the ENGINEER prior to installation.

5. Prior to installing the aggregate base course, the existing subgrade, including any road embankment or subgrade undercutting, must be fine-graded and compacted to not less than 95 percent of maximum unit weight as approved by the ENGINEER. The CONTRACTOR is responsible for the final adjustment of all utility structures affected by the "Station Grading" process.

SPECIFICATIONS FOR PERMANENT SIGNAGE

Description:

This work shall be in accordance with Division 8, Section 810 of the 2020 MDOT Standard Specifications, except as herein specified.

This item shall include the installation of permanent traffic signage in accordance with the City of Garden City Traffic Code and Regulations and the Michigan Manual of Uniform Traffic Control Devices, current edition.

All traffic signage installed shall include a new steel post, ten foot (10) in height, with the bottom three feet (3') buried in the ground. All new signage shall meet the current MDOT retroreflectivity guidelines. All new street name signs shall also be included as a part of this item.

Signs shall be placed according to the construction plans and at the direction of the ENGINEER and/or the City Department of Public Services.

SPECIFICATIONS FOR RESTORATION

Description

This special provision covers the requirements for Restoration for this project. This work shall consist of shaping all disturbed areas, placing topsoil, seed or sod, fertilizer, mulch blanket or mulch, anchoring mulch and as sown on plans and typical cross sections. Restoration shall be in accordance with Division 8, Sections 813 and 816 and Division 9, Section 917 of the 2020 MDOT Standard Specifications and as directed by the ENGINEER with the following exceptions and additions.

Any possible inconsistencies that may exist between the requirements included herein and the requirements of MDOT 2020 Standard Specifications for Construction will be resolved by the ENGINEER at the time such inconsistency is identified.

Classification

Seeding will be classified as Class A or Class B depending on the type of soil and the area to be seeded.

Class of Seeding	Intended Use (For the guidance of the user and not a	Commercial Fertilizer (Lb/Acre)	Sowing	Seeds
			Mixture No.	Rate, Lb. Per Acre

	part of these specifications)			
A	Lawns, Boulevards, and Parks	1200 Lb. Chemical	1 or 2	80
B	General Seeding on Primary and Local Roads	1200 Lb. Chemical	3 or 4	50

Seed Mixtures

Seed mixtures shall be certified seed of the following purity, germination and proportions by weight, as specified in the following table:

SEEDS			MIXTURES			
Kind	Purity	Germination	Class A Seeding		Class B Seeding	
			No. 1	No. 2	No. 3	No. 4
Kentucky Blue Grass	85%	80%	80%	40%	50%	30%
Creeping Red Fescue	98%	90%		30%		30%
Red Top	96%	90%	20%	15%	10%	10%
Perennial Rye Grass	98%	90%		15%	40%	10%
Tall Fescues	98%	90%	When Specified			
Bent Grasses	98%	90%				
White Dutch Clover	98%	90%				
Alsike Clover	98%	90%				
Type of Soil			Heavy and Medium Soils	Light Soils	Heavy and Medium Soils	Light Soils
Intended Use (For the guidance of the user and not a part of these Specifications)			Lawns, Boulevards and Park Areas		Gen. Seeding on Primary & Local Roads	

*Germination percentages may include a maximum tolerance of hard seed as follows:

Alsike Clover..... 30% hard seed

White Dutch Clover..... 15% hard seed

Materials

Seeding

1. The seeding mixture shall be Class A, Type 1 seeding for lawns, boulevards, and park areas.

2. All seed proposed to be used shall be furnished in durable cloth bags, tagged or labeled, showing the date of test and guarantee of analysis of purity and germination, and shall meet the requirements of these specifications.
3. Seed shall be the previous year's crop, and in no case shall exceed one percent (1%) weed content. No seed will be accepted with date of the test of more than six (6) months prior to the date of sowing, and the City reserves the right to test, reject or approve all seed.

Topsoil

1. Topsoil furnished maybe visually inspected for organic contamination and cleanliness at the source by the ENGINEER prior to transport to the construction site.
2. Topsoil furnished shall not be contaminated and shall not be a mixture of natural underlying soils, subbase material or other materials. It shall consist of natural loam or clay loam humas-bearing soils adapted to the sustenance of plant life and such soils shall be neither excessively acid nor excessively alkaline.
3. Topsoil furnished shall come from sources furnished by the CONTRACTOR from off the project.
4. Topsoil furnished shall be spread to a depth of not less than three inches (3"), unless otherwise indicated on the plans.

Sodding

1. Sodding shall be Class A with densely rooted blue grass other approved perennial grass, free from noxious weeds and reasonably free from other weeds.
2. Sodding shall be not less than two inches (2") thick, cut in strips not less than 10 inches wide by 18 inches long.
3. The type of sodding shall match the existing lawn or as approved by the ENGINEER.

Fertilizer

1. Commercial fertilizer shall be used for seeding and shall consist of chemical fertilizers.
2. These shall be of standard approved brands ad shall be delivered in bags not to exceed 100 pounds each.
3. The guaranteed analysis shall be shown on each bag.
4. Chemical fertilizer for grasses shall contain six percent (6%) available nitrogen, 12 percent available phosphoric acid, and 12 percent available potash unless otherwise specified. The nitrogen element shall be derived at least 10-20 percent from true organic materials (such as tobacco stems, cottonseed meal, sewage sludge or tankage), at least 20 percent from urea compounds and the balance from other nitrogen materials.

Construction Methods

Preparation of Earth Bed

1. The earth bed upon which the furnished topsoils are placed shall be at the required grade and properly trimmed.
2. Prior to placing the furnished topsoil, the earth bed shall be worked into a friable condition to a minimum depth of three inches (3") and all sprinkler heads or monument boxes must be adjusted or relocated.
3. Earth beds shall be harrowed with a disk, a spring tooth drag or a spike tooth drag just prior to lacing any topsoil. The harrowing shall be done so that all soil impressions left by any equipment are horizontal across the face of the slope.

4. Any topsoil that has been placed on conditional earth bed shall be incorporated into the upper two inches of the earth bed.
5. Furnished topsoils shall not be worked when in a wet condition. Working wet soil destroys the soil structure and causes compaction that inhibits root growth.
6. The topsoils shall be spread on the prepared areas to a depth of not less than three inches (3"). After spreading, any large clods and lumps shall be pulverized and all stones and rocks more than two inches (2") in diameter, roots, litter or any foreign matter shall be raked up and disposed of by the CONTRACTOR off the site as described in Division 8, Section 816 of the 2020 MDOT Standard Specifications.
7. The topsoil surface shall be in reasonably close conformity to the lines, grades and cross sections shown on the plans.
8. Where called for on the plans, pea gravel is to be installed and compacted in place.

Sodding

1. The sod shall be moist, laid in a moist earth bed and within 24 hours after cutting and properly protected until placed.
2. Pitchforks shall not be used to handle the sod and dumping from vehicles will not be permitted.
3. The sod shall not be placed during a drought or during the period from July 1 to August 15.
4. The sod shall be kept moist by the CONTRACTOR for 30 days or until growth has been established.

Seeding

1. The actual sowing of seed shall be performed from the time the ground is workable in the spring until June 1 and between the dates of August 15 and October 1, except during periods of high winds. Sowing at any other time shall be by special authorization.
2. The seed mixture of the kind required shall be sown at the rate per acre specified above for the classes of seeding specified.
3. The seed shall be incorporated in the soil to a depth not to exceed one-quarter inch ($\frac{1}{4}$ "), using a Brillion seeder or other suitable equipment.
4. Seeds shall not be sown through mulch.

Watering

1. Use a minimum of 27 gallons of water to establish each square yard of sod. Within eight hours after the sod has been placed, spray 6 gallons of water per square yard; apply 3.5 gallons per square yard five additional times at three to four day intervals. The engineer may require additional applications based on the season and weather conditions.
2. Use a minimum of 17.5 gallons of water to establish each square yard of seeded area. Water seeded areas at 3.5 gallons per square yard thereafter. Continue watering regularly so that seed/seedlings do not dry out.

SPECIFICATIONS FOR PROJECT CLEANUP

Description

This work shall be as specified in Division 2, Section 209 of the 2020 MDOT Standard Specifications, except as herein specified.

Any item, which is not included as part of any other pay item, that is disturbed or damaged, as part of the construction operations, will have to be restored back to its original condition as directed by the ENGINEER. These items include, but are limited to, sprinkler systems and traffic signs.

SPECIFICATIONS FOR IDLED EQUIPMENT

Description

This work shall be as specified as shown below.

1. No additional compensation will be given to the CONTRACTOR for not being prepared and having the correct materials on site.
2. It is the CONTRACTOR's responsibility to have all necessary fittings, restrained joints, bolts, adjustment rings, etc. in order to complete the job as shown on the plans.
3. In the unlikely event that the CONTRACTOR claims Idled Equipment the ENGINEER shall review the claim with the OWNER to determine if the claim is warranted.

SPECIFICATIONS FOR WORK NEAR UNDERGROUND AT&T and DTE ENERGY CONDUITS

Description

Several underground electrical conduit duct banks encased in concrete owned by DTE Energy exist within Joseph Campau Avenue right-of-way. These duct banks are shown on the plans and the information presented on the plans provided by AT&T and DTE Energy. Prior to construction, it is required that the Contractor meets with AT&T and DTE Energy on-site to identify and locate all locations of AT&T and DTE Energy conduit duct banks.

The Contractor shall take extra precautions when excavating under or adjacent to these duct banks. Any damage to the duct banks during construction will be the responsibility of the Contractor to coordinate repairs through AT&T and or DTE Energy.

Measurement and Payment

Payment for this work **will not be paid for separately** but shall be included in the pay items of the contract and include all labor, material, and equipment necessary to perform the work.

SPECIFICATIONS FOR UTILITY COORDINATION

Description

For protection of underground utilities, and in conformance with Public Act 53, the CONTRACTOR shall dial 1-800-482-7171 or 811, a minimum of three (3) working days, excluding Saturdays, Sundays and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the CONTRACTOR of the responsibility of notifying utility OWNERS who may not be a part of the “Miss Dig” alert system.

Public Utilities

The following public utilities have facilities located within the right-of-way:

DTE Energy (MichCon)	1-800-338-0178
DTE Energy	313-235-5632
Comcast	248-359-6582
AT&T	734-523-7797

The OWNERS of existing service facilities that are within grading or structure limits will move them to locations designated by the ENGINEER or will remove them entirely from the street right-of-way. OWNERS of public utilities will not be required by MDOT, Wayne County or the City to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the ENGINEER that such poles or structures constitute a hazard to the public or are extraordinarily dangerous to the CONTRACTOR's operations.

No additional compensation will be paid to the CONTRACTOR for delays due to material shortages or other reasons beyond the control of MDOT, Wayne County or the City, or for delays on the construction due to the encountering of existing utilities that are, or are not, shown on the plans.

Work stoppages by employees of utility companies, which result in a delay of utility revisions on any portion of this project, may be considered the basis for a claim for an extension of time for completion, but will not be considered the basis for a claim for extra compensation or an adjustment in contract unit prices.

If any utility companies and/or governmental agencies require any fees for items such as plan review, inspection, permitting, testing, staking, etc., these fees shall be paid by the CONTRACTOR, shall be included in the unit prices of the contract, and at no additional cost to the City.

METHODS AND MEASUREMENT OF PAYMENT

GENERAL

A. PRICES AND MEASUREMENTS:

Payment for work under this contract will be based on a unit price or lump sum for work actually completed. Final measurements of the work will be made and recorded by the Engineer to determine the amount of work done and thereby determine the total cost. The method of applying the unit prices to measured quantities will be as herein specified. Payment will include the cost of all labor, tools, materials, and equipment necessary to do the work.

Several items may have been included in the bid form but may be deemed unnecessary during the construction process. These items have been included in order to establish a unit price in the event that the item of work is necessary. The Contractor should be aware that these items may increase, decrease, or be zero based on field conditions, or Owner direction. No alteration of unit price will be considered as a result of the reduction of any bid items.

B. INCIDENTAL ITEMS:

Any items of work indicated as incidental or included shall be considered as part of the project work and shall be completed at no additional expense to the Owner. Incidental or included items shall include labor, materials, and equipment that may not be specifically listed in the Bid Form or in the drawings or specifications, but which are necessary to complete the work.

MOBILIZATION

"Mobilization," as specified, shall not be paid for separately, but shall be included in the pay items of the contract. It shall include all labor, bringing in and setting up of equipment and preparation of the CONTRACTOR prior to start of construction.

The OWNER will not pay for any remobilization of the CONTRACTOR following the start-up of construction.

SOIL EROSION & SEDIMENTATION CONTROL

Payment for this work shall be paid for a per (EACH) price. The unit price of the contract shall include all labor, material and equipment necessary to perform the work as directed by the Engineer.

Maintenance and removal of all measures will not be paid for separately, but will be included in the pay items in the contract.

Clean out of the sediment in the drainage structures after the project is completed will not be paid for separately, but will be included in the pay items of the contract.

Pay Item

Inlet Filter
Silt Fence

Pay Unit

EACH
LFT

TRAFFIC MAINTENANCE & CONTROL

"Traffic Maintenance & Control," as herein specified, will be paid for with a lump sum (LSUM) price, and shall include the installation, operation, inspection, maintenance (cleaning), repositioning and removal of all devices including detour signage.

HMA must be installed a maximum of 72 hours after milling. Phasing and maintenance of traffic measures should be installed accordingly.

It is the CONTRACTOR's responsibility to determine the estimate of quantities for traffic maintenance and control for this project and any additional signing or maintaining traffic devices required to expedite the construction shall be at the CONTRACTOR's expense.

Payment for "Traffic Maintenance & Control" will be based upon the percent completion of the entire project as approved by the ENGINEER. This approval will be based upon the review and approval of the CONTRACTOR's Application for Payment.

<u>Pay Item</u>	<u>Pay Unit</u>
Traffic Maintenance & Control	LSUM

HOT MIX ASPHALT (HMA) PAVEMENT

The costs associated with stripping and disposing of existing vegetation and topsoil and excavating and installing the asphalt pavement will not be paid for separately, but shall be included in the pay item "Hot Mix Asphalt (HMA) Pavement". The costs shall include all labor, material and equipment required to complete the work as specified.

"Hot Mix Asphalt (HMA) Pavement," as specified herein, will be measured in tons (TONS), and shall include all labor, materials and equipment to complete the work as specified.

<u>Pay Item</u>	<u>Pay Unit</u>
HMA, 5EML, Wearing Course, 2 Inch	TONS
HMA, 4EML, Wearing Course, 1.5 Inch	TONS

CONCRETE PAVEMENT

"Concrete Pavement (type)," of the type specified, will be measured by area in square yards (SYD) in place, and shall be payment in full for all labor, materials and equipment required to complete the work as specified.

The following items will not be paid for separately, but shall be included in the price of the specified pay item:

- Backfilling behind the curb with approved material and as shown in the plans and as directed by the ENGINEER
- Installation of expansion, contraction and transverse expansion joints
- Installation of neoprene seals, sealants and load transfer assemblies
- Construction and sealing of all other longitudinal and transverse joints
- Installation of transverse end-of-pour joints, including sealants, at concrete pavement gaps and temporary transition tapers
- Installation of transverse plane of weakness joints, including sealants
- Installation of external Longitudinal Joints, including sealants

- The price for final adjustment of the structures located in the project area
- Concrete pavement gaping, as directed by the ENGINEER

<u>Pay Item</u>	<u>Pay Unit</u>
Concrete Pavement, Nonreinf, 8-inch	SYD
Concrete Pavement, Nonreinf, 4-inch Sidewalk+Integral	SYD
6" MDOT F2 Curb & Gutter	LFT

GRADING

"Grading," as specified herein, will be measured in stations of length, using the stations on the plans, and shall include all labor, material and equipment required to complete the work as specified.

The following items will not be paid for separately, but shall be included in the price of the specified pay item:

- Completion of earthwork
- Hauling and installation of any off-site material that may be required for road embankment
- Final adjustment for all utility structures
- Grinding and removal of any roots present as necessary to install pavement as proposed grades
- Grading and compaction of the MDOT Aggregate Base.
- Corduroy, culverts, headwalls, existing manholes and other abandoned utilities and structures no longer in use are to be removed and abandoned
- Providing positive drainage from the R.O.W. to the street

The removal and disposal of unsuitable material will not be paid separately, but will be included in the pay item "Subgrade Undercutting."

<u>Pay Item</u>	<u>Pay Unit</u>
GRADING	SYD

SUBGRADE UNDERCUTTING

"Subgrade Undercutting" as herein specified, will be measured in cubic yards (CYD) of volume in its original position, computed by the method of average end areas, and shall be payment in full for excavating the material below the pavement base course elevation in cut section, disposing of the material, backfilling and compacting. There will be no item of overhaul and all haul costs thereof shall be included in this item of "Subgrade Undercutting."

Backfill for Subgrade Undercutting, as specified, will not be paid for separately but shall be included in the pay item "Subgrade Undercutting."

<u>Pay Item</u>	<u>Pay Unit</u>
Subgrade Undercutting	CYD

REMOVALS

"Removals" shall include all necessary excavation, removal and proper disposal of the existing asphalt pavement, structures, building, trees, concrete pavement along with curb and gutter and surplus materials as directed by the ENGINEER including any aggregate base to be removed to achieve the proposed cross section.

<u>Pay Item</u>	<u>Pay Unit</u>
Remove Pavement	SYD
Demo Remove Building and Foundation	SFT
Remove and Reinstall Post, sign	EA
Remove/Reinstall Guy Wire	EA
Remove Lightpoles and Base	EA
Remove Trees (6"-18") DIA	EA

MISCELLANEOUS STRUCTURES

Miscellaneous Structures shall include all labor, material and equipment required to complete the work as specified. The work shall include the removal and complete installation of structures per the construction plan.

<u>Pay Item</u>	<u>Pay Unit</u>
Remove & Reinstall Post, Sign	EACH
Dumpster Enclosure, Walls, Gates Complete	EACH
Bollards	EACH
Double-head Lightpoles and Base	EACH

ASPHALT PARKING LOT SEALCOAT, JOINT AND CRACK SEALING

"Sealcoat, Joint & Crack Sealing" will be measured and paid for on the basis of total parking lot square footage (SFT). Backer rods, if required, will be included in the bid price. The payment for Hot-poured rubber sealant will not be paid for separately, but shall be included in the price. This shall include all mobilization, labor, material and equipment required to complete the work as specified.

The costs associated with the work will not be paid for separately, but will be included in this pay item and shall include all mobilization, preparation, cleaning, and any other work required as shown in the Standard specifications and on the drawings to complete the job as required.

It is the contractor's responsibility to visit the areas specified and determine the quantities needed to complete the job as specified and as directed by ENGINEER.

<u>Pay Item</u>	<u>Pay Unit</u>
Existing Asphalt Lot Crackseal & Double Sealcoat	SF

WATERBORNE PAVEMENT MARKINGS

The completed work will be paid for as lump sum for all striping. The contract pay item shall include all labor, material and equipment, traffic control and measurements of existing lot striping necessary to complete the new striping.

All surface preparation work will not be paid separately, but shall be included in the pay items listed below.

<u>Pay Item</u>	<u>Pay Unit</u>
Pavement Striping Markings & Measurement	LSUM

RESTORATION

“Restoration” shall be measured and paid for as lump sum (LSUM) as directed by the ENGINEER and include all labor, material and equipment including watering necessary to perform the work as called for in the plans and specifications.

The completed work shall include all materials, labor and equipment required to install furnished topsoil [three inches (2")], and sod along the roadway or as directed by the ENGINEER.

<u>Pay Item</u>	<u>Pay Unit</u>
Restoration	LSUM

PROJECT CLEANUP

Payment for this work will not be paid for separately, but shall be included in the pay items of the contract and include all labor, material and equipment necessary to perform the work.

CONSTRUCTION OBSERVATION

Construction Observation days should include all days the contractor is performing work onsite. The Contractor shall include the total number of equivalent 8 Hour Days required to complete the work and multiply them by the price per day. This price shall be included as in the total bid. An inspector day shall be computed by adding the total Chargeable Inspection Hours listed in Article 17 and dividing the total number of chargeable by eight (8) to get an equivalent 8 Hour Day. **See Article 17 for chargeable Inspection Hours. Note that the Contractor does not receive payment for this item. The item is used for progress tracking purposes.**

<u>Pay Item</u>	<u>Pay Unit</u>
Construction Observation	DAYS