Fly Lansing
Capital Region International Airport

2020 Standard **Specifications** for **Construction**

Warranty	No	FHWA Oversight	No
DBE °/e	No	NHS	No

CAPITAL REGION AIRPORT AUTHORITY

PROPOSAL

2.62 mi of alternate pavement bid, road reconstruction, geometric improvements, signing, maintenance of traffic, drainage improvements, and pavement markings on Port Lansing Road from Airport Road to Dewitt Road and on Capital City Boulevard from Grand River Avenue to W. Circle Drive in the city of Lansing, Ingham and Clinton Counies. This project is an Alternate Pavement Bid project. Alternate 1 for Port Lansing Road is a Concrete Reconstruction Alternate. Alternate 2 for Port Lansing Road is an Hot Mix Asphalt Reconstruction Alternate. Alternate 1 for Capital City Boulevard is a Concrete Reconstruction Alternate. Alternate 2 for Capital City Boulevard is an Hot Mix Asphalt Crush and Shape Alternate. Additional Alternates include: 1) the provision Capital Region International Airport banners and signage and 2) providing vegetation and plantings in the median of Capital City Boulevard.

BIDS WILL BE OPENED AT 10:30 AM LOCAL TIME, ON 03/24/26

The bidder has downloaded and examined the plans, specifications, special provisions, and related materials in the proposal, as well as the location of the work described in the proposal for this project, has obtained all addenda issued for this project, is fully informed as to the nature of the work and the conditions relating to its performance and understands that the quantities shown are approximate only and are subject to either increase or decrease.

The bidder hereby proposes to furnish all necessary machinery, tools, apparatus, and other means of construction, do all the work, furnish all the materials except as otherwise specified and, for each unit price, lump sum, or one each named in the itemized bid, to complete the work in strict conformity with the plans therefore and the entire proposal which is incorporated by reference in these pages, and in strict conformity with the requirements of the 2020 Standard Specifications for Construction, Michigan Department of Transportation and such other special provisions and supplemental specifications as may be a part of the proposal for this project.

The bidder further proposes to do such extra work as may be authorized by the Capital Region Airport Authority (Authority), prices for which are not included in the itemized bid. Compensation shall be made on the basis agreed upon before such extra work is begun.

THE BIDDER UNDERSTANDS AND AGREES THAT THE AUTHORITY RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS AND NO CONTRACTUAL RELATIONSHIP SHALL EXIST BETWEEN THE BIDDER AND THE AUTHORITY FOR THE WORK DESCRIBED HEREIN UNTIL SUCH TIME AS THE CONTRACT HAS BEEN FORMALLY EXECUTED BY BOTH THE BIDDER AND THE AUTHORITY.

The bidder agrees upon submitting this bid that its agents, officers or employees have not directly or indirectly entered into any agreements, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal for the above project.

Unless the bidder gives the Authority advance written notice, the Authority may correspond directly with the insurance agencies concerning questions and problems with the insurance certificates, bonds and related materials. It is the obligation of the bidder to monitor the filing of the insurance certificates, bonds, and related materials with the Authority and the bidder is responsible for any failure to provide the Authority with the required materials, on a timely basis and in proper form.

SECTION 00 11 13 - ADVERTISEMENT FOR BIDS

CAPITAL REGION AIRPORT AUTHORITY

RECONSTRUCTION OF PORT LANSING ROAD AND CAPITAL CITY BOULEVARD

1. RECEIPT OF BIDS

Capital Region Airport Authority, the Owner, will receive sealed Bids for construction of the Reconstruction of Port Lansing Road and Capital City Boulevard project at the Community Room in the Main terminal of the Capital Region International Airport (4100 Capital City Boulevard, Lansing, MI 48906) until Tuesday March 24, 2026 at 9:45 a.m., local time. No Bids will be received after that time. Bids will be publicly opened and read aloud at that time and place.

2. SCOPE OF PROJECT

Rehabilitation/reconstruction of Port Lansing Road and Capital City Boulevard as shown in the project plans/specifications.

3. FINANCING

The Project will be financed with local funds provided by the Capital Region Airport Authority and the Contract Documents reflect requirements by that agency.

4. ISSUING OFFICE

Bidding Documents are being issued from Fishbeck's Lansing office. Bidders should direct questions and correspondence to that office.

5. EXAMINATION OF DOCUMENTS

Bidding Documents may be examined at the following locations after Wednesday, February 11, 2026, 8 a.m., local time.

Fishbeck, 5913 Executive Drive, Suite 100, Lansing, Michigan 48911, 517.882.0383.

Builder's Exchanges: Grand Rapids, Kalamazoo, Lansing, NW Michigan (located in Traverse City), Tri-City Saginaw.

Construction Association of Michigan (CAM): Bloomfield Hills. Saginaw.

Central Michigan Plan Room: Mt. Pleasant.

The Plan Room: Ann Arbor.

A list of entities to whom the Bidding Documents have been issued will be available online at www.fishbeck.com. Click on "Bid Sets/Bidders Lists."

6. OBTAIN BIDDING DOCUMENTS

PDF files that are viewable online are suitable for printing. Individuals/companies that electronically download full sets are automatically added to the list of plan holders. Obtaining Bidding Documents from any source not identified herein may result in failure to receive addenda, corrections, or other revisions that may be issued.

7. BID SECURITY

Bid security will not be required for this bid.

8. WITHDRAWAL OF BIDS

Bids may not be withdrawn for a period of 60 days after the actual date of opening thereof. This time period may be extended by mutual agreement of the Owner and any Bidder or Bidders.

9. RIGHT TO REJECT BIDS

The Owner reserves the right to waive any irregularities and to reject any and all Bids.

10. PREBID CONFERENCE

A prebid conference will not be held.

END OF SECTION 00 11 13

SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions (Standard General Conditions of the Construction Contract, EJCDC, No. C-200, 2018 edition) and the Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

A. Issuing office – the office identified in the Advertisement for Bids, from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the cost stated in the Advertisement for Bids may be obtained as indicated in the Advertisement for Bids.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretation resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not authorize or confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 Each Bid shall contain evidence of Bidder's qualification to do business in the state where the Project is located or Bidder must covenant to obtain such qualification prior to award of the Contract.

3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder’s representations and certifications.

3.03 To demonstrate Bidder’s qualifications to perform the Work, within 5 days of Owner's request Bidder shall submit written evidence of:

A. Financial data, previous experience, present commitments, workers' compensation experience modification rating (EMR) and other such data as may be requested by Owner.

B. Previous experience in constructing at least 3 projects of a similar type, comparable size and comparable complexity within the past 5 years.

3.04 When so requested, Bidder shall meet with Owner's representatives and give further information in order to determine Bidder's qualifications, responsibility, ability to perform and complete the Work in accordance with the Contract Documents.

3.05 Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, a Bidder fails to satisfy Owner that the Bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 Subsurface and Physical Conditions

A. The supplementary Conditions identify:

1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.

2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request at the cost of preparation, reproduction and shipping. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph 5.03 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 Underground Facilities

A. Information and data indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 Hazardous Environmental Condition

A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

B. Copies of reports and drawings referenced in Paragraph 4.03 A. will be made available by Owner to any Bidder on request at the cost of preparation, reproduction and shipping. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph 5.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data, if any, furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 5.06 of the General Conditions.

4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.06 Reference is made to the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents, if any, (other than portions thereof related to price) for such other work.

4.07 Paragraph 7.13 C. of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.08 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;

B. visit the Site and become familiar with and satisfy Bidder as to the general, local and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy Bidder as to all federal, state and local Laws and Regulations that may affect cost, progress, or performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph 5.06 of the Supplementary Conditions as containing reliable "technical data;"

E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.09 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PREBID CONFERENCE

5.01 A Prebid Conference will not be held.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be directed to Engineer in writing. Interpretations or clarification considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded by Engineer as having received the Bidding Documents via electronic documentation. Questions received less than 10 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by an original Bid security (with affixed seal) made payable to Owner in an amount of 5% of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (optional form attached) issued by a surety meeting the requirements of paragraphs 6.01 and 6.02 of the General Conditions. Facsimile, telegraphic, or other electronically transmitted Bid Security or Bid bonds submitted with the Bid will not be considered. Attorneys-in-fact who execute the Bid Security or Bid bond on behalf of the Surety shall affix to the bond a certified and current copy of the power of attorney.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner’s exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The dates by which the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the MDOT 2020 Standard Specifications for Construction.

ARTICLE 11 - SUBSTITUTE AND "OR EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or equal" items.

11.02 Whenever materials or equipment are specified or described in the Bidding Documents by using the name of one or more Suppliers, the Bid shall be based on providing the materials or equipment of one of the Suppliers named.

11.03 Whenever it is specified or described in the Bidding Documents that a substitute or "or equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in Paragraph 6.05 of the General Conditions and may be supplemented in Division 01 - General Requirements.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 If the Supplementary Conditions require, or if Owner requests, the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within 5 days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualifications for each such Subcontractor, Supplier, individual or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case the apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.07 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid form is included with the Bidding Documents. Additional copies may be obtained online.

13.02 All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid form. A Bid price shall be indicated for each Bid item and unit price item listed therein. This is an alternate bid project. Bids must be provided for all items in Categories 001, 011, and 013. A bid must be provided for all items in either Category 003 OR Category 005. A bid must be provided for all items in either Category 007 OR Category 009. In the case of optional alternatives that are not bid, the words “No Bid”, “No Change”, or “Not Applicable” may be entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president, vice president, or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed, if required by state law, and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be indicated below the signature.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be indicated below the signature.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be indicated below the signature.

13.06 A Bid by an individual shall indicate the Bidder’s name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture shall be indicated below the signature.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.

13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be indicated.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, for the state in which the Project is located shall also be indicated on the Bid form.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.01 Basis of Bid

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule and per the Special Provision for Alternate Pavement Bid Calculations for Contract Identification 241594.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Bidders shall include a separate price for each alternate described in the Bidding Documents as provided for in the Bid form. The price for each alternate will be the amount added to the base Bid if Owner selects the alternate.

14.02 Left blank intentionally.

14.03 Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

ARTICLE 15 - SUBMITTAL OF BID

15.01 Blank copies of the Bid form are available online. (Go to www.fishbeck.com, click on "Bid Sets/Bidders Lists".) The Bid form is to be completed and submitted.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be enclosed in an opaque, sealed package, plainly marked with the Project title and name and address of the Bidder. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED".

15.03 Bid forms with facsimile or other electronically transmitted signatures will not be considered.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BIDS

16.01 A Bid 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 prior to the date and time for the opening of Bids.

16.02 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 its Bid, that Bidder may withdraw its Bid. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

16.03 No withdrawal of a Bid shall be permitted on account of mistake or any other reason after the expiration of this 24 hour period.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously nonresponsive, read aloud publicly. An abstract of the amounts of the Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid form, but Owner may, in its sole discretion, release any Bid prior to the end of this period.

ARTICLE 19 - AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data as may be requested in the Bid form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner also may consider the operating costs, maintenance considerations, performance data and guarantees of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

19.06 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals or entities proposed for those portions of the Work in accordance with the Contract Documents.

19.07 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project. Alternates will not be considered in the award of this Contract.

19.08 If the Contract is to be awarded, Owner will give Successful Bidder a Notice of Award within 35 days after the day of the Bid opening.

ARTICLE 20 - CONTRACT INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required certificates of insurance (and other evidence of insurance requested by Owner).

20.02 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to bonds. When Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement bound into the Project Manual with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 10 days thereafter, Owner will deliver one fully signed counterpart to Successful Bidder.

ARTICLE 23 - RETAINAGE AND PROGRESS PAYMENTS

23.01 Provisions concerning retainage and progress payments are set forth in the Agreement.

23.02 Retainages and progress payments will be in accordance with State of Michigan Act 524 of the Public Acts of 1980.

END OF SECTION 00 21 13

SECTION 00 41 43 - BID - UNIT PRICE

Bid of _____ hereinafter called Bidder, organized and existing under the laws of or a resident of the State of Michigan, doing business as _____.*

*Insert as applicable: "a corporation", "a partnership" or "an individual".

To Capital Region Airport Authority, hereinafter called Owner.

ARTICLE 1 – BID RECIPIENT

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all:

(1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that have been identified in the Supplementary Conditions as provided in paragraph 5.03 of the General Conditions, as containing reliable "technical data," and

(2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Supplementary Conditions as provided in paragraph 5.06 of the General Conditions as containing reliable "technical data."

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on:

(1) the cost, progress, and performance of the Work;

(2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and

(3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

(1) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

(2) "fraudulent practice" means an intentional misrepresentation of facts made

(a) to influence the bidding process to the detriment of Owner,

(b) to establish bid prices at artificial non-competitive levels, or

(c) to deprive Owner of the benefits of free and open competition;

(3) "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which to establish bid prices at artificial non-competitive levels; and

(4) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following unit price[s]:

Unit Bid Price Schedule						
Category 001 - Common Items						
Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Amount
1	1100001	Mobilization, Max	LSUM	0.22		
2	2030001	Culv, Rem, Less than 24 inch	Ea	5		
3	2030006	Culv, End, Rem, 24 inch to 48 inch	Ea	1		
4	2030011	Dr Structure, Rem	Ea	3		
5	2030015	Sewer, Rem, Less than 24 inch	Ft	100		
6	2040020	Curb and Gutter, Rem	Ft	1,354		
7	2040050	Pavt, Rem	Syd	1,177		
8	2040055	Sidewalk, Rem	Syd	51		
9	2050010	Embankment, CIP	Cyd	486		
10	2050016	Excavation, Earth	Cyd	5,070		
11	2057021	_Embankment CIP, Spec	Cyd	21		
12	2060005	Aggregate	Cyd	2		
13	2080012	Erosion Control, Check Dam, Stone	Ft	389		
14	2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	28		
15	2080024	Erosion Control, Inlet Protection, Sediment Trap	Ea	1		
16	2080034	Erosion Control, Sediment Trap	Ea	21		
17	2080036	Erosion Control, Silt Fence	Ft	22,320		
18	3010002	Subbase, CIP	Cyd	1,640		
19	3020010	Aggregate Base, 4 inch	Syd	1,720		
20	3020020	Aggregate Base, 8 inch	Syd	38,531		
21	3060012	Aggregate Surface Cse, 8 inch	Syd	229		
22	3070130	Shld, Cl II, 8 inch	Syd	540		
23	4010012	Culv End Sect, 12 inch	Ea	8		
24	4010015	Culv End Sect, 15 inch	Ea	2		
25	4010072	Culv End Sect, Footing	Ea	10		
26	4010131	Culv, Cl A, 12 inch	Ft	23		

27	4010168	Culv, Cl A, Conc, 24 inch	Ft	1		
28	4010541	Culv, Cl E, 18 inch	Ft	72		
29	4010607	Culv, Cl F, 12 inch	Ft	137		
30	4010608	Culv, Cl F, 15 inch	Ft	62		
31	4010924	Culv, Slp End Sect, 1 on 4, 24 inch, Transv	Ea	1		
32	4010951	Culv, Slp End Sect, 1 on 6, 18 inch, Longit	Ea	2		
33	4011109	Dr Marker Post	Ea	1		
34	4017001	_Culv, Adj	Ft	6		
35	4020033	Sewer, Cl A, 12 inch, Tr Det B	Ft	41		
36	4020600	Sewer, Cl E, 12 inch, Tr Det B	Ft	100		
37	4021275	Video Taping Sewer and Culv Pipe	Ft	4,637		
38	4027001	_Culv Cleanout	Ft	79		
39	4027001	_Storm Sewer Cleanout	Ft	1,051		
40	4030010	Dr Structure Cover, Type B	Ea	2		
41	4030040	Dr Structure Cover, Type G	Ea	1		
42	4030050	Dr Structure Cover, Type K	Ea	1		
43	4030200	Dr Structure, 24 inch dia	Ea	1		
44	4030210	Dr Structure, 48 inch dia	Ea	3		
45	4030312	Dr Structure, Tap, 12 inch	Ea	1		
46	4040063	Underdrain, Subbase, 6 inch	Ft	6,750		
47	4040093	Underdrain Outlet, 6 inch	Ft	560		
48	4040113	Underdrain, Outlet Ending, 6 inch	Ea	28		
49	5010005	HMA Surface, Rem	Syd	26,965		
50	5010061	HMA Approach	Ton	517		
51	6020200	Joint, Contraction, Cp	Ft	600		
52	6020201	Joint, Contraction, C3p	Ft	825		
53	6020207	Joint, Expansion, E2	Ft	30		
54	6020222	Shld, Nonreinf Conc	Syd	1,070		
55	6030030	Lane Tie, Epoxy Anchored	Ea	1,290		
56	8010007	Driveway, Nonreinf Conc, 8 inch	Syd	1,023		
57	8020016	Curb and Gutter, Conc, Det B2	Ft	147		
58	8020037	Curb and Gutter, Conc, Det F3	Ft	302		
59	8020038	Curb and Gutter, Conc, Det F4	Ft	149		
60	8030010	Detectable Warning Surface	Ft	52		
61	8030030	Curb Ramp Opening, Conc	Ft	56		
62	8030044	Sidewalk, Conc, 4 inch	Sft	10,390		
63	8030046	Sidewalk, Conc, 6 inch	Sft	750		
64	8032001	Curb Ramp, Conc, 4 inch	Sft	100		
65	8032002	Curb Ramp, Conc, 6 inch	Sft	764		

66	8100010	Band, Sign	Ea	14		
67	8100280	Fdn, Wood Support, Rem	Ea	6		
68	8100371	Post, Steel, 3 pound	Ft	827		
69	8100380	Post, Wood, 4 inch by 6 inch	Ft	98		
70	8100390	Sign, Type I, Erect, Salv	Ea	2		
71	8100396	Sign, Type II, Erect, Salv	Ea	5		
72	8100397	Sign, Type II, Rem	Ea	4		
73	8100398	Sign, Type IIA	Sft	60		
74	8100402	Sign, Type III, Erect, Salv	Ea	14		
75	8100403	Sign, Type III, Rem	Ea	81		
76	8100404	Sign, Type IIIA	Sft	135		
77	8100405	Sign, Type IIIB	Sft	439		
78	8102001	Sign, Type I, Rem, Salv	Ea	2		
79	8102002	Sign, Type II, Rem, Salv	Ea	5		
80	8102003	Sign, Type III, Rem, Salv	Ea	14		
81	8102010	Ground Mtd Sign Support, Rem	Ea	58		
82	8112001	Pavt Mrkg, Wet Reflective Waterborne, 2nd Application, 6 inch, White	Ft	17,575.0		
83	8112004	Pavt Mrkg, Wet Reflective Waterborne, 2nd Application, 6 inch, Yellow	Ft	2,820.0		
84	8112145	Pavt Mrkg, Wet Reflective Waterborne, 6 inch, White	Ft	17,575.0		
85	8112148	Pavt Mrkg, Wet Reflective Waterborne, 6 inch, Yellow	Ft	2,820.0		
86	8117001	Pavt Mrkg, Waterborne, 24 inch, Stop Bar	Ft	94		
87	8117001	Pavt Mrkg, Waterborne, 2nd Application, 24 inch, Stop Bar	Ft	94		
88	8117050	Pavt Mrkg, Waterborne, 2nd Application, Lt Turn Arrow Sym	Ea	1		
89	8117050	Pavt Mrkg, Waterborne, 2nd Application, Rt Turn Arrow Sym	Ea	1		
90	8117050	Pavt Mrkg, Waterborne, Lt Turn Arrow Sym	Ea	1		
91	8117050	Pavt Mrkg, Waterborne, Rt Turn Arrow Sym	Ea	1		
92	8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	59		
93	8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	59		
94	8120035	Channelizing Device, 42 inch, Fluorescent, Furn	Ea	177		
95	8120036	Channelizing Device, 42 inch, Fluorescent, Oper	Ea	177		
96	8120170	Minor Traf Devices	LSUM	0.22		
97	8120252	Plastic Drum, Fluorescent, Furn	Ea	35		

98	8120253	Plastic Drum, Fluorescent, Oper	Ea	35		
99	8120257	Pavt Mrkg, Wet Reflective, Type R, Tape, Lt Turn Arrow	Ea	2		
100	8120258	Pavt Mrkg, Wet Reflective, Type R, Tape, Rt Turn Arrow	Ea	2		
101	8120265	Pavt Mrkg, Wet Reflective, Type R, Tape, 24 inch, Stop Bar	Ft	788		
102	8120310	Sign Cover	Ea	6		
103	8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	1,330		
104	8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	1,330		
105	8120352	Sign, Type B, Temp, Prismatic, Spec, Furn	Sft	460		
106	8120353	Sign, Type B, Temp, Prismatic, Spec, Oper	Sft	460		
107	8120370	Traf Regulator Control	LSUM	0.22		
108	8122002	Pavt Mrkg, Wet Reflective, Type R, Tape, 6 inch, Yellow, Temp	Ft	3,678		
109	8122006	Pavt Mrkg, Wet Reflective, Type NR, Paint, 6 inch, Yellow, Temp	Ft	1,258		
110	8122012	Pavt Mrkg, Wet Reflective, Type R, Tape, 12 inch, White, Temp	Ft	1,074		
111	8122111	Pavt Mrkg, Wet Reflective, Type R, Tape, Only	Ea	10		
112	8130010	Riprap, Plain	Syd	73		
113	8162001	Slope Restoration, Non-Freeway, Type A	Syd	17,887		
114	8162002	Slope Restoration, Non-Freeway, Type B	Syd	18,810		
115	8162003	Slope Restoration, Non-Freeway, Type C	Syd	9		
116	8167011	_Bioretention Seeding	Syd	1,590		
117	8167011	_Slope Restoration, Median	Syd	10		
Category 003 - Port Lansing HMA Alternative						
Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Ammount
118	1100001	Mobilization, Max	LSUM	0.48		
119	2050016	Excavation, Earth	Cyd	33,290		
120	3010002	Subbase, CIP	Cyd	15,700		
121	3070128	Shld, Cl II, 6 inch	Syd	1,850		
122	5010061	HMA Approach	Ton	580		
123	5012024	HMA, 4EL	Ton	7,170		
124	5012036	HMA, 5EL	Ton	2,280		
125	8020016	Curb and Gutter, Conc, Det B2	Ft	152		
126	8020038	Curb and Gutter, Conc, Det F4	Ft	356		
127	8120170	Minor Traf Devices	LSUM	0.48		
128	8120370	Traf Regulator Control	LSUM	0.48		

Category 005 - Port Lansing Concrete Alternative

Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Amount
129	1100001	Mobilization, Max	LSUM	0.48		
130	2050016	Excavation, Earth	Cyd	37,190		
131	3010002	Subbase, CIP	Cyd	16,300		
132	3070130	Shld, Cl II, 8 inch	Syd	1,850		
133	6020104	Conc Pavt, Nonreinf, 8 inch	Syd	30,670		
134	6020200	Joint, Contraction, Cp	Ft	20,500		
135	6020201	Joint, Contraction, C3p	Ft	3,100		
136	6020207	Joint, Expansion, E2	Ft	100		
137	8020015	Curb and Gutter, Conc, Det B1	Ft	152		
138	8020037	Curb and Gutter, Conc, Det F3	Ft	356		
139	8110308	Rem Curing Compound, for Longit Mrkg, 6 inch	Ft	20,494		
140	8110321	Rem Curing Compound, for Spec Mrkg	Sft	256		
141	8120170	Minor Traf Devices	LSUM	0.48		
142	8120370	Traf Regulator Control	LSUM	0.48		

Category 007 - Capital City Boulevard – Reconstruct South of CSX Railroad

Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Amount
143	1100001	Mobilization, Max	LSUM	0.20		
144	2030001	Culv, Rem, Less than 24 inch	Ea	2		
145	2030011	Dr Structure, Rem	Ea	7		
146	2030015	Sewer, Rem, Less than 24 inch	Ft	395		
147	2040020	Curb and Gutter, Rem	Ft	5,600		
148	2040050	Pavt, Rem	Syd	8,460		
149	2050010	Embankment, CIP	Cyd	250		
150	2050016	Excavation, Earth	Cyd	7,300		
151	2057021	_Subgrade Undercutting, 21AA	Cyd	730		
152	2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	23		
153	2080036	Erosion Control, Silt Fence	Ft	4,890		
154	2080038	Erosion Control, Stone Bag	Ea	3		
155	3010002	Subbase, CIP	Cyd	3,620		
156	3020020	Aggregate Base, 8 inch	Syd	6,510		
157	4010012	Culv End Sect, 12 inch	Ea	4		
158	4010072	Culv End Sect, Footing	Ea	4		
159	4010607	Culv, Cl F, 12 inch	Ft	83		
160	4020005	Sewer, Cl A, 15 inch, Tr Det A	Ft	181		

161	4020033	Sewer, Cl A, 12 inch, Tr Det B	Ft	212		
162	4021275	Video Taping Sewer and Culv Pipe	Ft	1,586		
163	4027001	_Storm Sewer Cleanout	Ft	277		
164	4030040	Dr Structure Cover, Type G	Ea	2		
165	4030050	Dr Structure Cover, Type K	Ea	4		
166	4030070	Dr Structure Cover, Type R	Ea	1		
167	4030210	Dr Structure, 48 inch dia	Ea	7		
168	4030250	Dr Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	6		
169	4030306	Dr Structure, Tap, 6 inch	Ea	9		
170	4030312	Dr Structure, Tap, 12 inch	Ea	3		
171	4030315	Dr Structure, Tap, 15 inch	Ea	1		
172	4040063	Underdrain, Subbase, 6 inch	Ft	5,310		
173	5010061	HMA Approach	Ton	180		
174	5012036	HMA, 5EL	Ton	113		
175	6020106	Conc Pavt, Nonreinf, 9 inch	Syd	7,940		
176	6030030	Lane Tie, Epoxy Anchored	Ea	75		
177	8020037	Curb and Gutter, Conc, Det F3	Ft	5,280		
178	8020038	Curb and Gutter, Conc, Det F4	Ft	310		
179	8020050	Driveway Opening, Conc, Det M	Ft	680		
180	8100010	Band, Sign	Ea	32		
181	8100371	Post, Steel, 3 pound	Ft	240		
182	8100396	Sign, Type II, Erect, Salv	Ea	1		
183	8100397	Sign, Type II, Rem	Ea	1		
184	8100402	Sign, Type III, Erect, Salv	Ea	2		
185	8100403	Sign, Type III, Rem	Ea	7		
186	8100404	Sign, Type IIIA	Sft	18		
187	8100405	Sign, Type IIIB	Sft	130		
188	8102002	Sign, Type II, Rem, Salv	Ea	1		
189	8102003	Sign, Type III, Rem, Salv	Ea	2		
190	8102010	Ground Mtd Sign Support, Rem	Ea	10		
191	8110308	Rem Curing Compound, for Longit Mrkg, 6 inch	Ft	1,200		
192	8110321	Rem Curing Compound, for Spec Mrkg	Sft	320		
193	8110351	Witness, Log, $1,250.00	Dlr	1		
194	8112001	Pavt Mrkg, Wet Reflective Waterborne, 2nd Application, 6 inch, White	Ft	1,200		
195	8112145	Pavt Mrkg, Wet Reflective Waterborne, 6 inch, White	Ft	1,200		
196	8117001	_Pavt Mrkg, Waterborne, 24 inch, Stop Bar	Ft	72		

197	8117001	_Pavt Mrkg, Waterborne, 2nd Application, 24 inch, Stop Bar	Ft	72		
198	8117050	_Pavt Mrkg, Waterborne, 2nd Application, Lt Turn Arrow Sym	Ea	5		
199	8117050	_Pavt Mrkg, Waterborne, 2nd Application, Railroad Sym	Ea	2		
200	8117050	_Pavt Mrkg, Waterborne, 2nd Application, Rt Turn Arrow Sym	Ea	1		
201	8117050	_Pavt Mrkg, Waterborne, Lt Turn Arrow Sym	Ea	5		
202	8117050	_Pavt Mrkg, Waterborne, Railroad Sym	Ea	2		
203	8117050	_Pavt Mrkg, Waterborne, Rt Turn Arrow Sym	Ea	1		
204	8120170	Minor Traf Devices	LSUM	0.20		
205	8120370	Traf Regulator Control	LSUM	0.20		
206	8130010	Riprap, Plain	Syd	16		
207	8162001	Slope Restoration, Non-Freeway, Type A	Syd	2,150		
208	8167011	_Slope Restoration, Median	Syd	2,160		
Category 009 - Capital City Boulevard – Reconstruct North of CSX Railroad						
Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Amount
209	1100001	Mobilization, Max	LSUM	0.10		
210	2030001	Culv, Rem, Less than 24 inch	Ea	1		
211	2030011	Dr Structure, Rem	Ea	3		
212	2030015	Sewer, Rem, Less than 24 inch	Ft	89		
213	2040020	Curb and Gutter, Rem	Ft	3,050		
214	2040050	Pavt, Rem	Syd	3,610		
215	2050010	Embankment, CIP	Cyd	250		
216	2050016	Excavation, Earth	Cyd	3,500		
217	2057021	_Subgrade Undercutting, 21AA	Cyd	350		
218	2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	21		
219	2080036	Erosion Control, Silt Fence	Ft	2,690		
220	2080038	Erosion Control, Stone Bag	Ea	1		
221	3010002	Subbase, CIP	Cyd	1,800		
222	3020020	Aggregate Base, 8 inch	Syd	5,560		
223	4010012	Culv End Sect, 12 inch	Ea	2		
224	4010072	Culv End Sect, Footing	Ea	2		
225	4010539	Culv, Cl E, 12 inch	Ft	73		
226	4020035	Sewer, Cl A, 18 inch, Tr Det B	Ft	41		
227	4020600	Sewer, Cl E, 12 inch, Tr Det B	Ft	47		
228	4021275	Video Taping Sewer and Culv Pipe	Ft	1,271		
229	4027001	_Culv Cleanout	Ft	127		

230	4027001	_Storm Sewer Cleanout	Ft	380		
231	4030010	Dr Structure Cover, Type B	Ea	1		
232	4030050	Dr Structure Cover, Type K	Ea	3		
233	4030210	Dr Structure, 48 inch dia	Ea	4		
234	4030306	Dr Structure, Tap, 6 inch	Ea	12		
235	4030318	Dr Structure, Tap, 18 inch	Ea	2		
236	4040063	Underdrain, Subbase, 6 inch	Ft	2,370		
237	5010002	Cold Milling HMA Surface	Syd	1,380		
238	5010061	HMA Approach	Ton	160		
239	5012036	HMA, 5EL	Ton	120		
240	6020106	Conc Pavt, Nonreinf, 9 inch	Syd	3,600		
241	8020037	Curb and Gutter, Conc, Det F3	Ft	2,690		
242	8020038	Curb and Gutter, Conc, Det F4	Ft	360		
243	8020050	Driveway Opening, Conc, Det M	Ft	400		
244	8110308	Rem Curing Compound, for Longit Mrkg, 6 inch	Ft	180		
245	8110321	Rem Curing Compound, for Spec Mrkg	Sft	210		
246	8110351	Witness, Log, $1,250.00	Dlr	1		
247	8112001	Pavt Mrkg, Wet Reflective Waterborne, 2nd Application, 6 inch, White	Ft	400		
248	8112145	Pavt Mrkg, Wet Reflective Waterborne, 6 inch, White	Ft	400		
249	8117001	_Pavt Mrkg, Waterborne, 24 inch, Stop Bar	Ft	96		
250	8117001	_Pavt Mrkg, Waterborne, 2nd Application, 24 inch, Stop Bar	Ft	96		
251	8117001	_Pavt Mrkg, Waterborne, 2nd Application, 6 inch, Crosswalk	Ft	48		
252	8117001	_Pavt Mrkg, Waterborne, 6 inch, Crosswalk	Ft	48		
253	8117050	_Pavt Mrkg, Waterborne, 2nd Application, Railroad Sym	Ea	2		
254	8117050	_Pavt Mrkg, Waterborne, 2nd Application, Yield Triangle Sym	Ea	8		
255	8117050	_Pavt Mrkg, Waterborne, Railroad Sym	Ea	2		
256	8117050	_Pavt Mrkg, Waterborne, Yield Triangle Sym	Ea	8		
257	8120170	Minor Traf Devices	LSUM	0.10		
258	8120370	Traf Regulator Control	LSUM	0.10		
259	8130010	Riprap, Plain	Syd	8		
260	8162001	Slope Restoration, Non-Freeway, Type A	Syd	880		
261	8167011	_Slope Restoration, Median	Syd	1,190		

Category 011 - Wayfinding Signage and Branding						
Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Amount
262	8100397	Sign, Type II, Rem	Ea	1		
263	8100400	Sign, Type IIC	Sft	90		
264	8107050	_Banner, Light Pole Mounted	Ea	50		
265	8107050	_Banner, Light Pole Mounted, Rem	Ea	32		
Category 013 - Landscaping						
Line	Item ID	Description	Units	Approximate Quantity	Unit Price	Bid Amount
266	8150001	Site Preparation, Max	LSUM	1		
267	8150220	Acer x freemanii 'Autumn Blaze', 1 1/2 inch	Ea	6		
268	8151062	Cornus sericea, #2 cont.	Ea	79		
269	8151783	Hosta 'Variety', #1 cont. 'Francis Williams'	Ea	60		
270	8152334	Malus 'Sugar Tyme', 1 1/2 inch	Ea	12		
271	8157001	_Plastic Edging	Ft	1,355		
272	8157050	_Allium cernum #1 cont	Ea	265		
273	8157050	_Geranium "Rozanne' #1 Cont	Ea	60		
274	8157050	_Muhlenbergia reverchonii #1 cont	Ea	242		
275	8157050	_Salvia nemerosa #1 cont	Ea	230		
276	8160025	Mulch	Syd	520		
277	8507051	_Automated Irrigation System Repair & Modification	LSUM	1		
			TOTAL OF ALL BID PRICES			

Unit Prices have been computed in accordance with Paragraph 13.03 of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

_____

Bidder (Firm or Corporation Name)

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete on or before July 1, 2027 and completed and ready for final payment in accordance with paragraph 15.06 of the General Conditions on or before August 15, 2027.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. None.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

SUBMITTED on_____, 20___
Date*

BY: _____
Name of Bidder*

_____
Business Street Address*

_____
Signature

_____
City, State, and Zip*

_____
Name and Title of Signatory*

_____
Telephone Number*

_____
Facsimile Number*

_____
E-mail Address*

_____
Corporate Seal - If Required by State Law

*Typed or printed in ink.

END OF SECTION 00 41 43

SECTION 00 52 00 – AGREEMENT FORM

THIS AGREEMENT is by and between Capital Region Airport Authority ("Owner") and _____ ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 - WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Reconstruction/Rehabilitation of Port Lansing Road and Capital City Boulevard.

[ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows: Reconstruction/Rehabilitation of Port Lansing Road and Capital City Boulevard.

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by Fishbeck, Lansing, Michigan, ("Engineer,") which is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIME

4.01 TIME OF THE ESSENCE

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 DATES FOR SUBSTANTIAL COMPLETION AND FINAL PAYMENT

A. The Work will be substantially completed on or before July 1, 2027 and completed and ready for final payment in accordance with Paragraph 15.07 of the General Conditions on or before August 15, 2027.

4.03 LIQUIDATED DAMAGES

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, failure by the Contractor to meet interim completion and/or final completion dates will result in the assessment of liquidated damages in accordance with subsections 108.10.C.1 and 108.10.C.2 of the Standard Specifications for Construction.

ARTICLE 5 - CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, in current funds at the unit prices stated in Contractor's Bid .

ARTICLE 6 - PAYMENT PROCEDURES

6.01 SUBMITTAL AND PROCESSING OF PAYMENTS

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 PROGRESS PAYMENTS; RETAINAGE

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment during performance of the Work as provided in Paragraphs 6.02. A.1 and 6.02.A.2 below. All such payments will be based on unit prices and number of units completed.

1. Prior to Substantial Completion, progress payments will be in an amount equal to: 100% of the Work completed and 20% of materials and equipment not incorporated in the Work but delivered, suitably stored and accompanied by documentation satisfactory to Owner as provided in Paragraph 15.01 of the General Conditions less the aggregate of payments previously made and less such amounts as Engineer may determine, or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 15.01 of the General Conditions, except that Owner will retain a portion of each progress payment limited to:

a. Not more than 10% of the dollar value of the Work completed until 50% of the Work has been completed as determined by Engineer.

b. After the Work has been 50% completed as determined by Engineer, additional retainage will not be withheld unless Owner determines that Contractor is not making satisfactory progress, or for other specific cause relating to Contractor's performance under the Contract. If Owner so determines, Owner may retain not more than 10% of the dollar value of the Work more than 50% completed.

2. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95% of the Contract Price, less such amounts as Engineer shall determine, or Owner may withhold, in accordance with Paragraph 15.01 B.5 and 15.01 B.6.of the General Conditions.

3. Owner may deduct from progress payments amounts which are due to Owner from Contractor in accordance with the Contract Documents.

4. After Substantial Completion, Owner may, at Owner's sole discretion, pay an amount sufficient to increase total payments to Contractor to more than 95% of the Contract Price if Owner has received consent of surety in a form acceptable to Owner.

6.03 FINAL PAYMENT

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 - INTEREST

7.01 All moneys not paid when due as provided in Article 15 of the General Conditions shall bear interest at the rate of 1% per month.

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Contractor has carefully studied all:

(1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified Paragraph 5.03 of the Supplementary Conditions as provided in Paragraph 5.03 of the General Conditions as containing reliable “technical data,” and

(2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph 5.06 of the Supplementary Conditions as provided in paragraph 5.06 of the General Conditions as containing reliable “technical data.”

E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on

(1) the cost, progress, and performance of the Work;

(2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and

(3) Contractor’s safety precautions and programs.

F. based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 CONTENTS

A. The Contract Documents consist of the following:
1. Contractor's Bid dated _____.
2. Addenda _____ to _____, inclusive.
3. Notice of Award.
4. This Agreement.
5. Notice to Proceed (not included in the executed Contract Documents).
6. Performance Bond.
7. Payment Bond.
8. General Conditions.
9. Supplementary Conditions.
10. Specifications as listed in the table of contents of the Project Manual.
11. Drawings, consisting of sheets as listed on the cover sheet with each sheet bearing the following general title: Roadway Improvement Project and dated February 6, 2026(not included in the executed Contract Documents)
12. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
    a. Work Change Directives;
    b. Change Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified or supplemented as provided in Paragraph 11.01 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 TERMS

A. Terms used in this Agreement will have the meanings indicated in the General Conditions and the Supplementary Conditions.

10.02 ASSIGNMENT OF CONTRACT

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may 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 assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 SUCCESSORS AND ASSIGNS

A. Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

10.04 SEVERABILITY

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 CONTRACTOR'S CERTIFICATIONS

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

(1) "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

(2) "fraudulent practice" means an intentional misrepresentation of facts made:

(a) to influence the bidding process or the execution of the Contract to the detriment of Owner,

(b) to establish Bid or Contract prices at artificial non-competitive levels, or

(c) to deprive Owner of the benefits of free and open competition;

(3) "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which to establish Bid prices at artificial non-competitive levels; and

(4) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 OTHER PROVISIONS

A. None

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner, Contractor and Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

Contractor:

_____
Name of Contractor*

By:_____
Signature

_____
(Name and Title of Signatory*)

Attest:_____

_____
(Name and Title of Signatory*)

Signed on:_____, 20___
(Date*)

Address for giving notices:

_____
(Street*)

_____
(City, State and Zip*)

License No. _____ (Where applicable)

Agent for service of process: _____

(If Contractor is a corporation or a partnership, attach evidence of authority to sign.)

Designated Representative:

_____
(Name*)

_____
(Title*)

_____
(Street*)

_____
(City, State and Zip*)

_____
(Telephone Number*)

_____
(Facsimile*)

_____
Corporate Seal - if required by State Law
[Not required in Michigan]

Owner:
Capital Region Airport Authority

By:_____
Signature

_____
(Name and Title of Signatory*)

Attest:_____

_____
(Name and Title of Signatory*)

Signed on:_____, 20___
(Effective Date of Agreement*)

Address for giving notices:

_____
(Street*)

_____
(City, State and Zip*)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Designated Representative:

_____
(Name*)

_____
(Title*)

_____
(Street*)

_____
(City, State and Zip*)

_____
(Telephone Number*)

_____
(Facsimile*)

_____
Corporate Seal - if required by State Law
[Not required in Michigan]

* Typed or printed in ink.

END OF SECTION 00 52 00

THIS PAGE INTENTIONALLY LEFT BLANK

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By

EJCDC®
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

ACEC
AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

NSPE®
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed By

CSI®
Building Knowledge
Improving Project Delivery

NUCA
We Dig America

National Society of Professional Engineers

1420 King Street, Alexandria, VA 22314-2794

(703) 684-2882

www.nspe.org

American Council of Engineering Companies

1015 15th Street N.W., Washington, DC 20005

(202) 347-7474

www.acec.org

American Society of Civil Engineers

1801 Alexander Bell Drive, Reston, VA 20191-4400

(800) 548-2723

www.asce.org

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

GUIDELINES FOR USE OF EJCDC® C-700, STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

1.0 PURPOSE AND INTENDED USE OF THE DOCUMENT

EJCDC® C-700, Standard General Conditions of the Construction Contract (2018), is the foundation document for the EJCDC Construction Series. The General Conditions define the basic rights, responsibilities, risk allocations, and contractual relationship of the Owner and Contractor, and establish how the Contract is to be administered.

2.0 OTHER DOCUMENTS

EJCDC documents are intended to be used as a system and changes in one EJCDC document may require a corresponding change in other documents. Other EJCDC documents may also serve as a reference to provide insight or guidance for the preparation of this document.

These General Conditions have been prepared for use with either EJCDC® C-520, Agreement Between Owner and Contractor for Construction Contract (Stipulated Price), or EJCDC® C-525, Agreement Between Owner and Contractor for Construction Contract (Cost-Plus-Fee) (2018 Editions). The provisions of the General Conditions and the Agreement are interrelated, and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC® C-800, Supplementary Conditions of the Construction Contract (2018).

The full EJCDC Construction series of documents is discussed in the EJCDC® C-001, Commentary on the 2018 EJCDC Construction Documents (2018).

3.0 ORGANIZATION OF INFORMATION

All parties involved in a construction project benefit significantly from a standardized approach in the location of subject matter throughout the documents. Experience confirms the danger of addressing the same subject matter in more than one location; doing so frequently leads to confusion and unanticipated legal consequences. Careful attention should be given to the guidance provided in EJCDC® N-122/AIA® A521, Uniform Location of Subject Matter (2012 Edition) when preparing documents. EJCDC® N-122/AIA® A521 is available at no charge from the EJCDC website, www.ejcdc.org, and from the websites of EJCDC's sponsoring organizations.

If CSI MasterFormat™ is used for organizing the Project Manual, consult CSI MasterFormat™ for the appropriate document number (e.g., under 00 11 00, Advertisements and Invitations), and accordingly number the document and its pages.

4.0 EDITING THIS DOCUMENT

Remove these Guidelines for Use. Some users may also prefer to remove the two cover pages.

Although it is permissible to revise the Standard EJCDC Text of C-700 (the content beginning at page 1 and continuing to the end), it is common practice to leave the Standard EJCDC Text of C-700 intact and unaltered, with modifications and supplementation of C-700's provisions set forth in EJCDC® C-800, Supplementary Conditions of the Construction Contract (2018). If the Standard Text itself is revised, the

user must comply with the terms of the License Agreement, Paragraph 4.0, Document-Specific Provisions, concerning the tracking or highlighting of revisions. The following is a summary of the relevant License Agreement provisions:

1. The term "Standard EJCDC Text" for C-700 refers to all text prepared by EJCDC in the main body of the document. Document covers, logos, footers, instructions, or copyright notices are not Standard EJCDC Text for this purpose.
2. During the drafting or negotiating process for C-700, it is important that the two contracting parties are both aware of any changes that have been made to the Standard EJCDC Text. Thus, if a draft or version of C-700 purports to be or appears to be an EJCDC document, the user must plainly show all changes to the Standard EJCDC Text, using "Track Changes" (redline/strikeout), highlighting, or other means of clearly indicating additions and deletions.
3. If C-700 has been revised or altered and is subsequently presented to third parties (such as potential bidders, grant agencies, lenders, or sureties) as an EJCDC document, then the changes to the Standard EJCDC Text must be shown, or the third parties must receive access to a version that shows the changes.
4. Once the document is ready to be finalized (and if applicable executed by the contracting parties), it is no longer necessary to continue to show changes to the Standard EJCDC Text. The user may produce a final version of the document in a format in which all changes are accepted, and the document at that point does not need to include any "Track Changes," redline/strikeout, highlighting, or other indication of additions and deletions to the Standard EJCDC Text.

5.0 LICENSE AGREEMENT

This document is subject to the terms and conditions of the **License Agreement, 2018 EJCDC® Construction Series Documents**. A copy of the License Agreement was furnished at the time of purchase of this document, and is available for review at www.ejcdc.org and the websites of EJCDC's sponsoring organizations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*

a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.

c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.

d. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.

23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.

    a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.

    b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.

    c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.

25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.

28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.

32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.

34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.

36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.

39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.

44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

46. *Technical Data*

    a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.

    b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.

    c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.

47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. *Unit Price Work*—Work to be paid for on the basis of unit prices.

49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*: The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*: The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

1. does not conform to the Contract Documents;

2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

3. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. *Contract Price or Contract Times*: References to a change in "Contract Price or Contract Times" or "Contract Times or Contract Price" or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term "or both" is not expressed.

G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).

B. *Evidence of Contractor's Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.

C. *Evidence of Owner's Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.

B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

G. Nothing in the Contract Documents creates:

1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or

2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

A. *Standards Specifications, Codes, Laws and Regulations*

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

1. 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 of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. Abnormal weather conditions;

3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and

4. Acts of war or terrorism.

D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:

1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.

2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.

3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:

1. The circumstances that form the basis for the requested adjustment;

2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;

3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;

4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and

5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.

G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: Contractor shall not load nor 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 structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;

2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and

3. Technical Data contained in such reports and drawings.

B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;

3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or

4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;

2. is of such a nature as to require a change in the Drawings or Specifications;

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

E. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;

b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

c. Contractor failed to give the written notice required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:

1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;

4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.

C. *Engineer's Review*: Engineer will:

1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;

2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;

3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and

4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and

c. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;

2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.

B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.

C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.

E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.

F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.

H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.

D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.

F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

H. Contractor shall require:

1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and

2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.

I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.

K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.

M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.

N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

A. *Required Insurance*: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.

B. *General Provisions*: The policies of insurance required by this Paragraph 6.03 as supplemented must:

1. include at least the specific coverages required;

2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;

3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;

4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and

5. include all necessary endorsements to support the stated requirements.

C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:

1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;

2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;

3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and

5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.

B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.

C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.

1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

A. 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 maintain good discipline and order at the Site.

B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.

C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

A. *Contractor's Request; Governing Criteria*: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that the proposed item:

1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

3) has a proven record of performance and availability of responsive service; and

4) is not objectionable to Owner.

b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:

    a. will certify that the proposed substitute item will:

        1) perform adequately the functions and achieve the results called for by the general design;

        2) be similar in substance to the item specified; and

        3) be suited to the same use as the item specified.

    b. will state:

        1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;

        2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

        3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

    c. will identify:

        1) all variations of the proposed substitute item from the item specified; and

        2) available engineering, sales, maintenance, repair, and replacement services.

    d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.

B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.

E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.

F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.

J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.

K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.

L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.

M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.

C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.

B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.

C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.

H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).

J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:

a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determine and verify:

1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;

2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;

c. confirm that the Submittal is complete with respect to all related data included in the Submittal.

2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

a. Contractor shall submit the number of Samples required in the Specifications.

b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.

2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:

   a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.

   b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.

   c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03. 2.04, and 2.05.

F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.

B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:

1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and

2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.

C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:

1. Observations by Engineer;

2. Recommendation by Engineer or payment by Owner of any progress or final payment;

3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. Use or occupancy of the Work or any part thereof by Owner;

5. Any review and approval of a Shop Drawing or Sample submittal;

6. The issuance of a notice of acceptability by Engineer;

7. The end of the correction period established in Paragraph 15.08;

8. Any inspection, test, or approval by others; or

9. Any correction of defective Work by Owner.

E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will 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 such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.

B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.

C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:

1. Checking for conformance with the requirements of this Paragraph 7.19;

2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and

3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.

F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.

G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.

D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. An itemization of the specific matters to be covered by such authority and responsibility; and

3. The extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.

2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.

C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site 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 generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.

B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

A. Engineer has the authority to reject Work in accordance with Article 14.

B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.

C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.

D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.

C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

B. If Owner has issued a Work Change Directive and:

1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.

2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.

B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.

B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.

C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;

b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;

c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and

f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.

B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

A. *Purpose and Content*: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

1. *Submittal*: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.

2. *Supporting Data*: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.

    a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.

    b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

    The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. *Engineer's Initial Review*: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.

4. *Engineer's Full Review and Action on the Change Proposal*: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and

4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract 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 and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.

5. Other costs consisting of the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.

2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.

3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

e. Deposits lost for causes other than 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, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than 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. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.

3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

5. 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 supplied, and making good any damage to property.

6. Expenses incurred in preparing and advancing Claims.

7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:

a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.

b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:

1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.

2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 *Allowances*

A. 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 performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.

C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.

2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.

3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, 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, and incorporate 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, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*

1. At least 20 days before the date established in the Agreement for each progress payment (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 such supporting documentation as is required by the Contract Documents.

2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, 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.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

    a. to supervise, direct, or control the Work;

    b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;

    c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;

    d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or

    e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

    a. the Work is defective, requiring correction or replacement;

    b. the Contract Price has been reduced by Change Orders;

    c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

    e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

    a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. The Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. The Contract Price has been reduced by Change Orders;

i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;

j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

l. Other items entitle Owner to a set-off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer 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 in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.

2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.

2. The final Application for Payment must be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents;

   b. consent of the surety, if any, to final payment;

   c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

d. a list of all duly pending Change Proposals and Claims; and

e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Final Application and Recommendation of Payment*: If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment 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 for Payment.

C. *Notice of Acceptability*: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.

D. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.

E. *Final Payment Becomes Due*: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such adjacent areas;
2. correct such defective Work;
3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.

C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.

D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

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

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

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and

2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:

1. in person, by a commercial courier service or otherwise, to the recipient's place of business;

2. by registered or certified mail, postage prepaid, to the recipient's place of business; or

3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will 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 will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may 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 assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the General Conditions (Standard General Conditions of the Construction Contract). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system in the General conditions, with the Prefix “SC” added thereto.

The Contract Documents include The Michigan Department of Transportation 2020 Standard Specifications for Construction as required by the Capital Region Airport Authority. The provisions of these Sections shall be complied with in addition to the provisions of the General Conditions and the Supplementary Conditions. If conflicts exist among these Sections, the stricter requirements, as determined by Engineer, shall govern.

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

SC-1.01 Defined Terms

Add the following language to the first sentence of Paragraph 1.01.A:

; except where the terms “Architect,” “Engineer,” and “Contractor” are preceded by an adjective, the term shall then be understood to refer to the entity described by the combination of the two words.

SC-1.01.A.22 Engineer

Delete Paragraph 1.01.A.22 in its entirety and insert the following in its place:

22. Engineer - The individual or entity named as Engineer or Architect in the Agreement.

SC-1.01.A.42 Substantial Completion

Add the following paragraph immediately after Paragraph 1.01.A.42:

Substantial Completion shall also mean that, with the exception of minor, superficial, or other specific items of the Work as indicated in the specifications or approved by Engineer, construction activities are completed.

Add the following paragraphs immediately after Paragraph 1.01.A.50:

51. Architect - The individual or entity named as Architect or Engineer in the Agreement.

52. Bulletin **-** A document delineating possible changes to the Contract Documents which is issued by Engineer for Owner and requests add or deduct costs from Contractor.

53. General Contractor - The Contractor as defined in Paragraph 1.01.A.16.

54. Manufacturer - An individual or entity that manufactures, assembles, or fabricates Products.

55. Products - Systems, materials, manufactured units, equipment, components and accessories used in the Work.

56. Request for Information (or RFI): A written document initiated by Contractor which requests clarifications to items of the Work from Engineer.

ARTICLE 2 - PRELIMINARY MATTERS

SC-2.01 Delivery of Performance and Payment Bonds and Evidence of Insurance

Delete Paragraph 2.01.B in its entirety and insert the following in its place:

B. When Contractor delivers the executed Agreements to Owner, Contractor shall also deliver to Owner, with copies to each additional insured identified herein, certificates of insurance (and other evidence of insurance which Owner or any additional insured may reasonably request) which Contractor is required to purchase and maintain in accordance with Article 6.

SC-2.02 Copies of Documents

Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor 2 printed copies of the Contract Documents (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF).

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

SC-3.01 Intent

Delete Paragraph 3.01.C in its entirety.

SC-3.04 Requirements of the Contract Documents

Add the following new paragraph immediately after Paragraph 3.04.C.:

D. Owner shall be entitled to deduct from the Contract Price amounts paid to Engineer for Engineer to evaluate and respond to Contractor's requests for information, where such information was available to Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

ARTICLE 5 - SITE, SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Subsurface and Physical Conditions

Add the following new paragraphs immediately after Paragraph 5.03.D.4:

E. The following reports of explorations and tests of subsurface conditions at or contiguous to the Site are known to Owner:

1. Report dated December 20, 2024, prepared by SME entitled: Pavement Evaluation Report consisting of 65 pages. The "technical data" contained in such report upon which Contractor may rely is the soil boring logs at the locations and for the conditions at the time the soil borings were taken. The soil boring locations are indicated on the Drawings.

F. The following drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) are known to Owner:

1. None.

G. Copies of reports itemized in SC-5.03.E that are not included in Bidding Documents may be examined at Engineer's office during regular business hours. These reports are not part of the Contract Documents, but the "technical data" contained therein upon which Contractor may rely, as expressly identified and established above, are incorporated in the Contract Documents by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.

SC-5.06 Hazardous Environmental Condition at Site

Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

A. Reports and Drawings: No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

B. Reliance by Contractor on Technical Data: No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

ARTICLE 6 - BONDS AND INSURANCE

SC-6.03 Contractor's Insurance

Delete Paragraph 6.03.B.3 in its entirety and insert the following in its place:

3. remain in effect at least until the end of the correction period and at all times thereafter when Contractor may be correcting, removing or replacing defective Work in accordance with Paragraph 15.06; and

Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

D. Other Additional Insureds: As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the entities detailed in the Special Provision for Insurance.

E. Workers' Compensation and Employer's Liability*:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers' compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers' Compensation and Related Policies	**Policy limits of not less than:**
Workers' Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
Employer's Liability	
Each accident	$1,000,000
Each employee	$1,000,000
Policy limit	$1,000,000

F. Commercial General Liability—Claims Covered: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:

1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
2. damages insured by reasonably available personal injury liability coverage, and
3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

G. Commercial General Liability—Form and Content*:* Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage.
   a. Such insurance must be maintained for three years after final payment.
   b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
4. Underground, explosion, and collapse coverage.
5. Personal injury coverage.
6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

H. Commercial General Liability—Excluded Content*:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:

1. Any modification of the standard definition of "insured contract" (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
2. Any exclusion for water intrusion or water damage.
3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
4. Any exclusion of coverage relating to earth subsidence or movement.
5. Any exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than worker's compensation).
6. Any limitation or exclusion based on the nature of Contractor's work.
7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

I. Commercial General Liability—Minimum Policy Limits

Commercial General Liability	**Policy limits of not less than:**
General Aggregate	$2,000,000
Products—Completed Operations Aggregate	$2,000,000
Personal and Advertising Injury	$1,000,000
Bodily Injury and Property Damage—Each Occurrence	$1,000,000
Damage to Rented Premises (Ea occurrence)	$300,000
Medical Expenses (Any one person)	$10,000

J. Automobile Liability: Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	**Policy limits of not less than:**
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	$1,000,000

K. Umbrella or Excess Liability*:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	$5,000,000
General Aggregate	$5,000,000

L. Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements*:* Contractor may meet the policy limits specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein.

M. Contractor's Pollution Liability Insurance*:* Contractor shall purchase and maintain a policy covering third-party injury and property damage, including cleanup costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance must be maintained for no less than three years after final completion.

Contractor's Pollution Liability	Policy limits of not less than:
Each Occurrence/Claim	$1,000,000
General Aggregate	$1,000,000

O. Railroad Protective Liability Insurance: Prior to commencing any Work within 50 feet of railroad-owned and controlled property, Contractor shall (1) endorse its commercial general liability policy with ISO CG 24 17, removing the contractual liability exclusion for work within 50 feet of a railroad, (2) purchase and maintain railroad protective liability insurance meeting the following requirements, (3) furnish a copy of the endorsement to Owner, and (4) submit a copy of the railroad protective policy and other railroad-required documentation to the railroad (Insurance Department, CSX Transportation, Inc. 500 Water Street, C-907, Jacksonville, FL 32202, insurancedocuments@csx.com), and notify Owner of such submittal.

This insurance shall satisfy the following additional requirements:

a) The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.

b) CSX Transportation must be the named insured on the Railroad Protective Insurance Policy.

c) Name and Address of Contractor and Agency must appear on the Declarations page.

d) Statutory Worker's Compensation and Employers Liability Insurance must contain a waiver of subrogation against CSX and its affiliates.

e) Commercial automobile liability insurance must name CSX as an additional named insured and shall include endorsement ISO CA 20 70.

f) Description of operations must appear on the Declarations page and must match the Project description.

g) Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.

h) Authorized endorsements may include:

a. Broad Form Nuclear Exclusion - IL 00 21

b. 30-day Advance Notice of Non-renewal or cancellation

c. Required State Cancellation Endorsement

d. Quick Reference or Index - CL/IL 240 Revised March 2025 17

i) Authorized endorsements may not include:

a. A Pollution Exclusion Endorsement except CG 28 31

b. A Punitive or Exemplary Damages Exclusion

c. A “Common Policy Conditions” Endorsement

d. Any endorsement that is not named in Section 4 (e) or (f) above.

e. Policies that contain any type of deductible

j) All insurance companies must be A. M. Best rated A- and Class VII or better.

k) The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or certificates of insurance.

l) Such additional or different insurance as CSX may require

Railroad Protective Liability Insurance	**Policy limits of not less than:**
Each Claim	$5,000,000
Aggregate	$10,000,000

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.09 Permits

Add the following language at the end of Paragraph 7.09.A:

Additional provisions regarding permits and licenses are included in the General Requirements.

In the last sentence of Paragraph 7.09.A., replace “Owner” with “Contractor.”

ARTICLE 10 - ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.B:

C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:

1. Conferences and Meetings*:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor’s safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. Safety Compliance*:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR’s own personal safety while at the Site.

3. Liaison*:*

a. Serve as Engineer’s liaison with Contractor. Working principally through Contractor’s authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.

b. Assist Engineer in serving as Owner’s liaison with Contractor when Contractor’s operations affect Owner’s on-Site operations.

c. Assist in obtaining from Owner additional details or information, when required for Contractor’s proper execution of the Work.

4. Review of Work; Defective Work:

    a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.

    b. Observe whether any Work in place appears to be defective.

    c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.

5. Inspections and Tests*:*

    a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.

    b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.

6. Payment Requests*:* Review Applications for Payment with Contractor.

7. Completion:

    a. Participate in Engineer's visits regarding Substantial Completion.

    b. Assist in the preparation of a punch list of items to be completed or corrected.

    c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.

    d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.

5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11 - CHANGES TO THE WORK; CONTRACT

SC-11.07 Change of Contract Price

Amend Paragraphs 11.07.B.2 and 11.07.B.3 by adding the following words after the term "lump sum": "or unit price".

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.03 Unit Price Work

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

E. Adjustments in Unit Price

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

a. the extended price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 20 percent from the estimated quantity of such item indicated in the Agreement; and

b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.

2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.

3. Adjusted unit prices will apply to all units of that item.

ARTICLE 15 - PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01.B Applications for Payment

Add the following new paragraph immediately after Paragraph 15.01.B.4:

5. Contractor shall indicate on the Application for Payment the amounts which are due to Owner from Contractor in accordance with the Contract Documents and which amounts Owner may deduct from the progress payment.

SC-15.01.C Review of Applications

Add the following new paragraph immediately after Paragraph 15.01.C.6.e:

f. Contractor has incurred liability for other costs in accordance with Contract Documents.

SC-15.03 Substantial Completion

Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.

ARTICLE 16 - SUSPENSION OF WORK AND TERMINATION

SC-16.02 Owner May Terminate for Cause

Add the following new paragraph immediately after Paragraph 16.02.A.4:

5. Contractor has filed a bankruptcy petition and neither Contractor nor trustee has either assumed or rejected this Contract within 30 days after the filing of the bankruptcy petition;

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

Add the following paragraphs after 17.01 Methods and Procedures:

SC-17.02 Arbitration

Add the following new paragraph immediately after Paragraph 17.01.

17.02 Arbitration

A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of $100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.

B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.

C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.

D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.

E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.

F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.

G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:

1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;

2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;

3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and

4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.

H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.

I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

END OF SECTION 00 73 00

SECTION 01 25 13 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the administration of substitutions and Product options.

1.3 SUBMITTALS

A. List of all products proposed for installation:
   1. Submit 5 copies within 30 days after the Effective Date of Agreement unless otherwise indicated elsewhere in the Contract Documents.
   2. Tabulate the list by each Specification Section.

1.4 CONTRACTOR'S OPTIONS

A. Products specified only by reference standards or by description:
   1. Select any Product meeting the standards or description by any Supplier unless otherwise required elsewhere in the Contract Documents.
   2. Submit for Engineer's review:
      a. Name and address of Supplier.
      b. Trade name.
      c. Model or catalog designation.
      d. Manufacturer's data including:
         1) Performance and test data
         2) Compliance with reference standards.

B. Products specified by naming one or more suppliers without an "or equal" clause:
   1. Use specified Product of one of the Suppliers named.
   2. No substitutions.

C. Products specified by naming one or more suppliers with an "or equal" clause:
   1. Indicates the option of selecting equivalent Products by stating "or equal" after the specified Suppliers.
   2. Engineer may waive some or all of the requirements specified for substitutions if, at Engineer's sole discretion, the proposed equivalent Product is considered an "or equal".
   3. If, at Engineer's sole discretion, the proposed equivalent Product does not qualify as an "or equal", it will be considered as a proposed substitute and a substitution request submittal will be required.

1.5 SUBSTITUTIONS

A. Substitutions after the effective date of agreement:
   1. Within 30 days after the Effective Date of Agreement.
   2. Engineer will consider formal requests for substitution of Products in place of those specified unless otherwise prohibited elsewhere in the Contract Documents.

B. Substitution Request Submittals: Submit 5 copies of the request for substitution including the following:
   1. Complete data substantiating compliance of the proposed substitution with the Contract Documents.
   2. For Products:
      a. Names and addresses of Manufacturer and Supplier.
      b. Product identification.
      c. Manufacturer's literature, including:
         1) Product description.
         2) Performance and test data
         3) Reference standards.

d. Samples.
e. Name and address of similar projects on which the Product was used and date of installation.

3. For Construction Methods:
   a. Detailed description of the proposed method.
   b. Drawings illustrating methods.
4. Itemized comparison of proposed substitution with Product or method specified.
5. Data relating to changes in the construction schedule.
6. Accurate cost data on the substitution and comparison with the Product or method specified.
7. Changes to the Work which would be caused by the substitution.

C. Contractor's Responsibilities: In making a request for a substitution, Contractor represents:
   1. Contractor has personally investigated the proposed Product or method and determined that it is equal or superior in all respects to that which is specified.
   2. Contractor will provide the same guarantee for the substitution as for the Product or method specified.
   3. Contractor will coordinate installation of the accepted substitution into the Work making such changes as may be required for the Work to be completed in all respects.
   4. Contractor waives all claims for additional cost related to the substitution which consequently become apparent.
   5. Cost data is complete and includes all related costs under Contractor's contract, but excludes costs under separate contracts and Engineer's redesign costs.

D. Substitutions Not Considered: Substitutions will not be considered if:
   1. They are indicated or implied on Shop Drawings or Product data submittals without formal request submitted in accordance with this Section.
   2. Acceptance will require substantial revision of the Contract Documents.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 25 13

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes procedures for the submittal of Shop Drawings, Product Data, Samples, Operation and Maintenance Manuals, and other information.

B. Related Sections include pertinent Sections of these Specifications for the individual Submittals required.

1.3 DEFINITIONS

A. Submittal: Information sent by Contractor to convey information about systems, equipment, materials, products, and administrative matters for the Work.

B. Resubmittal: Submittal sent for review a second or further time.

C. Product Data: Illustrations, standard schedules, diagrams, performance charts, instructions, brochures, or manufacturer's literature that describe the physical size, appearance, and other characteristics of materials or equipment for a portion of the Work.

D. Shop Drawings: Drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

E. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

F. Action Submittals: Submittals that require Engineer's response.

G. Informational Submittals: Submittals that do not require Engineer's response.

H. Delegated-Design: In certain individual Specification Sections, design services or certifications by a design professional that are specifically delegated to the Contractor. Performance and design criteria are defined in the individual Specification Sections or on the Drawings. Contractor is solely responsible for design of those items or systems, coordination of the design with the balance of the Project, and achieving specified performance.

I. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format. All PDF files shall be searchable.

1.4 SUBMITTAL PROCEDURES

A. Submittal Schedule:
   1. Prepare and submit a Submittal schedule that identifies the following for each Submittal:
      a. Submittal number
      b. Submittal description
      c. Projected date Submittal will be submitted.
   2. An electronic copy (MS Excel file) of a blank Submittal schedule, in the preferred format, will be furnished by Engineer at the preconstruction meeting.

3. Submittal Numbers:
   a. Use the applicable Specification Section number followed by a decimal point and then a sequential number (e.g., 06 10 00.1). Where a Submittal is required via a Drawing (instead of a Specification Section), use the applicable Drawing Number followed by a decimal point and then a sequential number (e.g., M501.1).
   b. Resubmittals shall include a letter suffix after another decimal point (e.g., 06 10 00.1.A).
   c. Submittals that are not numbered correctly may be rejected.

B. Delivery Method:
   1. Web-Based Collaboration and Document Sharing System:
      a. A web-based collaboration and document sharing system may be utilized at Contractor's, Owner's, or Engineer's option.
      b. Use of such a system will be discussed during the preconstruction meeting.
      c. All parties must agree on use of a web-based collaboration and document sharing system.
      d. Training and licensing will be provided for all parties by the party suggesting use of a web-based collaboration and document sharing system.
   2. Where a web-based collaboration and document sharing system is not utilized, Submittals may be delivered as paper copies or electronic files at Contractor's option; except for Operation and Maintenance Manuals, which shall be delivered as specified herein.
   3. Advise Engineer and Owner of delivery method to be used at the preconstruction meeting.
   4. Where Submittals include information that is intended to be printed on sheets larger than 11 inches x 17 inches, or where scale or drawing size are critical for proper review, submit [2] paper copies for review.
   5. Paper Copies:
      a. Unless indicated otherwise, submit 2 copies of each Submittal.
      b. One copy of each Action Submittal will be returned to Contractor.
      c. Extra copies submitted by Contractor will be discarded.
   6. Electronic Files:
      a. Unless indicated otherwise, submit 1 copy of each Submittal in PDF format.
      b. Scanned Submittals shall be produced in such a way as to not compromise the graphic quality or accuracy of scale, where applicable; and text shall be searchable.
      c. One copy of each Action Submittal will be returned to Contractor.
      d. Transmit Submittals via electronic mail (e-mail) or web-based collaboration and document sharing system, where used. Submittals that are transmitted electronically will be returned electronically.
   7. Transmit Submittals to party and address identified by Engineer at preconstruction meeting.

C. Coordination and Timing: Coordinate preparation and processing of Submittals with performance of construction activities. Contractor is responsible for cost of delays caused by lack of coordination or tardiness of Submittals. Incomplete Submittals will be rejected.
   1. Coordinate each Submittal with fabrication, purchasing, testing, delivery, other Submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of Submittals for related parts of the Work so processing will not be delayed because of need to review Submittals concurrently for coordination.
      a. Engineer reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.

D. Processing Time: Allow 15 full working days for Engineer to review each Submittal, including Resubmittals. Time for review shall commence on Engineer's receipt of Submittal. No extension of the Contract Time will be authorized because of failure to transmit Submittals enough in advance of the Work to permit processing, including Resubmittals. Engineer will advise Contractor when a Submittal being processed must be delayed for coordination.

E. Identification: Place a permanent label on each Submittal or generate a separate cover sheet.
   1. Indicate name of firm or entity that prepared Submittal.
   2. Provide space to record Contractor's review and approval markings and action taken by Engineer.
   3. Include the following information:
      a. Project name.
      b. Date.
      c. Name and address of Engineer.
      d. Name and address of Contractor.
      e. Name and address of Subcontractor(s).
      f. Name and address of Supplier(s).

g. Name of Manufacturer.
h. Submittal number, including revision identifier.
i. Drawing number and detail references, as applicable.
j. Location(s) where product is to be installed, as applicable.
k. Other necessary identification.

F. Deviations: Encircle or otherwise specifically identify deviations from the Contract Documents on Submittals. Submittals that include deviations that are not identified may be rejected. Engineer may or may not consider deviations. Deviations are not substitutions. Refer to Division 01 Section “Product Substitution Procedures” for procedures regarding requests for substitutions.

G. Transmittal: Package each Submittal individually and appropriately for transmittal and handling. Transmit each Submittal using a transmittal form. Engineer will reject Submittal(s) received from sources other than Contractor.

H. Resubmittals: Make Resubmittals in same form and number of copies as initial Submittal.
1. Note date and content of previous Submittal.
2. Clearly identify additions and revisions.
3. Resubmit Submittals until they are marked, “Reviewed, No Exceptions Noted” or “Reviewed With Corrections Noted.”

I. Distribution: Furnish copies of Submittals with mark indicating, “Reviewed, No Exceptions Noted” or “Reviewed With Corrections Noted,” to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.

J. Use for Construction: Unless otherwise indicated by Engineer, use only Submittals with mark indicating, “Reviewed, No Exceptions Noted” or “Reviewed With Corrections Noted.”

1.5 CONTRACTOR'S USE OF ENGINEER’S ELECTRONIC DRAWING FILES

A. At Contractor's written request, copies of Engineer’s electronic Drawing files may be provided to Contractor for Contractor's use in connection with Project, including Submittal preparation. Electronic files may be furnished by Engineer for the convenience of the Contractor. Conclusions or information obtained or derived from such electronic files will be at the Contractor’s sole risk. Materials furnished by Engineer that may be relied upon are limited to printed Contract Documents.

B. When Contractor uses Engineer’s electronic Drawing files to facilitate Submittal preparation, prepare Submittals to be project specific. Submittals that are not project specific, including Engineer’s Drawing files submitted on a new title block, will be rejected.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit project specific Action Submittals required by individual Specification Sections. Do not use highlighting that would not be reproducible. Include a table of contents or index with each Submittal. As part of electronic submittals, the table of contents or index shall include electronic bookmarks to the first page of the respective Section(s) identified.

B. Product Data: Collect information into a single Submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each Submittal to indicate which products and options are applicable.
3. Include the following information, as applicable:
a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Manufacturer's installation instructions.
d. Color charts as required by individual Specification Sections.
e. Manufacturer's catalog cuts.

f. Wiring diagrams showing factory-installed wiring.
g. Printed performance curves.
h. Operational range diagrams.
i. Mill reports.
j. Standard product operation and maintenance manuals.
k. Compliance with specified referenced standards.
l. Testing by recognized testing agency.
m. Application of testing agency labels and seals.
n. Notation of coordination requirements.

4. Submit Product Data before or concurrent with Samples.
5. Maintain copy of returned Submittal for Project records.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale where appropriate. Scale shall be sufficiently large to indicate pertinent features of the item and its method of connection to the Work.
1. Preparation: Fully illustrate requirements of the Contract Documents. Include the following information, as applicable:
a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Colors and materials as applicable.
e. Roughing-in and setting diagrams.
f. Wiring diagrams showing field-installed wiring, including power, signal, control, and communication wiring. Differentiate between Manufacturer-installed and field-installed wiring.
g. Manufacturing instructions.
h. Templates and patterns.
i. Schedules.
j. Calculations.
k. Compliance with specified standards.
l. Notation of coordination requirements.
m. Notation of dimensions established by field measurement.
n. Relationship to adjoining construction clearly indicated.
2. Sheet Size: Submit Shop Drawings on sheets at least 8-1/2 inches x 11 inches but no larger than 36 inches x 48 inches.
3. Maintain copy of returned Submittal for Project records.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements, and for a comparison of these characteristics between Submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components, such as accessories, together in one Submittal package.
2. Identification: On unexposed side of Samples, attach label that includes the following:
a. Generic description of Sample.
b. Product name and name of Manufacturer.
c. Sample source.
d. Number and title of appropriate Specification Section.
3. Samples for Initial Selection: Submit Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available. Where Contract Documents indicate custom color or material, coordinate production of custom Samples with the Engineer and Manufacturer prior to submittal.
a. Number of Samples: Unless indicated otherwise, submit 2 full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from Manufacturer's product line. Engineer will return 1 Sample with options selected.
4. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, physically identical with material or product proposed for use, and that show full range of color and texture variations expected.
5. Samples include, but are not limited to, the following: Partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

6. Number of Samples: Unless indicated otherwise, submit 2 sets of Samples. Engineer will retain 1 Sample set; remainder will be returned.
   a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
   b. If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
7. Disposition: Maintain sets of approved Samples at Site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used by Engineer to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples shall be in an undamaged condition at time of Substantial Completion.
   b. Samples not incorporated into the Work, or otherwise designated to become Owner's property, are the property of Contractor.

E. Operation and Maintenance Manuals:
1. General:
   a. Where manuals are required to be submitted covering items included in the Work, prepare such manuals in durable plastic binders approximately 8-1/2 inches x 11 inches in size and with at least the following:
      1) Identification on, or readable through, the front cover stating general nature of the manual.
      2) Include a table of contents or index with each Submittal, near the front of the manual. As part of electronic submittals, the table of contents or index shall include electronic bookmarks to the first page of the respective Section(s) identified.
      3) Complete instructions regarding operation and maintenance of equipment involved, including:
         a) Equipment function, normal operating characteristics, and limiting conditions.
         b) Assembly, installation, alignment, adjustment, and checking instructions.
         c) Operating instructions for start-up, routine and normal operating, regulation and control, shutdown, and emergency conditions.
         d) Maintenance instructions, including lubrication requirements where applicable.
         e) Guide to "troubleshooting".
         f) Parts lists and predicted life of parts subject to wear.
         g) Project specific outline and cross sections, assembly drawings, engineering data, and wiring diagrams. Wiring diagrams shall reflect final, as-installed conditions and include wire numbers.
         h) Test data and performance curves.
      4) Complete nomenclature of all replaceable parts, their part numbers, current costs, and name and address of nearest vendor of parts.
      5) Copies of guarantees and warranties issued.
      6) Copies of the reviewed Submittals.
      7) Copies of data concerning changes made during construction.
2. Extraneous Data: Where contents of the manuals include Manufacturer's catalog pages, clearly indicate the precise items included in this installation and delete all Manufacturers' data with which this installation is not concerned. Do not use highlighting that would not be reproducible.
3. Number of Copies Required: Unless otherwise specifically directed by Engineer, or stipulated in the pertinent Section of these Specifications:
   a. For review, submit 1 paper and 1 electronic copy.
   b. For record, deliver 4 paper and 1 electronic copies to Engineer.
4. Schedule delivery of record copies of operation and maintenance manuals at least 60 days prior to startup of respective equipment, unless otherwise specified.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by individual Specification Sections. Do not use highlighting that would not be reproducible. Include a table of contents or index with each Submittal. As part of electronic submittals, the table of contents or index shall include electronic bookmarks to the first page of the respective Section(s) identified.

B. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects/engineers and owners, and other information specified.

D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

E. Installer Certificates: Prepare written statements on Manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by Manufacturer for this Project.

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

G. Product Certificates: Prepare written statements on Manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

H. Material Certificates: Prepare written statements on Manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

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

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

K. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
   1. Name of evaluation organization.
   2. Date of evaluation.
   3. Time period when report is in effect.
   4. Product and manufacturers' names.
   5. Description of product.
   6. Test procedures and results.
   7. Limitations of use.

L. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

M. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

N. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

O. Manufacturer's Instructions: Prepare written or published information that documents Manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of Manufacturer. Include the following, as applicable:
   1. Preparation of substrates.
   2. Required substrate tolerances.
   3. Sequence of installation or erection.

4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

P. Manufacturer's Field Reports: Prepare written information documenting tests and inspections of factory-authorized service representative. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement of substrate condition and acceptability of substrate for installation or application of product.
3. Statement that products at Site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Document settings in writing.
8. Other required items indicated in individual Specification Sections.

2.3 DELEGATED-DESIGN SUBMITTALS

A. Where design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated, which Contractor has coordinated with the balance of the Project.

B. Performance type design documents and calculations shall be prepared by a design professional as required by the individual Specification Section, licensed in the State of Michigan where the Project is being constructed. Design documents shall be signed and sealed by the responsible design professional. Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Identify name and version of software, if any, used for calculations.

C. In addition to Shop Drawings, Product Data, and other required Submittals, submit two copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each Submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Verify field dimensions and conditions; note corrections as necessary. Mark with approval stamp before submitting to Engineer.
1. Approval Stamp: Stamp each Submittal with an approval stamp. Use the same stamp format for each Submittal. Include Project name and location, Submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that Submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

B. Submittals that are not approved and stamped by Contractor will be rejected.

3.2 ENGINEER’S REVIEW

A. Action Submittals: Engineer will review Action Submittals, make marks to indicate corrections or modifications required, and return Submittal. Engineer will stamp each Submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
1. Reviewed, No Exceptions Noted: Submittal appears to conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Reviewed With Corrections Noted: Upon incorporation of review comments, it appears that Submittal will conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
3. Revise and Resubmit: Submittal has one or more specific segments that are incomplete, do not appear to conform to the information given in the Contract Documents, or are incompatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Contractor shall resubmit information for review to demonstrate understanding of comments and portions of Work to be provided. Except as noted, Contractor shall not proceed with Work related to Submittal.
4. Rejected, Resubmit: Submittal as a whole is incomplete, does not appear to conform to the information given in the Contract Documents, or is incompatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Contractor shall resubmit information for review to demonstrate understanding of comments and portions of Work to be provided. Contractor shall not proceed with Work related to Submittal.

B. Informational Submittals: Other Submittals required by the Contract Documents are for information only. Engineer will acknowledge receipt of Informational Submittals. Such Submittals include, but are not limited to:
1. Qualifications Data.
2. Certificates.
3. Test Reports.
4. Manufacturer's Instructions.
5. Maintenance Data.
6. Field Reports.

C. Delegated-Design Submittals: Review of Delegated-Design Submittals by Engineer shall not relieve Contractor of Contractor's sole responsibility for design and achieving specified performance.

D. Submittals not required by the Contract Documents will be returned without being reviewed.

E. Partial Submittals are not acceptable, will be considered non-responsive, and will be rejected.

END OF SECTION 01 33 00

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the instructions for and the responsibilities of each party in contract closeout.

B. Related Section includes Certificate of Substantial Completion.

1.3 SUBSTANTIAL COMPLETION

A. Contractor: When Contractor considers that the Work or any portion of the Work is ready for its intended use, Contractor shall submit:
   1. Written certification to Engineer and Owner that the Work, or designated portion of the Work, is substantially complete.
   2. A list of major items to be completed or corrected.
   3. Request that Engineer issue a certificate of Substantial Completion.

B. Engineer's Inspection: Engineer will make an inspection:
   1. Within 10 days after receipt of certification.
   2. Together with Owner and Contractor.

C. Engineer's Determination of Substantial Completion:
   1. Should Engineer consider the Work or designated portion of the Work substantially complete, the following steps shall be taken:
      a. Contractor shall prepare and submit to Engineer, a list of items to be completed or corrected as determined by the inspection.
      b. Engineer will prepare and deliver to Owner:
         1) A tentative certificate of Substantial Completion.
         2) A tentative list of items to be completed or corrected before final payment.
      c. Owner shall have 7 days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list.
      d. Engineer will, within 14 days after delivery of tentative certificate to Owner, decide:
         1) Not Substantially Complete: Engineer will issue written notice to Contractor stating reasons.
         2) Substantially Complete: Engineer will issue definitive certificate of Substantial Completion and a revised list of items to be corrected or completed.
   2. Should Engineer consider that the Work or designated portion of the Work is not substantially complete, the following steps shall be taken:
      a. Engineer shall notify Contractor in writing stating Engineer's reasons.
      b. Contractor shall complete the Work and send a second written notice to Engineer certifying that the Project, or designated portion of the Project, is substantially complete.
      c. Engineer and Owner will reinspect the Work.

D. Division of Responsibilities:
   1. Engineer:
      a. At the time of delivery of tentative certificate of Substantial Completion.
      b. Deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment with respect to:
         1) Security.
         2) Operation.
         3) Safety.
         4) Protection of the Work.
         5) Maintenance.
         6) Heat.

7) Utilities.
8) Insurance.
9) Warranties.

2. Engineer's written recommendation on division of responsibilities shall be binding on Owner and Contractor until final payment unless Owner and Contractor agree otherwise in writing and so notify Engineer prior to Engineer's issuance of a definitive certificate of Substantial Completion.

1.4 FINAL INSPECTION

A. Contractor Certification: Prior to final inspection, Contractor shall submit written certification that:
1. The Contract Documents have been reviewed.
2. The Project has been inspected in compliance with the Contract Documents.
3. Work has been completed in accordance with the Contract Documents.
4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
5. The Project is complete and ready for final inspection.

B. Engineer's Inspection: The Engineer will make final inspection:
1. Within 10 days after receipt of certification.
2. Together with Owner and Contractor.

C. Engineer's Determination of Final Completion:
1. Should Engineer consider the Work complete and ready for final payment in accordance with the requirements of the Contract Documents, Engineer shall request Contractor to make Project closeout submittals.
2. Should Engineer consider the Work not complete and ready for final payment:
a. Engineer shall notify Contractor in writing stating the reasons.
b. Contractor:
1) Take immediate steps to remedy the stated deficiencies.
2) Send a second written notice to Engineer certifying that the Work is complete.
c. Engineer and Owner will reinspect the Work.

1.5 REINSPECTION COSTS

A. Should Engineer be required to perform second inspections because of failure of the Work to comply with the original certifications of Contractor, Owner will compensate Engineer for additional services and deduct the amount paid from payment or payments to Contractor.

1.6 ADDITIONAL INSPECTION COSTS

A. Substantial Completion: Owner will compensate Engineer for inspection services rendered between the scheduled date of Substantial Completion and the actual date of Substantial Completion and deduct the amounts paid from payment or payments to Contractor.

B. Final Completion: Owner will compensate Engineer for inspection services rendered between the scheduled date of final completion and the actual date of final completion and deduct the amounts paid from payment or payments to Contractor.

1.7 CLOSEOUT SUBMITTALS

A. Contractor:
1. Provide closeout submittals as required in the Contract Documents.
2. These submittals shall include, but not necessarily be limited to:
a. Project record documents.
b. Operation and maintenance manuals.
c. Guarantees.
d. Spare parts and maintenance materials.
e. Instruction in operation of all systems.

1.8 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

A. Affidavits:
   1. Submit with final Application for Payment an affidavit of payment of debts and release of claims.
   2. Affidavit shall include:
      a. Contractor's release or waiver of lien.
      b. Consent of surety of final payment.
      c. Separate releases or waivers of liens for Subcontractors, Suppliers and others with lien rights against property of Owner together with a list of those parties.

B. Execution: All submittals shall be duly executed before delivery to Engineer.

1.9 FINAL ADJUSTMENT OF ACCOUNTS

A. Final Statement: Submit a final statement of accounting, which reflects all adjustments, to Engineer. This statement shall contain the following:
   1. Original Contract Price.
   2. Additions and deductions.
   3. Total Contract Price as adjusted.
   4. Previous payments.
   5. Sum remaining due.

B. Final Change Order: Engineer will prepare a final Change Order reflecting approved adjustments to the Contract Price not previously made by Change Orders.

1.10 FINAL APPLICATION FOR PAYMENT

A. Contractor shall submit a final Application for Payment in accordance with the requirements of the Contract Documents.

B. Disposition of Final Application for Payment:
   1. If the final Application for Payment and the Work are acceptable in accordance with the Contract Documents:
      a. Engineer will, within 10 days after receipt of the Application for Payment:
         1) Submit to Owner a written recommendation for payment.
         2) Submit to Owner and Contractor a written notice that the Work is acceptable subject to the provisions of the General Conditions.
      b. Owner will, within 30 days after receipt of the Application for Payment and Engineer's recommendation in accordance with the Contract Documents, pay to Contractor the amount recommended.
   2. If the Application for Payment, the Work or both are unacceptable:
      a. Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment.
      b. Contractor shall make the necessary corrections and resubmit the Application for Payment.
   3. Final Completion Delayed:
      a. Upon receipt of Contractor’s final Application for Payment and recommendation by Engineer, Owner shall make payment of the balance due for that portion of the Work fully completed and accepted if Engineer confirms that final completion of the Work is significantly delayed through no fault of Contractor.
      b. Payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 77 00

PROGRESS CLAUSE: Submit a Critical Path Method (CPM) Schedule. The Engineer for this project is as follows:

Robert Welch, P.E.
Fishbeck
5913 Executive Drive
Suite 100
Lansing, Michigan 48911
(517) 887-4027
rrwelch@fishbeck.com

After award, start work on the date approved by the Engineer, which must be no earlier than **March 15, 2026**. In no case may any work be commenced prior to award by Capital Region Airport Authority.

All contract work on Port Lansing Road must be complete and all project roadways fully open to traffic by the interim completion date of **November 15, 2026**.

Capital City Blvd work may start no earlier than **March 15, 2026**, unless approved by the Engineer.

All contract work for Capital City Blvd must be complete and the road fully open to traffic by the interim completion date of **July 1, 2027**.

The entire project must be completed by the final completion date of **August 15, 2027**.

Failure by the Contractor to meet interim completion and/or final completion dates will result in the assessment of liquidated damages in accordance with subsections 108.10.C.1 and 108.10.C.2 of the Standard Specifications for Construction. Liquidated damages will be assessed separately and simultaneously for failure to meet interim completion and/or final completion dates. Liquidated damages will continue to be assessed for each calendar day that the work associated with the interim completion and/or final completion dates remains incomplete, even if these days extend into or beyond seasonal suspension, unless approved otherwise by the Engineer.

Unless specific pay items are provided in the contract any extra costs incurred by the Contractor due to cold-weather protection and winter grading will not be paid for separately but will be included in the payment of other pay items in the contract.

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Engineer. The Engineer will determine the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project. The named subcontractor(s) for, Designated and/or Specialty Items, as shown in the proposal, is(are) recommended to be at the preconstruction meeting if such items materially affect the work schedule.

The Contractor may be required to meet with Authority representatives for a post-construction review meeting, as directed by the Engineer. The Engineer will schedule the meeting.

CAPITAL REGION AIRPORT AUTHORITY

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

a. Description. This special provision consists of requirements and restrictions to maintain traffic for Port Lansing Road and Capital City Boulevard in the city of Lansing, Ingham County.

b. General. Maintain traffic throughout the project in accordance with the standard specifications, typicals, and supplemental specifications in the contract and as described on the plans for this project.

c. Construction Influence Area (CIA). The CIA includes the right-of-way of the following roadways, within the approximate limits described below:

1. On Port Lansing Road from Airport Road to Dewitt Road.

2. Capital City Boulevard from Grand River Avenue to W. Circle Drive.

3. In addition, the CIA includes the right-of-way of any designated detour route or alternate route, intersecting roads and ramps adjacent to the work zone for a distance of approximately 1/4 mile in advance of the work zone or as far as the construction or detour signing extends. The roads include but are not limited to Grand River Avenue, Commerce Road, Circle Drive, and Dewitt Road.

d. Traffic Restrictions. Maintain traffic in accordance with the Maintaining Traffic Typicals contained herein, except as noted below. Changes or adjustments to the Maintaining Traffic Typicals may be necessary to fit field conditions, subject to approval of the Engineer or as determined by the Engineer.

1. Utilize the following Maintaining Traffic Typicals:

   A. 100-GEN-KEY

   B. 101-GEN-SPACING-CHARTS

   C. 102-GEN-NOTES

   D. 103-GEN-SIGN

   E. 203-FW-1LC-(R)

   F. 204-FW-1LC-(L)

   G. WZD-100-A

   H. WZD-125-E

2. Do not deliver material, or close lanes (other than approved stage closures) during the holiday periods as defined in Tables 1 and 2.

Table 1: 2026 Holiday Periods

Holiday	Start Date and Time	End Date and Time
Memorial Day	3:00 pm, Friday, May 22	6:00 am, Tuesday, May 26
Independence Day	3:00 pm, Thursday, July 2	6:00 am, Monday, July 6
Labor Day	3:00 pm, Friday, September 4	6:00 am, Tuesday, September 8

Table 2: 2027 Holiday Periods

Holiday	Start Date and Time	End Date and Time
Memorial Day	3:00 pm, Friday, May 28	6:00 am, Tuesday, June 1
Independence Day	3:00 pm, Friday, July 2	6:00 am, Tuesday, July 6
Labor Day	3:00 pm, Friday, September 3	6:00 am, Tuesday, September 7

3. Maintain a minimum of one lane of traffic in each direction at all times on all signalized side roads.

4. Close any dedicated lanes (turn, etc.) prior to the location under construction.

5. When a lane is closed, place channelizing devices at cross streets and major drives to form a radius that clearly defines the approaches to the through and turning traffic.

6. Close median crossovers when working on, or within the influence area of, the median crossover. Simultaneous closure of consecutive median crossovers is prohibited, unless otherwise approved by the Engineer. Gap the work area where crossovers are maintained.

7. Maintain access to all driveways as directed by the Engineer unless prior agreements are made with the respective property owners. The cost of constructing driveways part width will not be paid for separately but will be considered included in the cost of other driveway pay items.

e. Traffic General.

1. For any lane open to traffic, provide a minimum lane width of 11 feet with 2 feet of shy distance on both sides unless identified otherwise on plans.

2. Do not close lanes or utilize traffic regulation sequences where work can be accomplished with a shoulder closure. Do not occupy any part of the active traffic lane with personnel or equipment when utilizing a shoulder closure. Place lane closures and traffic regulation operations only in areas as shown on the plans unless otherwise directed by the Engineer.

3. Prior to shifting traffic onto shoulders or opening any lanes/shoulders and/or ramps, remove, by sweeping all accumulated debris that has collected within the shoulder and/or within the closed lane/shoulder.

4. A speed reduction will not be used.

5. Develop and submit to the Engineer an Internal Traffic Control Plan (ITCP) per subsection 104.11.B of the Standard Specifications for Construction. The requirements listed herein are the requirements for a Type B ITCP. Submit the Type B ITCP a minimum of 30 calendar days prior to the start of work. Submit subsequent ITCPs for the Engineer's review a minimum of 14 calendar days prior to all stage changes and/or major changes in traffic patterns. Allow the Engineer 7 calendar days to review the ITCP for approval or provide comments for revisions to obtain approval. At a minimum, the ITCP must include the proposed ingress/egress locations for construction equipment and vehicles, traffic control devices that will be utilized to warn the motoring public of ingress/egress locations, and measures that will be taken to ensure compliance with the ITCP. Ensure that the ITCP minimizes conflicts between construction vehicles and motorists and maintains overall safety and mobility within the work zone. Access for construction vehicles between the travel lanes and work areas will be restricted to specific locations (this includes the workers' private vehicles). The number of access points and their locations will require prior approval from the Engineer. Perform any work required to upgrade existing conditions to meet these requirements at no additional cost to the Capital Region Airport Authority (Authority). The hauling of materials and equipment in and out of the work zone at any time must be approved by the Engineer, a hauling schedule must be included in the ITCP. No work will be allowed to begin prior to approval of the ITCP. Additional time required to obtain an approved ITCP will not be considered cause for delay or contractor claims. All costs associated with obtaining an approved ITCP, providing and executing all parts of the approved ITCP including required traffic control devices, or resolving an incomplete or unacceptable ITCP will be borne by the Contractor. No full or partial payments will be made for minor traffic devices until the Contractor's ITCP is approved.

6. Protect the work area at the end of each day. Close all open access points on the project to traffic with Type III barricades or other devices approved by the Engineer.

7. The Engineer will be responsible for notifying emergency services, transit agencies, law enforcement and schools prior to any lane closures, detours or major traffic shifts. In addition, the Contractor will be responsible for working with and complying with any coordination that is necessary with the Authority and emergency services, transit agencies, law enforcement and schools. All costs associated with these coordination efforts will be considered included in the pay item "Minor Traf Devices".

8. Obtain all necessary permits from local governments within areas of local jurisdiction, including noise/dust ordinance waivers when required, prior to placing construction signing on local roads.

9. Remove all temporary traffic control devices from right-of-way during any shut down periods unless needed for directly maintaining or channelizing traffic. No additional payment will be made for removal and/or redeployment of these devices except for in the case of an approved extension of time.

10. Cover or remove construction signing that refers to work zone speed when work at a location is planned to be inactive for a period greater than 2 days, unless otherwise specified on the plans or as directed by the Engineer.

11. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days will require the removal of lane closures at no expense to the Authority.

f. Stage Construction. Maintain traffic in accordance with the restrictions listed in section d. Traffic Restrictions and the sequence of operations contained herein. Use of an alternate traffic control plan is subject to review and approval by the Engineer.

1. Port Lansing Road – Segment 1.

A. Reconstruction of Port Lansing Road between Airport Road and Capital City Boulevard.

B. Detour traffic to Capital City Boulevard and Grand River Avenue. Maintain access to businesses at all times.

2. Port Lansing Road – Segment 2.

A. Reconstruction of Port Lansing Road between Capital City Boulevard and west of the eastern UPS driveway.

B. Detour traffic to Capital City Boulevard, Grand River Avenue, and Dewitt Road. Maintain access to businesses at all times.

3. Port Lansing Road – Segment 3.

A. Reconstruction of Port Lansing Road and shoulder construction on Port Lansing Road between west of the eastern UPS driveway and Dewitt Road.

B. Detour traffic to Capital City Boulevard, Grand River Avenue, and Dewitt Road. Maintain access to businesses at all times.

4. Capital City Boulevard – Stage 1.

A. Reconstruction the west side of Capital City Boulevard and crossovers between Port Lansing and Commerce Road.

B. Maintain one lane of traffic in each direction on east side of Capital City Boulevard between Port Lansing Road and Commerce Road. Maintain access to businesses at all times.

5. Capital City Boulevard – Stage 2.

A. Reconstruction the east side of Capital City Boulevard between Port Lansing Road and Commerce Road.

B. Maintain one lane of traffic in each direction on west side of Capital City Boulevard between Port Lansing Road and Commerce Road. Maintain access to businesses at all times.

6. Capital City Boulevard – Stage 3.

A. Reconstruction of NB and SB Capital City Boulevard and crossovers between Grand River Avenue and Port Lansing Road.

B. Close and detour NB and SB traffic between Grand River Avenue and Port Lansing Road. Maintain access to businesses at all times.

7. Capital City Boulevard – Stage 3A.

A. Reconstruction of NB and SB Capital City Boulevard and crossovers between Grand River Avenue and Port Lansing Road. Reconstruction of the outside SB lane of Capital City Boulevard and west leg of the Port Lansing Road intersection.

B. Close and detour NB and SB traffic between Grand River Avenue and Port Lansing Road. Close and detour Port Lansing Road between Airport Road and Dewitt Road. Maintain access to businesses at all times.

8. Capital City Boulevard – Stage 3B.

A. Reconstruction of NB and SB Capital City Boulevard and crossovers between Grand River Avenue and Port Lansing Road. Reconstruction of the inside NB and SB lanes of Capital City Boulevard and middle of the Port Lansing Road intersection.

B. Close and detour NB and SB traffic between Grand River Avenue and Port Lansing Road. Close and detour Port Lansing Road between Airport Road and Dewitt Road. Maintain access to businesses at all times.

9. Capital City Boulevard – Stage 3C.

A. Reconstruction of NB and SB Capital City Boulevard and crossovers between Grand River Avenue and Port Lansing Road. Reconstruction of the outside NB lane of Capital City Boulevard and east leg of the Port Lansing Road intersection.

B. Close and detour NB and SB traffic between Grand River Avenue and Port Lansing Road. Close and detour Port Lansing Road between Airport Road and Dewitt Road. Maintain access to businesses at all times.

g. Detours.

1. Do not detour traffic until all proposed contract work on the detour route is completed, inspected, and approved by the Engineer.

2. Signs should be on both sides of the roadway when the work is taking place on the boulevard section.

3. Cover all detour signs installed prior to closing a road. Do not uncover detour signing until just before the closure is in effect. Immediately remove or cover all detour signing upon opening the road to traffic.

h. Special Considerations at Railroad Crossings.

1. Any work (or equipment being staged onsite during the work) performed at or near a railroad crossing must not obstruct the view of railroad protective warning devices (signs, flashing light units or gates) to oncoming traffic at any time.

2. Do not extend lane closure taper(s) through the crossing. Traffic lane shifts cannot transition over the crossing.

3. Do not place construction traffic control devices in the railroad crossing or closer than 25 feet from the outside rail on either crossing approach.

4. Do not direct traffic over crossing in opposing direction than normal.

5. When the railroad crossing is in the influence zone of active construction work, but not in any lane closure, the roadways traffic regulator will give immediate preference to clearing any traffic from queueing over the crossing.

6. When traffic is queued to a gated crossing, a railroad watchperson will be present to provide notice of train approach to the crossing in advance of railroad warning device activation, so the crossing may be cleared of vehicular traffic. The Contractor is responsible for contacting the applicable railroad to obtain and pay for a railroad watchperson.

i. Earthwork and Excavation.

1. Restore undercuts or excavations in the work areas within 3 feet of the active traffic lanes to no steeper than a 1 on 4 slope from the edge of the roadway at the end of each work day. If this condition is not met, provide a nighttime closure.

2. Delineate excavated areas located within 3 feet of traffic with channelizing devices at 20 feet spacing along the excavated area, and 100 feet before the area, or as shown on the maintaining traffic plans.

3. Use protective fencing to protect open excavations within the work zone during non-working hours.

j. Hot Mix Asphalt (HMA) Work.

1. Resurface all HMA milled areas the same day as the HMA cold milling operation.

2. No traffic is allowed on the HMA milled surface, unless directed by the Engineer.

3. Provide transverse and longitudinal HMA tapers at all grade changes greater than 2 inches and place HMA tapers at the Port Lansing Road approaches to Capital City Boulevard prior to construction of Capital City Boulevard to ensure smooth travel along Port Lansing Road. Place W8-1 (“BUMP”) signs in advance of transverse HMA tapers. Place W8-11 (“UNEVEN LANES”) signs in advance of longitudinal HMA tapers. Place W8-9 (“LOW SHOULDER”) signs in advance of and every mile within the shoulder drop off.

k. Concrete Pavement.

1. Delineate uncured/open concrete patches, within the work zone, with two channelizing devices meeting *MMUTCD* standards as directed by the Engineer.

2. Use “Concrete Curing” signs when active work is not taking place within lane closures.

l. Traffic Control Devices. Ensure all traffic control devices are in accordance with the *MMUTCD* and must meet the “acceptable” criteria as defined in the *ATSSA* publication entitled “*Quality Guidelines for Temporary Traffic Control Devices and Features*” at the time of initial deployment and after each major stage change.

1. During non-working periods, place applicable advance signs and channelizing devices at specific locations, as directed by the Engineer, at no additional cost to the Authority.

2. Notify the Engineer 24 hours in advance of when traffic control devices are being delivered to the project site, to allow for initial inspection of devices to take place.

3. Remove from the project site all traffic control devices (including detour signing) no longer needed for a particular operation and equipment for construction within 14 calendar days of reopening the shoulder/lane/roadway.

4. Channelizing Devices.

A. Ensure all devices have sufficient ballast to prevent moving or tipping. If moving or tipping occurs, place additional ballast, as directed by the Engineer, at no additional cost to the Authority. No more than two ballasts are allowed on each channelizing device.

B. Do not use caution tape on channelizing devices for traffic control and/or pedestrian traffic control on this project.

5. Temporary Signs.

A. Additional W20-1 (ROAD WORK AHEAD) signs are included in the quantities to be placed on all intersecting or adjacent roads where construction activities may be encountered.

B. Fabricate, install, and remove temporary sign overlays on existing signs with the pay item for Sign, Type B, Temp, Prismatic, Furn. Attach the overlay in accordance with subsection 812.03.D.2 of the Standard Specifications for Construction.

m. Temporary Pavement Markings.

1. Remove conflicting pavement markings, pavement markings in taper/transition areas and other markings as directed by the Engineer, for operations occupying a location longer than 3 days. Durable markings in these areas should be covered rather than be removed.

2. Quantities for temporary tape to be placed during paving operations are based on the MDOT PAVE 900 Series standard plans.

3. When Type R or NR tape is used, ensure that all temporary pavement markings adhere to the pavement surface until permanent markings are installed.

4. Complete temporary pavement markings in each stage prior to shifting traffic as directed by the Engineer.

5. Replace all existing pavement markings that are removed for traffic control or obliterated during construction.

6. Delineate the edge line as show on the plans.

n. Measurement and Payment. Payment will be in accordance with the standard specifications unless otherwise specified. No additional payment will be made for the following activities:

1. Transporting traffic control items from site to site.

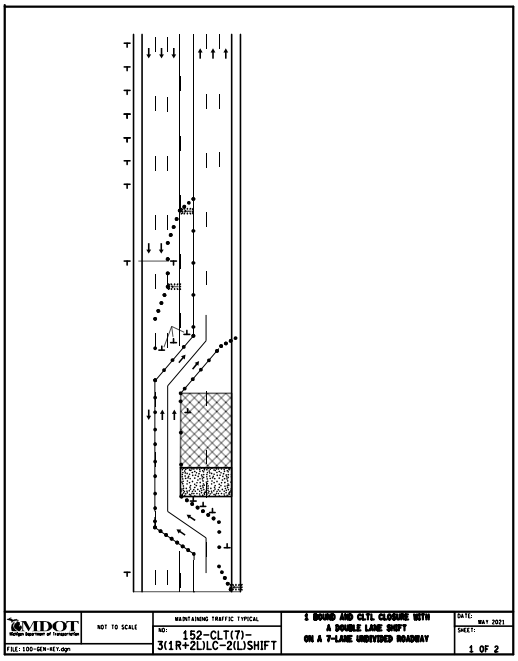
2. Providing sufficient vehicles and staff to make changes as-needed on site during work.

3. Providing sufficient vehicles and staff to remove closures from the roadway.

TYPICAL NUMBER KEY

CODES

AB = ARROW BOARD AW = ADVANCE WARNING C = CLOSURE CLT = CENTER LEFT TURN LANE CROSS = CROSSOVER CruSha = CRUSH AND SHAPE EM = EARLY MERGE EnR = ENTRANCE RAMP ExR = EXIT RAMP FW = FREEWAY GEN = GENERAL INFORMATION GORE = FREEWAY GORE AREA IN = INSIDE INT = INTERSECTION L = LANE (L) = LEFT LC = LANE CLOSURE LD = LONG DURATION	LO = LANE OPEN O = OUTSIDE (LANE CLOSURE) OUT = OUTSIDE OF SHOULDER MID = MIDDLE OF INTERSECTION OR ROAD NFW = NON-FREEWAY PARK = PARKING LANE PCMS = PORTABLE CHANGEABLE MESSAGE SIGN (R) = RIGHT ROLL = ROLLING ROADBLOCK RUM = RUMBLE STRIP SD = SHORT DURATION SHL = SHOULDER CLOSURE SIGN = SIGN SP = SPECIAL SPEED = SPEED STA = STOPPED TRAFFIC ADVISORY TR = TRAFFIC REGULATOR TS = TEMPORARY SIGNAL ZIP = ZIPPER MERGE



100 - GENERAL NOTES 110 - TRAFFIC REGULATORS 120 - NON-FREEWAY 130 - CENTER LEFT TURN (CLT) LANES 140 - PARKING LANES 150 - CLT 7 LANE SECTIONS 160 - SIGNAL WORK 200 - FREEWAY CLOSURES 210 - FREEWAY LANE SHIFTS 220 - FREEWAY ENTRANCE RAMPS 230 - FREEWAY EXIT RAMPS 300 - ADVANCE WARNINGS 310 - CROSSOVER CLOSURE 320 - CRUSH AND SHAPE 340 - MERGE SYSTEMS 350 - GORE LOCATIONS 360 - ROLLING ROADBLOCK 4000 - MAINTENANCE 5000 - SURVEY

EXAMPLE TYPICAL

CODE: 152-CTL(7)-3(1R+2L)LC-2(L)SHIFT

152 - TYPICAL NUMBER
CTL(7) = CENTER LEFT TURN LANE, 7 LANES TOTAL.
3(1R+2L)LC = 3 LANES CLOSED, (1 RIGHT LANE AND 2 LEFT LANES).
2(L)SHIFT = 2 LANES SHIFTED TO THE LEFT.

NOT TO SCALE

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TYPICAL NUMBERING KEY	DATE: DECEMBER 2021
		NO: 100-GEN-KEY		SHEET: 1 OF 1
FILE: 100-GEN-KEY.dgn				

DISTANCE BETWEEN TRAFFIC SIGNS, "D"

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
D (FEET)	250	300	350	400	450	500	550	600	650	700	750

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

"B" LENGTHS	SPEED,* MPH (PRIOR TO WORK AREA)											
	20	25	30	35	40	45	50	55	60	65	70	75
B (FEET)	33	50	83	132	181	230	279	329	411	476	542	625

* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

MINIMUM MERGING TAPER LENGTH, "L" (FEET)

OFFSET (FEET)	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
1	11	15	21	27	45	50	55	60	65	70	75
2	21	30	41	54	90	100	110	120	130	140	150
3	32	45	62	80	135	150	165	180	195	210	225
4	42	60	82	107	180	200	220	240	260	280	300
5	53	75	103	134	225	250	275	300	325	350	375
6	63	90	123	160	270	300	330	360	390	420	450
7	73	105	143	187	315	350	385	420	455	490	525
8	84	120	164	214	360	400	440	480	520	560	600
9	94	135	184	240	405	450	495	540	585	630	675
10	105	150	205	267	450	500	550	600	650	700	750
11	115	165	225	294	495	550	605	660	715	770	825
12	125	180	245	320	540	600	660	720	780	840	900
13	136	195	266	347	585	650	715	780	845	910	975
14	146	210	286	374	630	700	770	840	910	980	1050
15	157	225	307	400	675	750	825	900	975	1050	1125

NOT TO SCALE

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

$"L" = \frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = W X S WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER
S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
W = WIDTH OF OFFSET

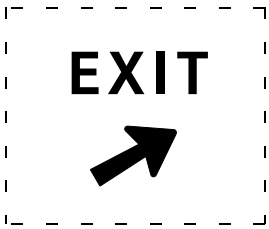
TYPES OF TAPERS	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L - MINIMUM
SHIFTING TAPER	1/2 L - MINIMUM
SHOULDER TAPER	1/3 L - MINIMUM
2 TO 1 LANE ROAD TAPER	100' - MAXIMUM
DOWNSTREAM TAPERS	
(USE IS RECOMMENDED)	100' (PER LANE)

MAXIMUM SPACING FOR CHANNELIZING DEVICES

WORK ZONE SPEED LIMIT	DRUM AND 42" DEVICE SPACING (FT)		NIGHTTIME 42" DEVICE SPACING (FT)	
	TAPER	TANGENT	TAPER	TANGENT
< 45 MPH	1 x SPEED LIMIT	2 x SPEED LIMIT	25 FEET	50 FEET
≥ 45 MPH	50 FEET	100 FEET	25 FEET	50 FEET

SIGN OUTLINE KEY

DASHED OUTLINES INDICATE A SIGN THAT EXISTS ON SITE, AND NEEDS TO BE COVERED.



SOLID OUTLINES INDICATE A SIGN THAT IS TO BE PLACED ON THE PROJECT

NOT TO SCALE

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES - TEST LEVEL 2

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5.5 TONS (STATIONARY)	40 MPH OR LESS	25 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 4,410 POUND IMPACT VEHICLE WEIGHT.

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES - TEST LEVEL 3

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5 TONS (MOBILE)	45 MPH	100 FT
	50-55 MPH	150 FT
	60-75 MPH	175 FT
12 TONS (STATIONARY)	45 MPH	25 FT
	50-55 MPH	25 FT
	60-75 MPH	50 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 10,000 POUND IMPACT VEHICLE WEIGHT.

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

GENERAL NOTES

G1: SEE GEN-SPACING-CHARTS FOR COMMON VALUES INCLUDING:
D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
ROLL AHEAD DISTANCE

G2: DISTANCE BETWEEN SIGNS, "D", THE VALUES FOR WHICH ARE SHOWN IN TYPICAL GEN-KEY ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.

G3: ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING MUST MEET NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP 350) TEST LEVEL 3, OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) TL-3 AS WELL AS THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.

G4: DO NOT STORE EQUIPMENT, MATERIALS OR PERFORM WORK IN ESTABLISHED BUFFER AREAS.

G5: ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR TRAFFIC PATTERNS FOR WORK LESS THAN THREE DAYS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.

SIGN NOTES

S1: ALL NON-APPLICABLE SIGNING WITHIN THE CIA MUST BE MODIFIED TO FIT CONDITIONS, COVERED, OR REMOVED. FOR GUIDANCE SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, SECTIONS 6.01.09 AND 6.01.10.

S2: R5-18b SIGNS ARE ONLY REQUIRED ON FREEWAY PROJECTS WITH A DURATION OF 15 DAYS OR LONGER OR NON-FREEWAY PROJECTS WITH A DURATION OF 90 DAYS OR LONGER. TO APPLY THIS TYPICAL WITHOUT R5-18b SIGNS, REMOVE THE SIGNS AND CONSOLIDATE THE SEQUENCE AS APPROPRIATE.

S3: R5-18c IS ONLY REQUIRED IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. OMIT THIS SIGN IN SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE.

S4: ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W20-5 SIGNS.

S5: PLACE ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE WORK ZONE SPEED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK ZONE, OR AFTER EACH ENTRANCE RAMP THAT COMES ONTO THE FREEWAY WHERE THE REDUCED SPEED IS IN EFFECT. PLACE ADDITIONAL SPEED LIMIT SIGNS AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS ARE MORE THAN 2 MILES APART. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, PLACE ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED BEYOND THE LIMITS OF THE WORK AREA AS INDICATED. IF PERMANENT SIGNS DISPLAYING THE CORRECT SPEED LIMIT ARE POSTED, OMIT ALL W3-5b AND R2-1 SIGNS AND REDUCE SPACING ACCORDINGLY.

S6: FABRICATE SPECIAL SIGNS IN ACCORDANCE WITH CURRENT SIGNING DESIGN STANDARDS.

S7: PLACE ADDITIONAL R8-3 SIGNS AT A MAXIMUM 500' SPACING THROUGHOUT THE WORK ZONE.

S8: WHEN SPEED LIMIT SIGNS CANNOT BE PLACED SIDE BY SIDE AS SHOWN, PLACE THEM "D" DISTANCE APART.

S9: STOP SIGNS NOT REQUIRED IF SIGNALS ARE ON 4-WAY FLASHING RED. STOP AHEAD SIGNS ARE NOT REQUIRED IF THERE IS ADEQUATE VISIBILITY OF THE STOP SIGN OR IF SIGNALS ARE BEING USED TO CONTROL TRAFFIC.

S10: PLACE REDUCED SPEED ZONE AHEAD SIGN (W3-5b) HERE WHEN USING A SPEED REDUCTION IN THIS DIRECTION.

S11: THE NUMBER OF W1-6 SHIFT SIGNS TO PLACE FOR A SHIFT IS AS FOLLOWS:
SHIFTS 4FT OR LESS, PLACE ONE W1-6(R)(L)
SHIFTS 5FT TO 12FT, PLACE TWO W1-6(R)(L)
SHIFTS MORE THAN 12FT, PLACE THREE OR MORE W1-6(R)(L) SIGNS DEPENDING UPON LENGTH OF SHIFT AND AS PER THE ENGINEER.

S12: PLACE R2-1 SIGNS AS DETAILED IN NOTE S5 WHEN THERE IS A SPEED REDUCTION IN THIS DIRECTION

TRAFFIC REGULATOR NOTES

TR1: TRAFFIC REGULATORS MUST FOLLOW ALL THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS, THE CURRENT VERSIONS OF THE TRAFFIC REGULATOR'S INSTRUCTION MANUAL AND THE VIDEO "HOW TO SAFELY REGULATE TRAFFIC IN MICHIGAN". THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS IS DETERMINED BY THE ROADWAY ADT, GEOMETRICS, AND AS DIRECTED BY THE ENGINEER.

TR2: PROVIDE APPROPRIATE BALLOON LIGHTING TO SUFFICIENTLY ILLUMINATE TRAFFIC REGULATOR'S STATIONS WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS.

TR3: PROVIDE EITHER A STOP/SLOW AFAD OR A RED/YELLOW LENS AFAD, MEETING THE REQUIREMENTS OF THE MMUTCD

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

TCD1: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD NOT EXCEED 1.0 TIMES THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 50 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TAPERS ARE NOT TO EXCEED 25 FEET AT NIGHT.

TCD2: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TANGENT SHOULD NOT EXCEED TWICE THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 100 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TANGENTS ARE NOT TO EXCEED 50 FEET AT NIGHT.

TCD3: TYPE III BARRICADES MUST BE LIGHTED FOR OVERNIGHT CLOSURES.

TCD4: WHEN THE HAUL ROAD IS NOT IN USE, PLACE LIGHTED TYPE III BARRICADES WITH "ROAD CLOSED" EXTENDING COMPLETELY ACROSS THE HAUL ROAD.

TCD5: USE OBJECT MARKER SIGNS IN LIEU OF THE TYPE B HIGH INTENSITY LIGHT SHOWN IN THE STANDARD PLAN FOR TEMPORARY CONCRETE BARRIER (R-53, AND R-126) WHEN USED WITH A TEMPORARY SIGNAL SYSTEM. THE OBJECT MARKERS MUST BE A MINIMUM OF 12 INCHES IN WIDTH AND 36 INCHES IN HEIGHT AND HAVE ORANGE AND WHITE RETROREFLECTIVE SHEETING. THE RETROREFLECTIVE SHEETING MUST HAVE ALTERNATING DIAGONAL ORANGE AND WHITE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION VEHICULAR TRAFFIC IS TO PASS.

TCD6: PLACE LIGHTED ARROW PANELS AS CLOSE TO THE BEGINNING OF TAPERS AS PRACTICAL, BUT NOT IN A MANNER THAT WILL OBSCURE OR CONFUSE APPROACHING MOTORISTS WHEN PHYSICAL LIMITATIONS RESTRICT PLACEMENT. IN CURBED SECTIONS, IF ARROW BOARD CANNOT BE PLACED BEHIND CURB, PLACE ARROW BOARD IN THE CLOSED LANE AS CLOSE TO THE BEGINNING OF TAPER AS POSSIBLE.

TCD7: ADDITIONAL TYPE III BARRICADES MAY BE REQUIRED TO COMPLETELY CLOSE OFF ROAD FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.

TCD8: WHERE THE SHIFTED SECTION IS SHORTER THAN 600 FEET, A DOUBLE REVERSE CURVE SIGN (W24-1) CAN BE USED INSTEAD OF THE FIRST REVERSE CURVE SIGN, AND THE SECOND REVERSE CURVE SIGN CAN BE OMITTED.

TCD9: RUMBLE STRIPS ARE TO BE PLACED AS SPECIFIED IN THE CONTRACT. IF NOT SPECIFIED IN THE CONTRACT, PLACE RUMBLE STRIPS AS SHOWN, AND IN ACCORDANCE WITH THE RUMBLE STRIP MANUFACTURER'S RECOMMENDATIONS. AN ARRAY OF RUMBLE STRIPS CONTAINS THREE RUMBLE STRIPS. PLACE THE RUMBLE STRIPS IN THE ARRAY AT A CONSISTENT DISTANCE, BETWEEN 10' AND 20' APART.

TCD10: SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, PORTABLE CHANGEABLE MESSAGE SIGN GUIDELINES FOR RECCOMENDED AND CORRECT PCMS MESSAGING. STAGGER PCMS THAT ARE ON OPPOSING SIDES OF THE ROAD 1000 FEET FROM EACH OTHER.

RAMP NOTES

RMP1: WHEN CONDITIONS ALLOW, E5-1 SIGNS MUST BE REMOVED OR COVERED AND CHANELIZING DEVICES MUST BE POSITIONED TO ENABLE RAMP TRAFFIC TO DIVERGE IN A FREE MANNER

RMP2: STOP AND YIELD CONDITIONS SHOULD BE AVOIDED WHENEVER PRACTICAL. WHEN CONDITIONS WARRANT, R1-1 SIGNS MAY BE USED IN PLACE OF R1-2 SIGNS. WHEN R-1 SIGNS ARE USED, W3-1 SIGNS MUST BE USED IN PLACE OF W3-2 SIGNS. CONSIDERATION SHOULD BE GIVEN TO CLOSING THE RAMP TO COMPLETE WORK TO ALLOW AN ADEQUATE MERGE DISTANCE. WORK SHOULD BE EXPEDITED TO AVOID THE STOP AND/OR YIELD CONDITIONS.

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

SIGNAL NOTES

SIG1: EXISTING SIGNAL MUST BE EITHER 4-WAY FLASHING RED, BAGGED, OR TURNED OFF.

SIG2: SIGNAL IS IN OPERATION.

SIG3: DELINEATE THE WORK ZONE AREA WITH 28 INCH CONES FOR DAYTIME WORK, OR 42 INCH CHANNELIZING DEVICES FOR NIGHTTIME WORK.

SIG4: THE CONTRACTOR MUST HAVE A DESIGNATED SPOTTER IF THE AERIAL BUCKET TRUCK IS LOCATED OVER ACTIVE TRAVEL LANES.

SIG5: THE LOWEST POINT OF THE BUCKET MAY NOT TRAVEL BELOW 14 FOOT VERTICAL CLEARANCE. THE CONTRACTOR MUST UTILIZE AN ALTERNATE SET UP, OR PLACE THE INTERSECTION IN A 4 WAY STOP IF THE 14 FOOT VERTICAL CLEARANCE IS COMPROMIZED. USE TRAFFIC REGULATORS TO CONTROL TRAFFIC THROUGH THE INTERSECTION WHEN TRAFFIC IS PLACED IN A 4 WAY STOP.

SIG6: DELINEATE THE TRUCK WITH CHANNELIZING DEVICES. THE POSITION OF THE TRUCK MAY BE MOVED TO FACILITATE WORK.

MAINTENANCE AND SURVEYING NOTES

MS1: WHENEVER STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE SHADOW VEHICLES SHOULD MAINTAIN THE RECOMENDED DISTANCE FROM THE WORK AREA AND PROCEEED AT THE SAME SPEED. THE SHADOW VEHICLE SHOULD SLOW DOWN AND TRAVEL AT A FARTHER DISTANCE TO PROVIDE ADEQUATE SIGHT DISTANCE IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES.

MS2: WORKERS OUTSIDE OF VEHICLES SHOULD WORK WITHIN 150' OF WORK VEHICLES WITH AN ACTIVATED BEACON, BETWEEN THE "BEGIN WORK CONVOY" SIGN AND THE "END WORK CONVOY" SIGN, OR BETWEEN THE "WORK ZONE BEGINS" AND "END ROAD WORK" SIGN.

MS3: WORK OR SHADOW VEHICLES WITH OR WITHOUT A TMA MAY BE USED TO SEPARATE THE WORK SPACE FROM TRAFFIC. IF USED, THE VEHICLES SHOULD BE PARKED ACCORDING TO THE ROLL AHEAD DISTANCE TABLES.

MS4: WORK AND SHADOW VEHICLES SHALL BE APPROPRIATELY EQUIPPED WITH AN ACTIVATED AMBER BEACON.

MS5: WHEN WORKERS ARE OUTSIDE THEIR VEHICLES IN AN EXISTING LANE WHILE A MOBILE OPERATION IS OCCURRING DURING THE NIGHTTIME HOURS, CHANNELIZING DEVICES TO DELINEATE OPEN OR CLOSED LANES AT 50 FT SPACING MUST BE USED. AN EXAMPLE OF AN OPERATION (BUT NOT LIMITED TO) IS THE LAYOUT OF CONCRETE PATCHES.

MS6: W21-6 AND W20-1 SIGNS MAY BE SUBSTITUTED AS DETERMINED BY THE TYPE OF WORK TAKING PLACE AS PER THE ENGINEER.

SIGN NUMBER KEY

E5-1f
48" x 48"
60" x 48"

E5-2
48" x 36"

E5-2a
48" x 36"

E5-3
48" x 36"

E13-1P
VAR x 24"

E13-1aP
36" x 24"

G20-1
60" x 24"

G20-2
48" x 24"

G20-4
36" x 18"


I-6a
18" x 18"
24" x 24"
30" x 30"

M1-1
18" x 18"
24" x 24"
36" x 36"
48" x 48"

M1-1
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"

M1-2
18" x 18"
24" x 24"
36" x 36"
48" x 48"

M1-2
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"

M1-3
18" x 18"
24" x 24"
36" x 36"
48" x 48"

M1-3
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"

M1-4
18" x 18"
24" x 24"
36" x 36"
48" x 48"

M1-4
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"

M1-5
18" x 18"
24" x 24"
30" x 30"
36" x 36"

M1-5a
18" x 18"
24" x 24"

M1-6
18" x 18"
24" x 24"
36" X 36"

M1-6
22.5" x 18"
30" x 24"
45" x 36"

M3-1
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M3-2
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M3-3
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M3-4
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-1
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-1a
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-2
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-3
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-4
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-5
12" X 6"
18" x 9"
24" X 12"
30" X 15"
36" X 18"

M4-6
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-7
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-7a
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"

M4-8
12" x 6"
18" x 9"
24" x 12"
30" x 15"

M4-8a
24" x 18"

M4-8b
24" x 12"

M4-9L
30" x 24"
48" x 36"
60" x 48"

M4-9R
30" x 24"
48" x 36"
60" x 48"

M4-9j
30" x 24"
48" x 36"
60" x 48"

M4-9kL
30" x 24"
48" x 36"
60" x 48"

M4-9kR
30" x 30"
48" x 42"
60" x 54"

M4-9mL
30" x 30"
48" x 42"
60" x 54"

M4-9mR
30" x 30"
48" x 42"
60" x 54"

M4-9dL
12" x 18"

M4-9dR
12" x 18"

M4-9e
12" x 18"

M4-9f
12" x 18"

M4-9gL
12" x 18"

M4-9gR
12" x 18"

M4-9h
12" x 24"

M4-9i
12" x 18"

M4-10L
48" x 18"

M4-10R
48" x 18"

M4-11a
12" X 6"
18" x 9"
24" X 12"
30" X 15"
36" X 18"

M5-1L
12" x 9"
21" x 15"
30" x 21"

M5-1R
12" x 9"
21" x 15"
30" x 21"

M5-2L
12" x 9"
21" x 15"
30" x 21"

M5-2R
12" x 9"
21" x 15"
30" x 21"

M5-3
12" x 9"
21" x 15"
30" x 21"

M6-1L
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-1R
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-2L
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-2R
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-3
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-4
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-5
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-6L
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-6R
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-7L
12" x 9"
18" x 12"
21" x 15"
30" x 21"

M6-7R
12" x 9"
18" x 12"
21" x 15"
30" x 21"

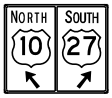
SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	MAINTAINING TRAFFIC TYPICAL	STANDARD HIGHWAY SIGNS	DATE: 10/17/24
NO SCALE	CODE: 103-GEN-SIGN		SHEET: 1 OF 5

SIGN NUMBER KEY

M8-1gL
36" x 66"

M8-1gR
36" x 66"

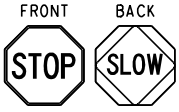


M8-2d
60" x 48"


OM-3L
12" x 36"
24" x 48"
36" x 72"


OM-3R
12" x 36"
24" x 48"
36" x 72"

R1-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



R1-1a
18" x 18"
24" x 24"

R1-2
18"
24"
30"
36"
48"
60"

R1-2aP
24" x 18"
36" x 30"
48" x 36"

R2-1
18" x 24"
24" x 30"
30" x 36"
36" x 48"
48" x 60"

R2-1a
48" x 60"


R3-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"


R3-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"

R3-3
24" x 24"
36" x 36"
48" x 48"


R3-4
24" x 24"
30" x 30"
36" x 36"
48" x 48"

R3-5L
30" x 36"
36" x 48"

R3-5R
30" x 36"
36" x 48"

R3-5a
30" x 36"
36" x 48"

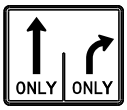

R3-6L
30" x 36"
42" x 48"


R3-6R
30" x 36"
42" x 48"

R3-7L
30" x 30"
36" x 36"

R3-7R
30" x 30"
36" x 36"

R3-8c
36" x 30"



R3-8d
36" x 30"

R4-1
12" x 18"
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R4-2
12" x 18"
18" x 24"
24" x 30"
36" x 48"
48" x 60"


R4-7
12" x 18"
18" x 24"
24" x 30"
36" x 48"
48" x 60"


R4-8
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R4-9
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R5-1
30" x 30"
36" x 36"
48" x 48"

R5-1a
30" x 18"
36" x 24"
42" x 30"

R5-18b
48" x 60"

R5-18c
48" x 48"

R5-18d
78" x 12"

R5-18e
72" x 12"

R5-18f
48" x 60"

R5-18g
30" x 42"

R5-18h
48" x 60"

R6-1L
36" x 12"
54" x 18"

R6-1R
36" x 12"
54" x 18"

R6-2L
12" x 16"
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R6-2R
12" x 16"
18" x 24"
24" x 30"
36" x 48"
48" x 60"

R8-3
12" x 12"
18" x 18"
24" x 24"
36" x 36"
48" x 48"

R9-8
36" x 18"

R9-9
24" x 12"
30" x 18"

R9-10
24" x 12"
48" x 24"

R9-11L
24" x 12"
48" x 36"

R9-11R
24" x 12"
48" x 36"

R9-11aL
24" x 12"
48" x 24"

R9-11aR
24" x 12"
48" x 24"

R10-6b
36" x 54"

R11-2
48" x 30"

R11-2a
48" x 30"

R11-2b
48" x 30"

R11-2c
60" x 30"

R11-3a
60" x 30"

R11-3b
60" x 30"

R11-4
60" x 30"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	MAINTAINING TRAFFIC TYPICAL	STANDARD HIGHWAY SIGNS	DATE: 10/17/24
NO SCALE	CODE: 103-GEN-SIGN		SHEET: 2 OF 5

SIGN NUMBER KEY

W1-1L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-1R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-2L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-2R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-2bL
36" x 36"
48" x 48"

W1-2bR
36" x 36"
48" x 48"

W1-3L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-3R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-4L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-4R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-4bL
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-4bR
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-4cL
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W1-4cR
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W24-1L
30" x 30"
36" x 36"
48" x 48"

W24-1cP
24" x 18"
30" x 24"

W24-1R
30" x 30"
36" x 36"
48" x 48"

W24-1aL
30" x 30"
36" x 36"
48" x 48"

W24-1aR
30" x 30"
36" x 36"
48" x 48"

W24-1bL
30" x 30"
36" x 36"
48" x 48"

W24-1bR
30" x 30"
36" x 36"
48" x 48"

W1-6L
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"

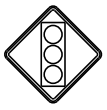
W1-6R
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"

W1-8L
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"

W1-8R
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"

W3-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W3-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W3-3
18" x 18"
30" x 30"
36" x 36"
48" x 48"

W3-4
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W3-4b
30" x 30"
36" x 36"
48" x 48"

W3-5
36" x 36"
48" x 48"

W3-5a
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W3-5b
30" x 30"
36" x 36"
48" x 48"

W4-1L
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W4-1R
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W4-2L
30" x 30"
36" x 36"
48" x 48"

W4-2R
30" x 30"
36" x 36"
48" x 48"

W4-3L
30" x 30"
36" x 36"
48" x 48"

W4-3R
30" x 30"
36" x 36"
48" x 48"

W4-5L
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W4-5R
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W4-5P
18" x 24"
24" x 30"

W4-6L
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W4-6R
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W4-7L
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W4-7R
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W5-1
30" x 30"
36" x 36"
48" x 48"

W5-2
18" x 18"
30" x 30"
36" x 36"
48" x 48"

W5-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W5-4
30" x 30"
36" x 36"
48" x 48"

W6-1
30" x 30"
36" x 36"
48" x 48"

W6-2
30" x 30"
36" x 36"
48" x 48"

W6-3
30" x 30"
36" x 36"
48" x 48"

W6-4
12" x 18"

W7-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W7-1a
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	MAINTAINING TRAFFIC TYPICAL	STANDARD HIGHWAY SIGNS	DATE: 10/17/24
NO SCALE	CODE: 103-GEN-SIGN		SHEET: 3 OF 5

SIGN NUMBER KEY

W8-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-3
18" x 18"
30" x 30"
36" x 36"
48" x 48"

W8-4
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-5
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-5P
24" x 18"
30" x 24"
36" x 30"

W8-7
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-8
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-9
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-11
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-12
30" x 30"
36" x 36"
48" x 48"

W8-14
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-15
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-15P
24" x 18"
30" x 24"
36" x 30"

W8-17L
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-17R
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-17P
24" x 18"
30" x 24"
36" x 30"

W8-18
24" x 24"
36" x 36"
48" x 48"

W8-23
24" x 24"
36" x 36"
48" x 48"

W8-24
30" x 30"
36" x 36"
48" x 48"

W8-25
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W8-26
36" x 36"
48" x 48"

W9-1L
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W9-1R
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W9-2L
30" x 30"
36" x 36"
48" x 48"

W9-2R
30" x 30"
36" x 36"
48" x 48"

W9-3C
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W9-3L
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W9-3R
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W9-3a
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W9-3b
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W11-10
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W11-10a
24" x 24"
30" x 30"
36" x 36"
48" x 48"

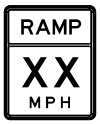
W11-24
36" x 36"
48" x 48"

W12-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W12-2
18" x 18"
30" x 30"
36" x 36"
48" x 48"

W13-1P
18" x 18"
24" x 24"
30" x 30"

W13-2
24" x 30"
36" x 48"
48" x 60"



W13-3
24" x 30"
36" x 48"
48" x 60"

W13-4P
24" x 24"
36" x 36"

W13-6
24" x 42"
36" x 60"
48" x 84"

W13-6a
24" x 42"
36" x 60"
48" x 84"

W13-7
24" x 42"
36" x 60"
48" x 84"

W13-7a
24" x 42"
36" x 60"
48" x 84"

W14-3
36" x 24"
40" x 30"
48" x 36"
64" x 48"

W16-2P
18" x 12"
24" x 18"
30" x 24"

W16-4aP
18" x 12"
24" x 18"
30" x 24"
36" x 30"

W16-12P
24" x 18"

W16-13P
24" x 18"
30" x 24"

W20-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W20-1a
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W20-1b
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W20-1c
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W20-1d
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W20-2
30" x 30"
36" x 36"
48" x 48"

W20-3
30" x 30"
36" x 36"
48" x 48"

W20-3a
30" x 30"
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	MAINTAINING TRAFFIC TYPICAL	STANDARD HIGHWAY SIGNS	DATE: 10/17/24
NO SCALE	CODE: 103-GEN-SIGN		SHEET: 4 OF 5

SIGN NUMBER KEY

W20-3b
30" x 30"
36" x 36"
48" x 48"

W20-4
30" x 30"
36" x 36"
48" x 48"

W20-4c
36" x 36"
48" x 48"

W20-5C
30" x 30"
36" x 36"
48" x 48"

W20-5L
30" x 30"
36" x 36"
48" x 48"

W20-5L1
30" x 30"
36" x 36"
48" x 48"

W20-5L2
30" x 30"
36" x 36"
48" x 48"

W20-5R
30" x 30"
36" x 36"
48" x 48"

W20-5R1
30" x 30"
36" x 36"
48" x 48"

W20-5R2
30" x 30"
36" x 36"
48" x 48"

W20-5aL2
30" x 30"
36" x 36"
48" x 48"

W20-5aL3
30" x 30"
36" x 36"
48" x 48"

W20-5aR2
30" x 30"
36" x 36"
48" x 48"

W20-5aR3
30" x 30"
36" x 36"
48" x 48"

W20-7a
30" x 30"
36" x 36"
48" x 48"

W20-8
24" x 18"

W20-9
54" x 48"

W20-10
48" x 24"
66" x 30"

W20-11
12" x 18"

W20-12P
VARIABLE x 12"

W20-13P
VARIABLE x 12"

W20-14L
36" x 36"
48" x 48"

W20-14R
36" x 36"
48" x 48"

W20-14aP
36" x 12"
48" x 12"

W20-14bP
36" x 12"
48" x 12"

W20-15
36" x 36"
48" x 48"

W20-16
36" x 36"
48" x 48"

W20-17
36" x 36"
48" x 48"

W20-18
48" x 54"

W20-18a
48" x 54"

W21-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W21-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W21-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W21-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W21-4
36" x 18"

W21-5
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W21-5aL
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W21-5aR
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W21-5bL
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W21-5bR
30" x 30"
36" x 36"
48" x 48"
60" x 60"

W21-6
24" x 24"
30" x 30"
36" x 36"
48" x 48"

W21-7
30" x 30"
36" x 36"
48" x 48"

W21-8
30" x 30"
36" x 36"
48" x 48"

W22-1
30" x 30"
36" x 36"
48" x 48"

W22-2
42" x 36"

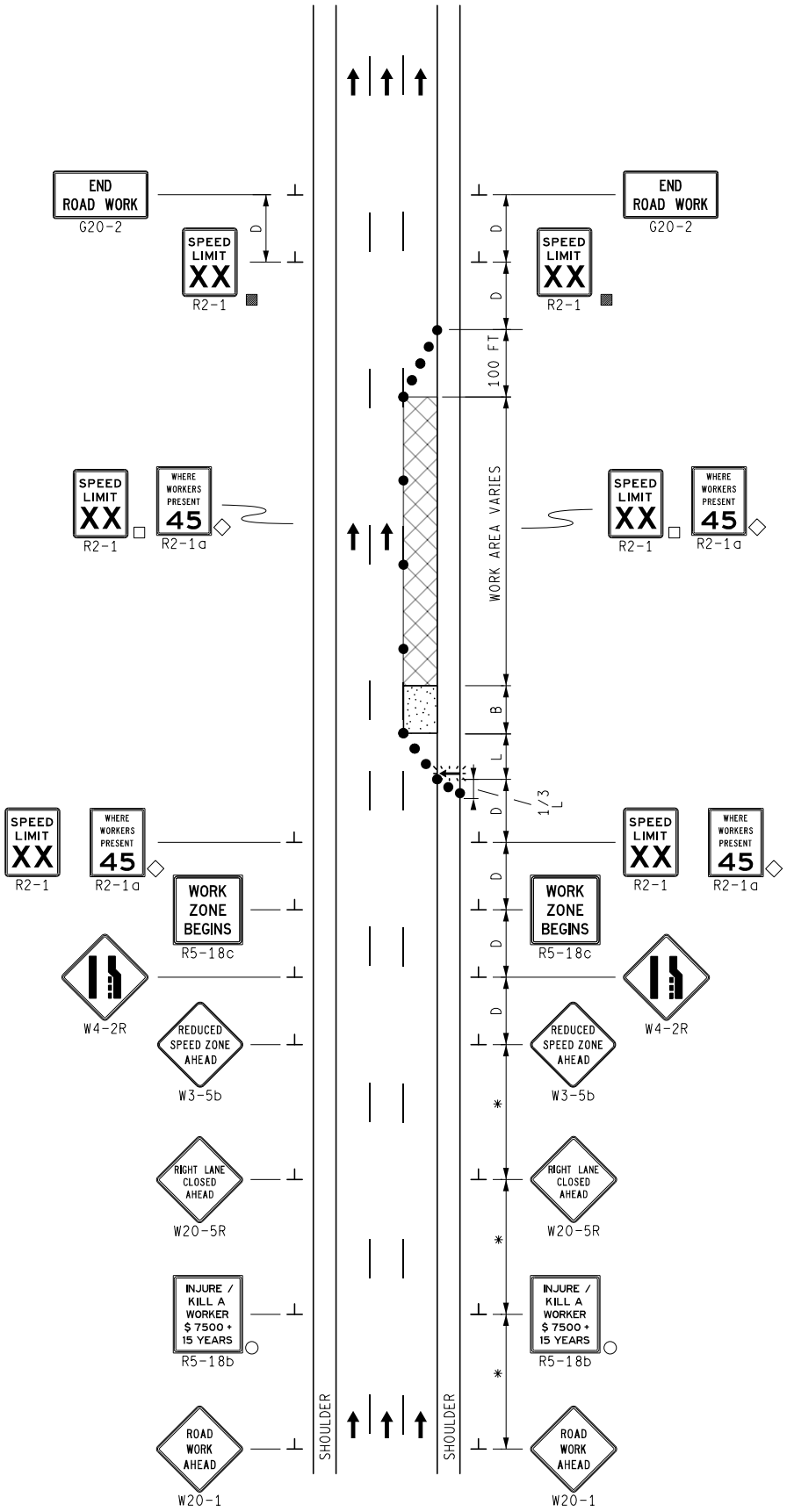
W22-3
36" x 30"
42" x 36"

W23-1
48" x 24"

W23-2
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

MDOT Michigan Department of Transportation	MAINTAINING TRAFFIC TYPICAL	STANDARD HIGHWAY SIGNS	DATE: 10/17/24
NO SCALE	CODE: 103-GEN-SIGN		SHEET: 5 OF 5



KEY

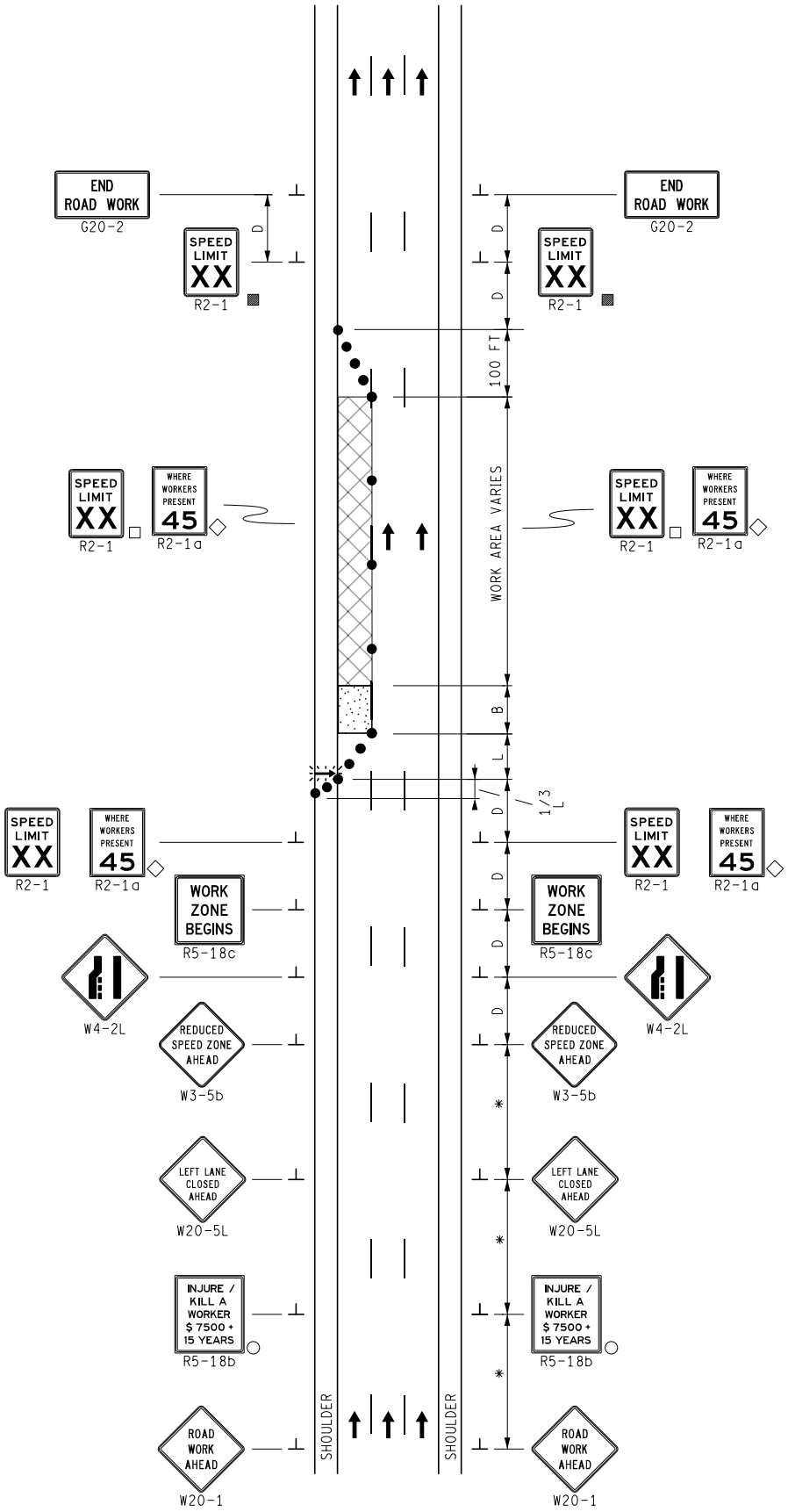
- • • • CHANNELIZING DEVICES
- LIGHTED ARROW PANEL
- ← TRAFFIC FLOW
- ▩ REFLECTS EXISTING SPEED LIMIT
- □ PLACE SIGN AS INDICATED IN NOTE S5
- ○ PLACE SIGN AS INDICATED IN NOTE S2
- ◇ R2-1a OPTIONAL
- ✶ PLACE SIGN AT A SPACING OF D ON DIVIDED ROADWAYS AND 2D ON FREEWAYS

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
SIGNING: S1, S2, S3, S5, S8
DEVICES: TCD1, TCD2, TCD6

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	SINGLE RIGHT LANE CLOSURE ON A FREEWAY OR DIVIDED ROADWAY	DATE: MAY 2021
FILE: 203-FW-1LC-(R).dgn		NO: 203-FW-1LC-(R)		SHEET: 1 OF 1



KEY

- • • • CHANNELIZING DEVICES
- LIGHTED ARROW PANEL
- ← TRAFFIC FLOW
- ▩ REFLECTS EXISTING SPEED LIMIT
- ○ PLACE SIGN AS INDICATED IN NOTE S2
- ◇ R2-1a OPTIONAL
- ✳ PLACE SIGN AT A SPACING OF D ON DIVIDED ROADWAYS AND 2D ON FREEWAYS

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
SIGNING: S1, S2, S3, S5, S8
DEVICES: TCD1, TCD2, TCD6

MDOT Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	SINGLE LEFT LANE CLOSURE ON A FREEWAY OR DIVIDED ROADWAY	DATE: MAY 2021
FILE: 204-FW-1LC-(L).dgn		NO: 204-FW-1LC-(L)		SHEET: 1 OF 1

SIGN MATERIAL SELECTION TABLE

	SIGN MATERIAL TYPE		
SIGN SIZE	TYPE I	TYPE II	TYPE III
≤ 36" X 36"		X	X
>36" X 36" ≤ 96" TO WIDE		X	
> 96" WIDE TO 144" WIDE	X	X	
> 144" WIDE	X		

TYPE I ALUMINUM EXTRUSION
TYPE II PLYWOOD
TYPE III ALUMINUM SHEET

ROUNDING OF CORNERS IS NOT REQUIRED FOR TYPE I OR II SIGNS.
VERTICAL JOINTS ARE NOT PERMITTED.
HORIZONTIAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE NOT PERMITTED.

POST SIZE REQUIREMENTS TABLE

	POST TYPE		
SIGN AREA (ft^2)	U-CHANNEL STEEL	SQUARE TUBULAR STEEL	WOOD
≤9	1 - 3 lb/ft*	1 - 2" 12 or 14 GA*	N/A
9 ≤ 20	2 - 3 lb/ft	2 - 2" 12 or 14 GA	1 - 4" X 6"*
> 20 ≤ 30	N/A	N/A	2 - 4" X 6"
> 30 ≤ 60	N/A	N/A	2 - 6" X 8"
> 60 ≤ 84	N/A	N/A	3 - 6" X 8"

*SIGNS 4 FEET AND GREATER IN WIDTH REQUIRE 2 POSTS.
SIGNS GREATER THAN 8 FEET IN WIDTH REQUIRE 2 OR 3 WOOD POSTS DEPENDING ON AREA OF SIGN.
A MAXIMUM OF 2 POSTS WITHIN A 7' PATH IS PERMITTED.

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

DRAWN BY: CON/ECH

CHECKED BY: AUG

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

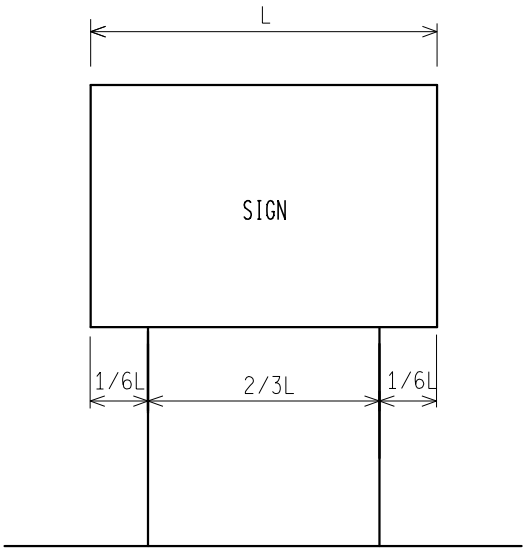
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

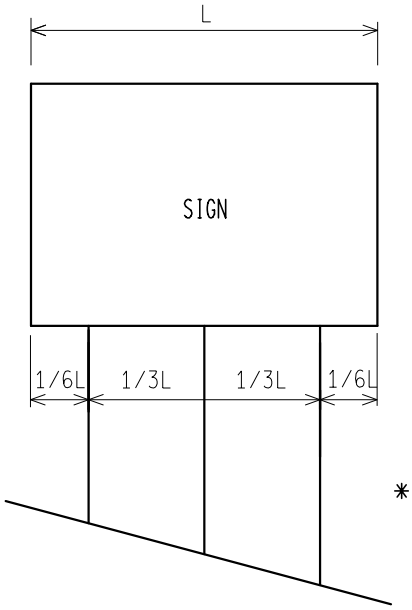
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS

F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 1 OF 11

2 POST SIGN SUPPORT SPACING

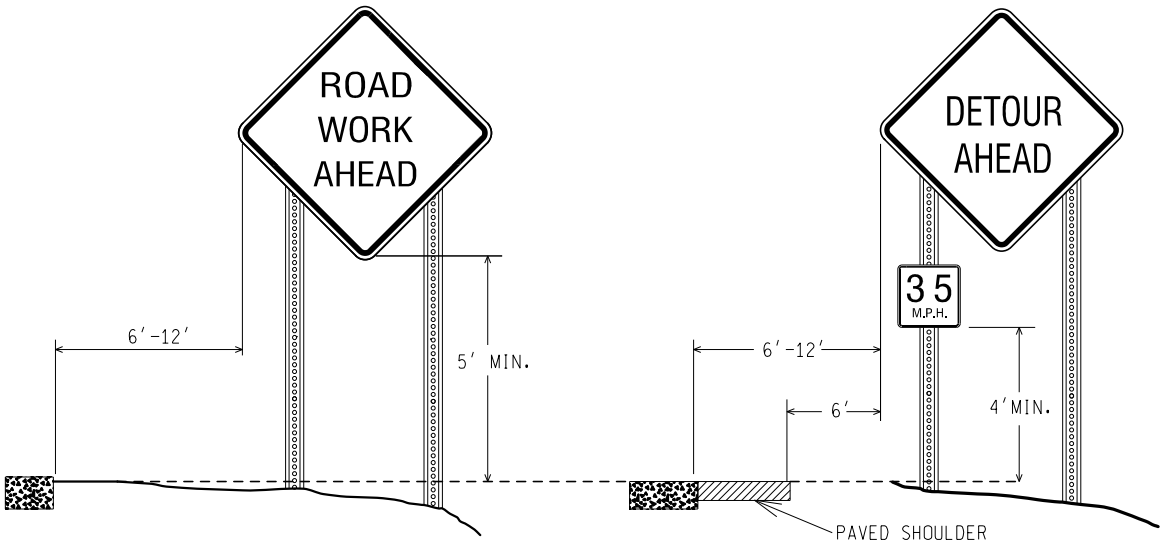


3 POST SIGN SUPPORT SPACING



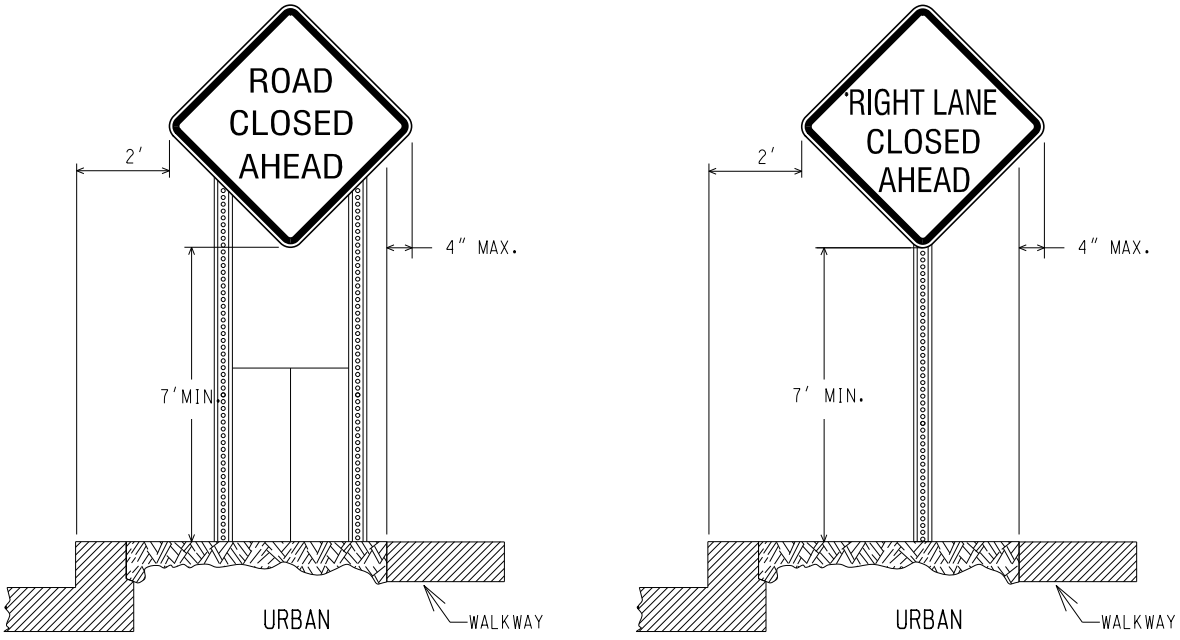
* FOR ALL 11' AND 12' LONG SIGNS ON 3 WOOD SUPPORTS, SPREAD POSTS SO AS TO HAVE A 8' MIN. TO 9' MAX. DISTANCE BETWEEN OUTSIDE POSTS.

NOT TO SCALE



RURAL

RURAL WITH ADVISORY
SPEED PLATE



(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

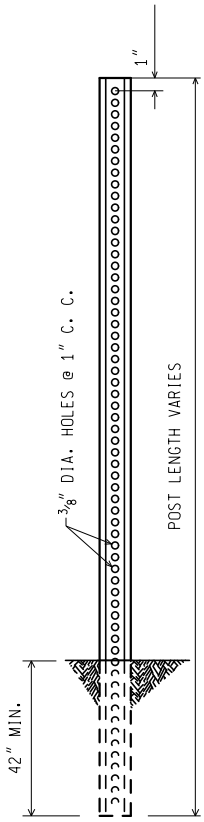
(CURBED AREAS OR WHERE
WALKWAYS ARE PRESENT)

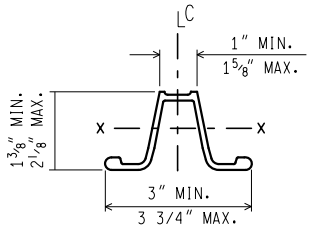
BOTTOM HEIGHT AND OFFSET

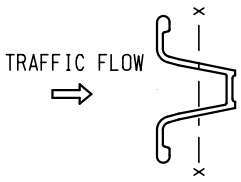
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 3 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.







WEIGHT = 3 lbs/ft
SECT. MOD. X.-X. = 0.31 CUBIC INCHES MIN.

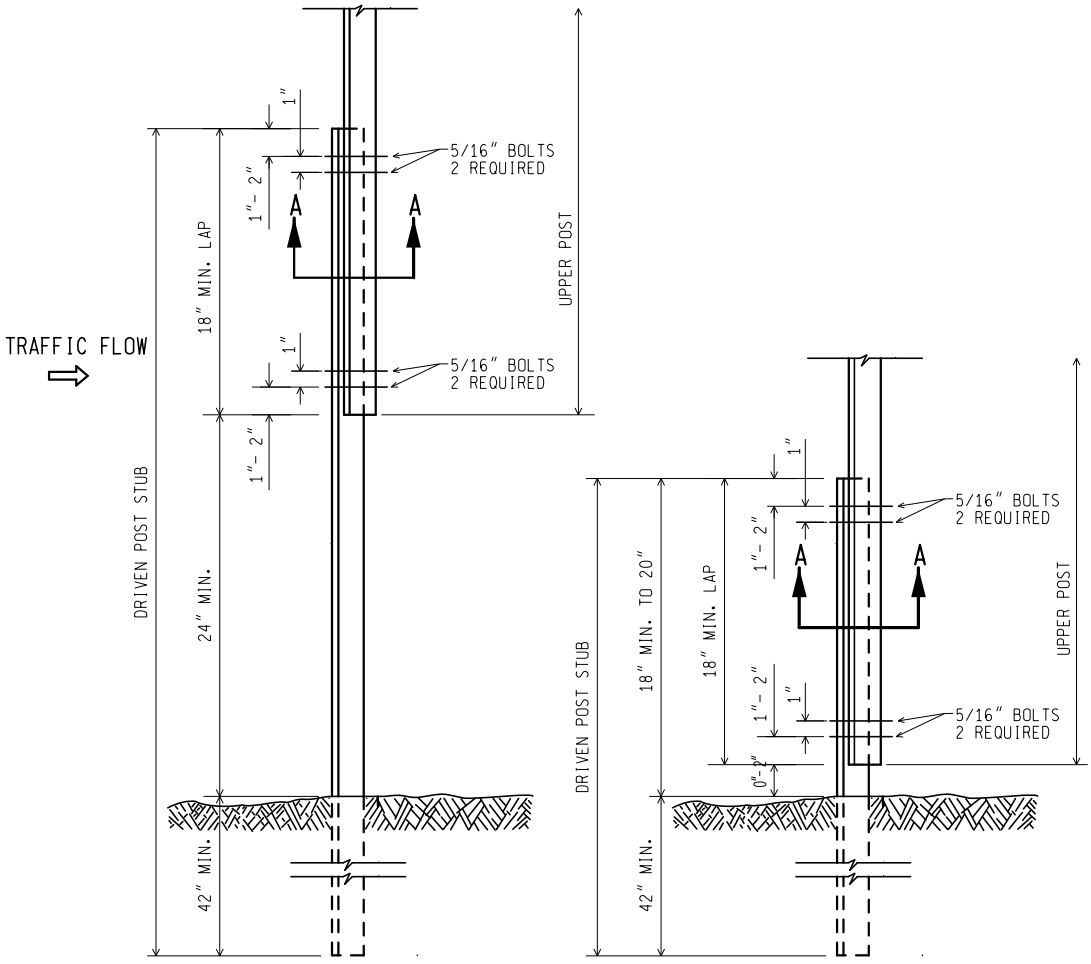
3 lb. U - CHANNEL STEEL POST
(NO SPLICE)

MOUNT SIGN ON OPEN FACE OF
U - CHANNEL STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 4 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



UPPER SPLICE

LOWER SPLICE

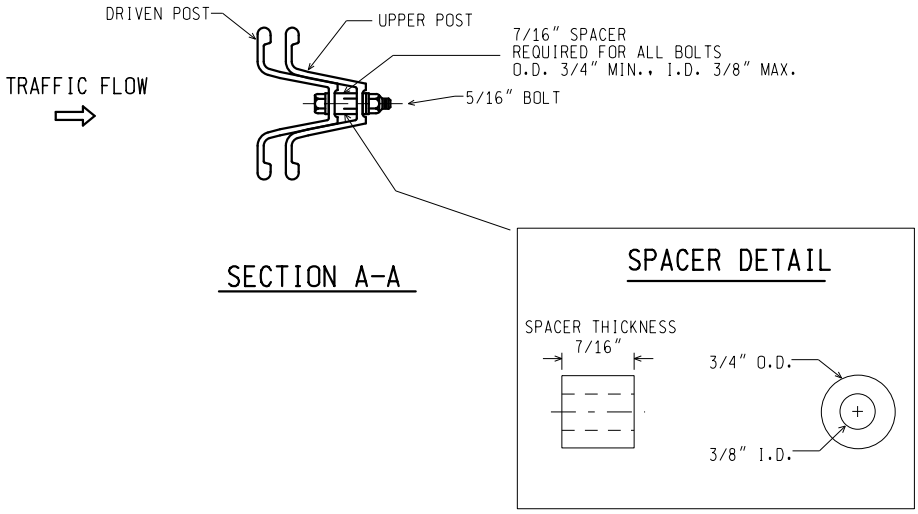
3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)

MOUNT SIGN ON OPEN FACE OF
UPPER U - CHANNEL STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 5 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



NOTES:

1. THE SPACER THICKNESS SHALL BE 1/16" LESS THAN THE GAP BETWEEN THE POST WHEN POSITIONED IN THE UNBOLTED CONFIGURATION.

2. THE EXTERIOR BOLT (CLOSEST TO LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN A PREPUNCHED HOLE 1" to 2" FROM THE END OF THE LAP.

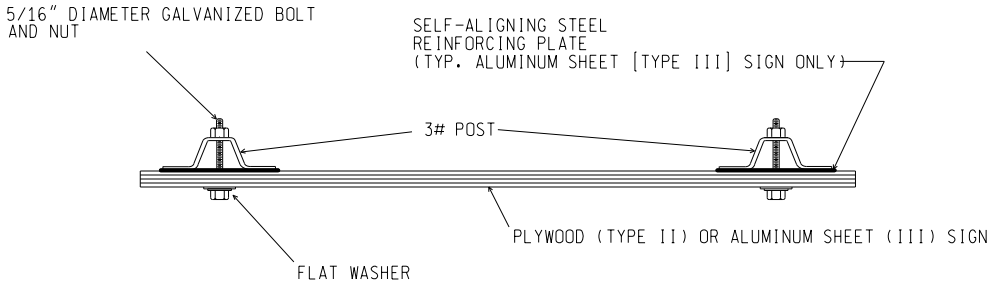
3. THE INTERIOR BOLT (FARTHEST FROM LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN THE NEXT PREPUNCHED HOLE.

4. THE DRIVEN POST SHALL ALWAYS BE MOUNTED IN FRONT OF THE UPPER POST WITH RESPECT TO THE ADJACENT ONCOMING TRAFFIC, REGARDLESS OF THE DIRECTION THE SIGN IS FACING.

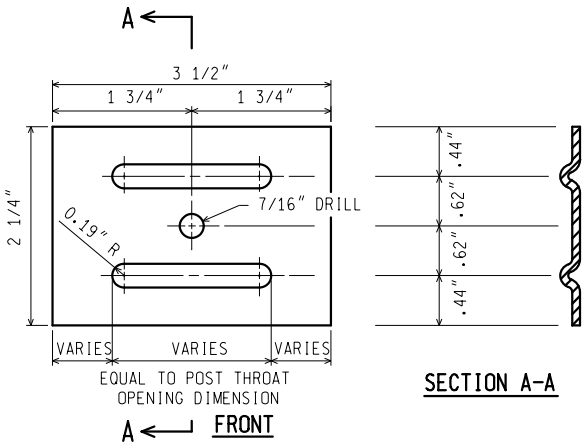
5. THE SPLICE LAP SHALL BE FASTENED BY FOUR-5/16" DIA. GALVANIZED A449 BOLTS (SAE J429 GRADE 5) OR GALVANIZED A325 BOLTS.

3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)

NOT TO SCALE



SIGN TO 3 lb. POST CONNECTION



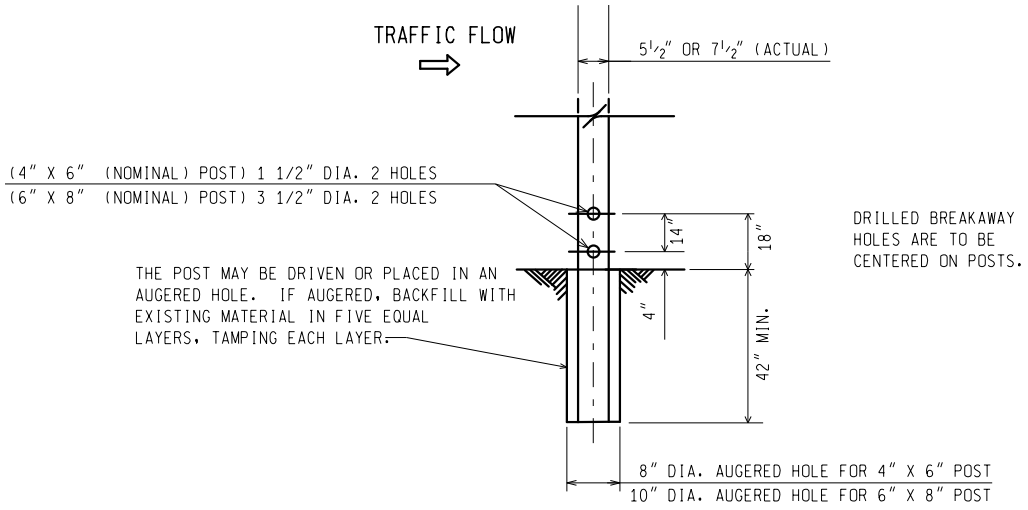
NOTES: (FOR STEEL SIGN REINF' PLATE)

1. MATERIAL: 12 GAUGE CARBON STEEL.
2. TOLERANCE ON ALL DIMENSIONS ± 0.0625"
3. FINISH-AFTER STAMPING AND PUNCHING, GALVANIZE ACCORDING TO CURRENT SPECIFICATIONS FOR ZINC (HOT GALVANIZE) COATINGS ON PRODUCTS FABRICATED FROM PLATES OR STRIPS

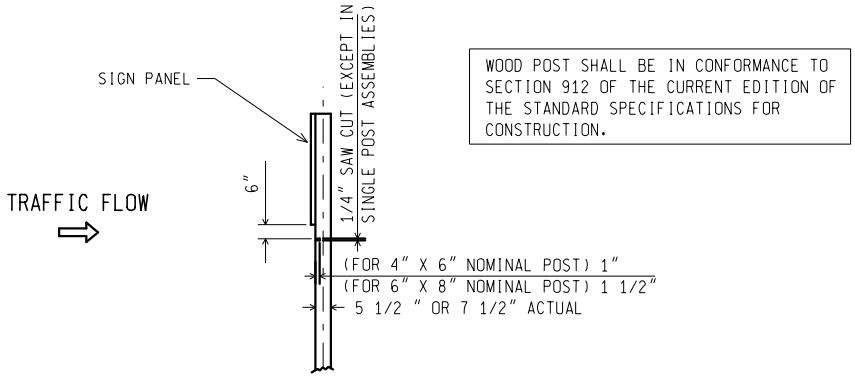
STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE



WOOD POST BREAKAWAY HOLES/ DIRECT EMBEDMENT DETAILS



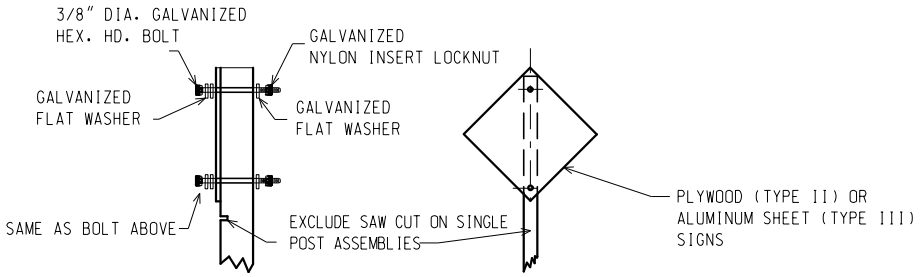
SAW CUT DETAIL (MULTIPLE POST INSTALLATIONS)

WOOD POST DETAILS

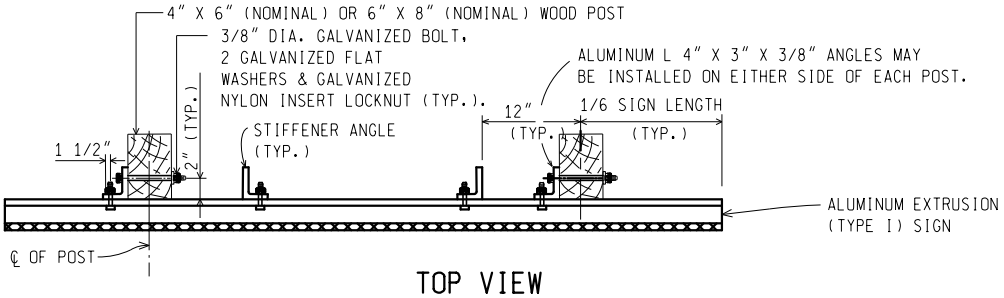
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 8 OF 11

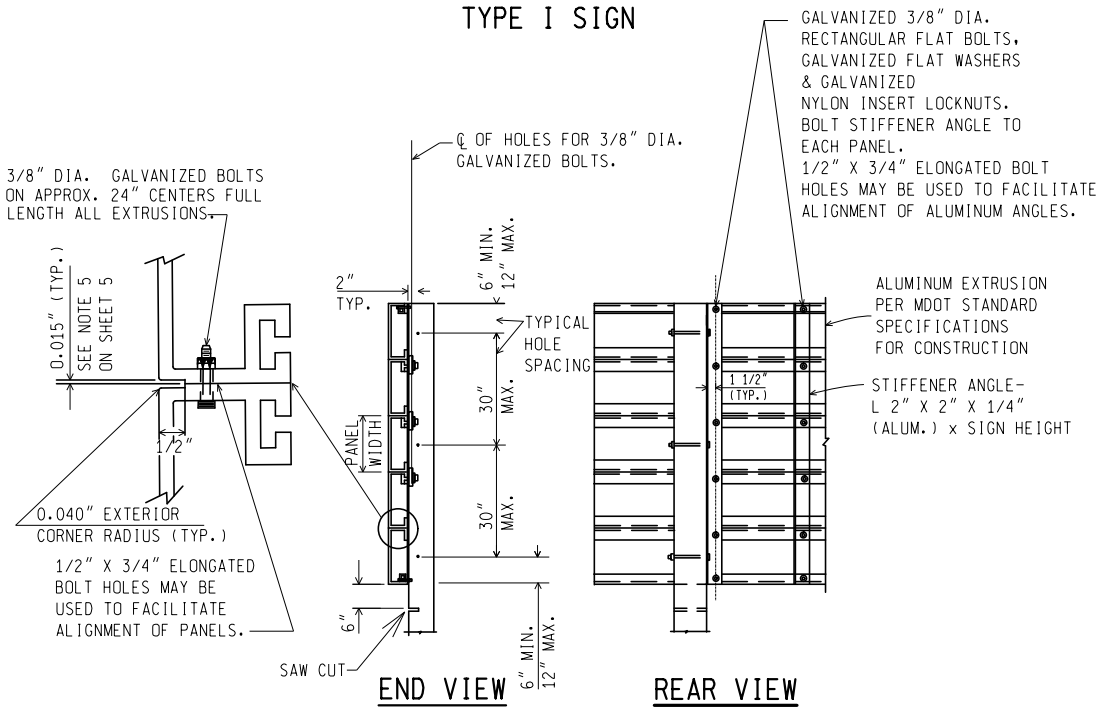
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



TYPE II AND TYPE III SIGNS



TOP VIEW
TYPE I SIGN



END VIEW
REAR VIEW

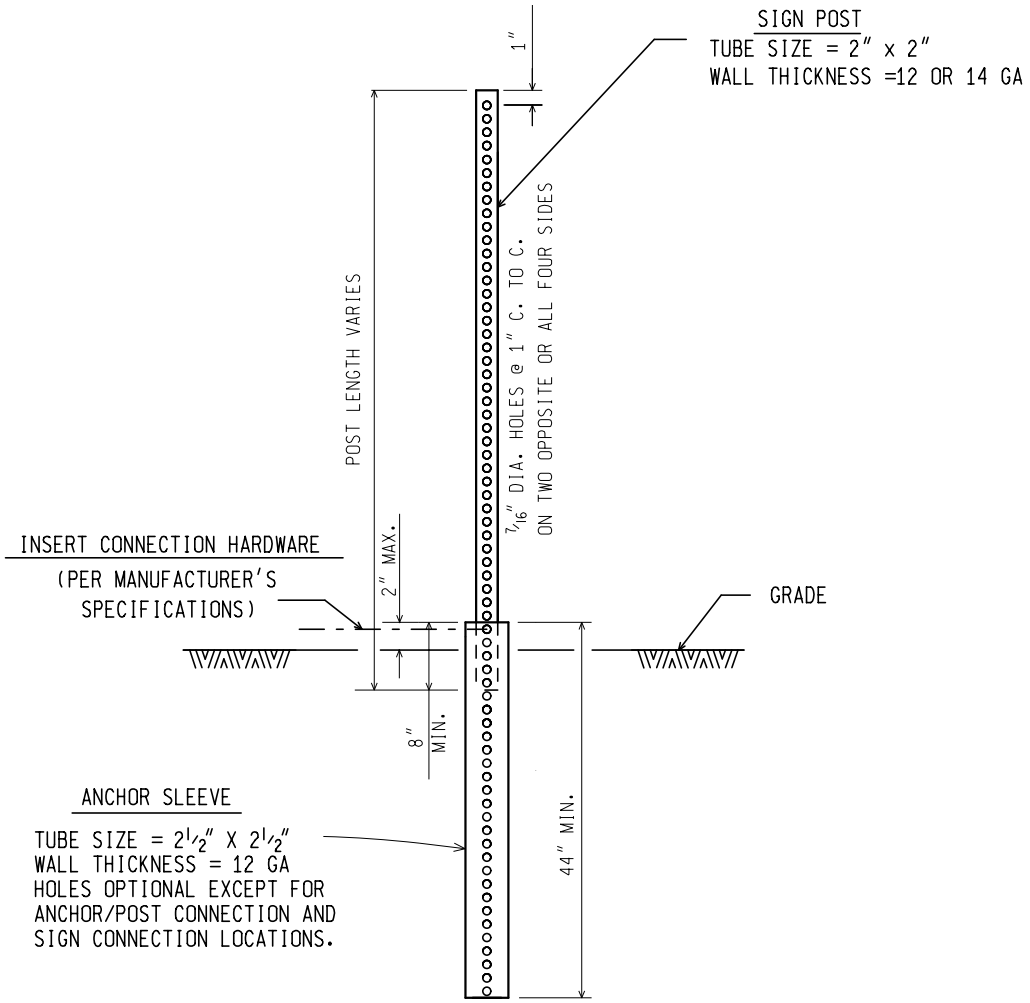
TYPE I SIGN - ERECTION DETAILS

WOOD POST CONNECTIONS

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 9 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



SQUARE TUBULAR STEEL POST

NOT TO SCALE

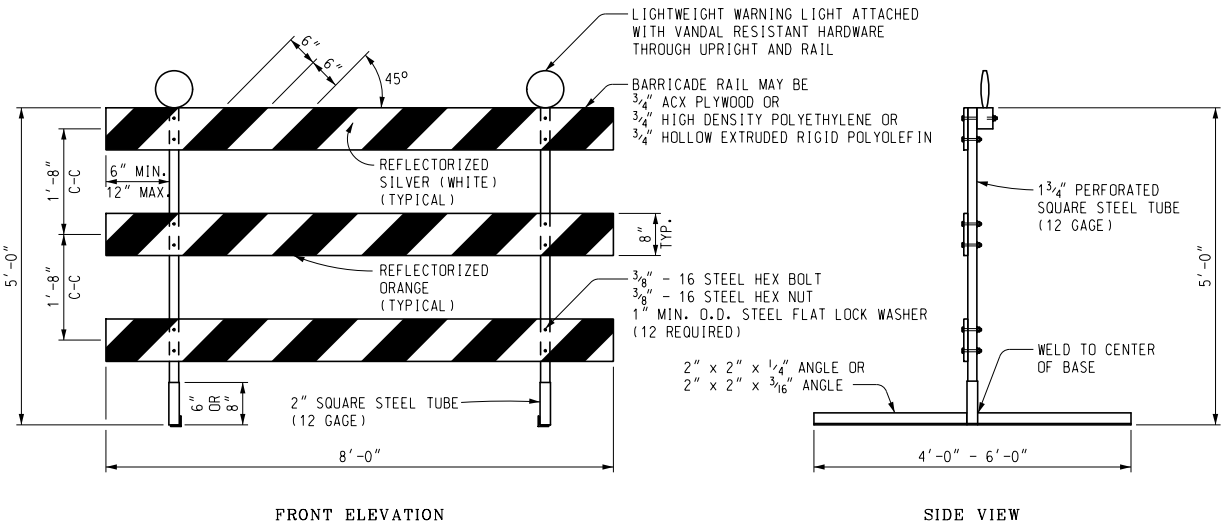
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 10 OF 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

GENERAL NOTES:

1. A MAXIMUM OF TWO POSTS WITHIN A 7 FOOT PATH IS PERMITTED.
2. ALL SIGN POSTS SHALL COMPLY WITH NCHRP 350.
3. ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 42".
4. BRACING OF POST IS NOT PERMITTED.
5. SIGN SHALL BE LEVEL, AND UPRIGHT FOR THE DURATION OF INSTALLATION.
6. ERECT POSTS SO THE SIGN FACE AND SUPPORTS DO NOT VARY FROM PLUMB BY MORE THAN 3/16" IN 3'. PROVIDE A CENTER-TO-CENTER DISTANCE BETWEEN POSTS WITHIN 2 PERCENT OF PLAN DISTANCE.
7. NO MORE THAN ONE SPLICE PER POST, AS SHOWN, WILL BE PERMITTED.
8. POST TYPES SHALL NOT BE MIXED WITHIN A SIGN SUPPORT INSTALLATION.
9. NO VERTICAL JOINTS ARE PERMITTED IN SIGN. NO HORIZONTIAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE PERMITTED IN SIGN
10. REMOVE SIGN POSTS AND/OR POST STUBS IN THEIR ENTIRETY WHEN NO LONGER REQUIRED.
11. ALL LABOR, MATERIALS, AND EQUIPMENT, INCLUDING TEMPORARY SUPPORTS REQUIRED TO INSTALL, MAINTAIN, RELOCATE, AND/OR REMOVE THE TEMPORARY SIGN, INCLUDING SUPPORTS, ARE CONSIDERED TO BE INCLUDED IN THE COST OF THE TEMPORARY SIGN.
12. SAW CUTS IN WOOD POSTS ARE TO BE PARALLEL TO THE BOTTOM OF THE SIGN.
13. POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE TOP OF SIGN.
14. TEMPORARY WOOD SUPPORTS DO NOT REQUIRE PRESERVATIVE TREATMENT.

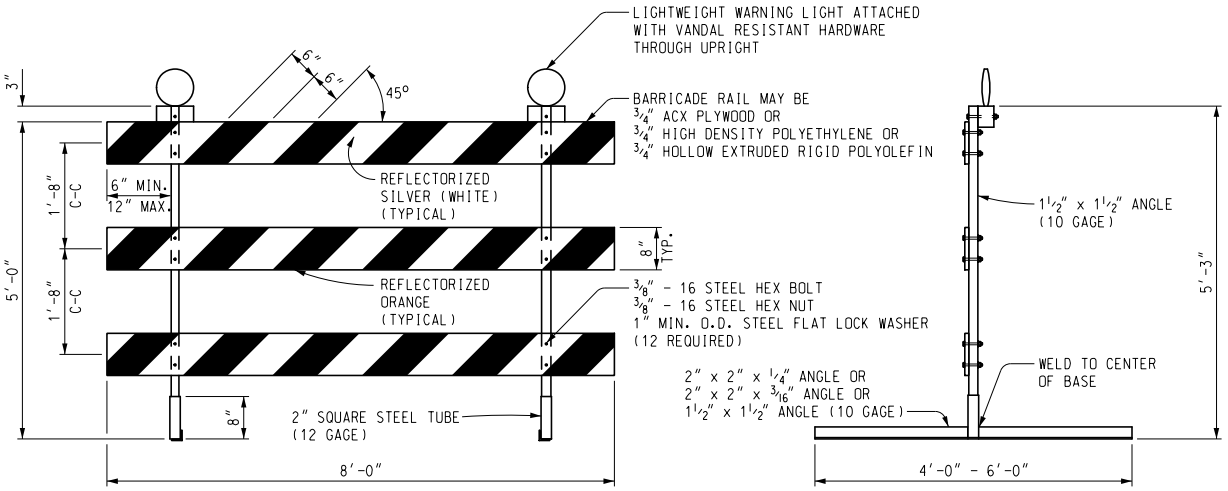
NOT TO SCALE



FRONT ELEVATION

SIDE VIEW

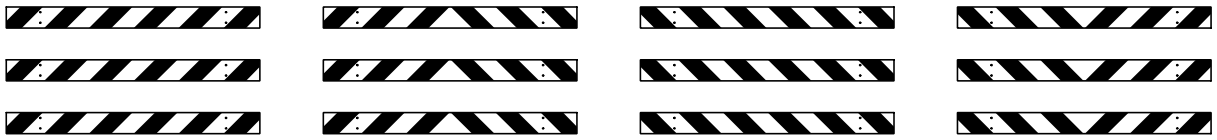
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION

SIDE VIEW

ANGLE IRON OPTION



LEFT DIRECTIONAL

BI-DIRECTIONAL

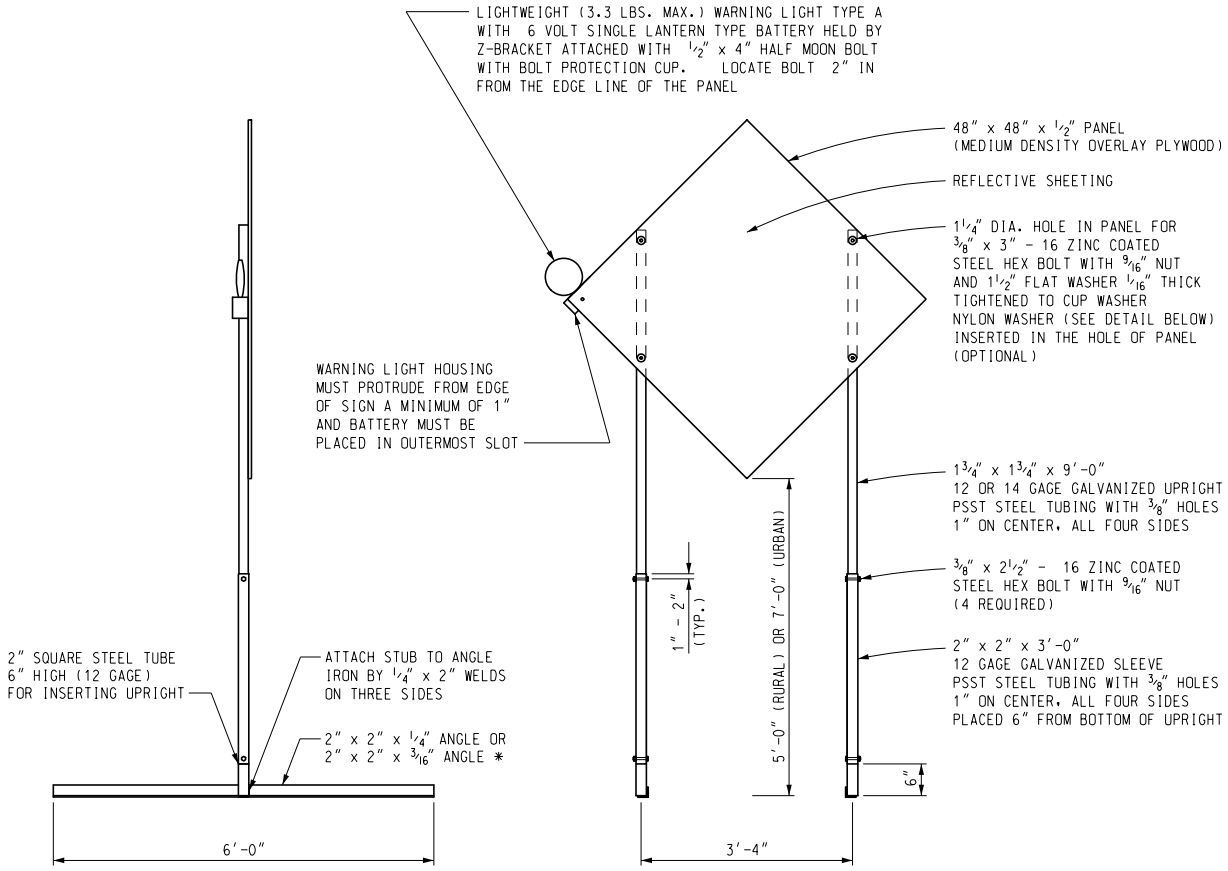
RIGHT DIRECTIONAL

CLOSURES

BARRICADE RAIL SHEETING OPTIONS
TYPE III BARRICADES

Other Type III Barricades meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

MDOT Michigan Department of Transportation PREPARED BY OPERATIONS FIELD SERVICES DRAWN BY: ECH CHECKED BY: MWB	DEPARTMENT DIRECTOR Paul C. Ajegba APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL FOR Temporary Traffic Control Devices	
		F.H.W.A. APPROVAL	6/16/22 PLAN DATE
		WZD-125-E	SHEET 1 OF 3



SIDE VIEW

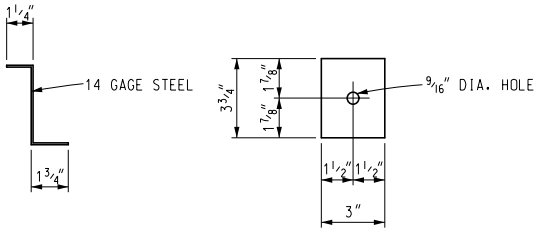
FRONT ELEVATION

TEMPORARY SIGN SUPPORT

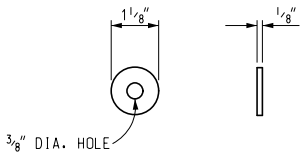
(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)

* SIGN STAND IS BALLASTED WITH FOUR OR MORE 35 LB SANDBAGS. A MINIMUM OF ONE ON EACH END.

UPRIGHTS SHALL NOT EXTEND ABOVE THE SIGN PANEL.



Z-BRACKET DETAIL



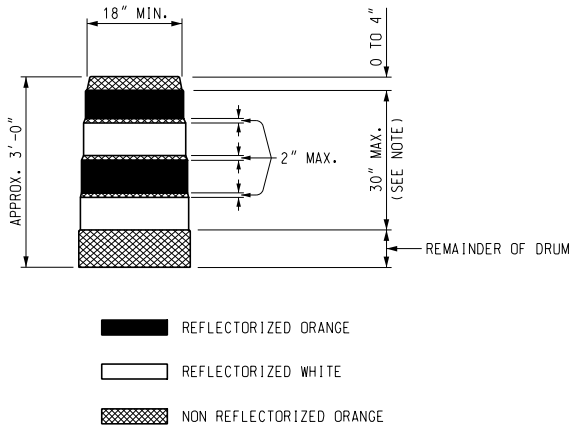
OPTIONAL NYLON WASHER

Other temporary sign supports meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL	SPECIAL DETAIL F.H.W.A. APPROVAL	6/16/22 PLAN DATE	WZD-125-E	SHEET 2 OF 3

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



NOTE:
DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES (2 ORANGE AND 2 WHITE) OF 6" UNIFORM WIDTH, ALTERNATING IN COLOR WITH THE TOPMOST REFLECTORIZED STRIPE BEING ORANGE. NON REFLECTORIZED SPACES BETWEEN THE HORIZONTAL REFLECTORIZED ORANGE AND WHITE STRIPES SHALL BE ORANGE IN COLOR AND EQUAL IN WIDTH.

PLASTIC DRUM

NOTES:

2" PERFORATED SQUARE STEEL TUBES MAY BE USED TO FABRICATE THE HORIZONTAL BASE OF THE TYPE III BARICADE.

WARNING LIGHTS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL OTHER PROVISIONS IN THE CONTRACT ON TYPE III BARRICADES.

SEE ROAD STANDARD PLANS R-113-SERIES FOR TEMPORARY CROSSOVERS FOR DIVIDED ROADWAY, AND R-126-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS FOR PLACEMENT OF TEMORARY CONCRETE BARRIER.

SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PRESSURE-SENSITIVE REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT COVER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFIC CONTROL DEVICE.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL	(SPECIAL DETAIL) F.H.W.A. APPROVAL	6/16/22 PLAN DATE	WZD-125-E	SHEET 3 OF 3

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

CAPITAL REGION AIRPORT AUTHORITY

SPECIAL PROVISION
FOR
ALTERNATE PAVEMENT BID CALCULATIONS FOR CONTRACT IDENTIFICATION 241594

a. Description. This project is an alternate pavement bid project where Contractors are required to submit a bid that includes the price for either the concrete pavement alternative or the HMA pavement alternative for Port Lansing Road (Categories 003 (HMA) and 005 (concrete)) and Capital City Boulevard (Categories 007 (concrete south section) and 009 (concrete north section)). In addition, separate bids shall be submitted for Wayfinding Signage and Branding (Category 011) and Landscaping (Category 013).

Submit bids electronically. Capital Region Airport Authority (CRAA) will receive the Contractors' bids and utilize the following procedures to determine the selected Contractor for this project.

Determination of the selected Contractor will be based on the following priorities:

1. Priority 1. Port Lansing Road and Capital City Boulevard are reconstructed with a concrete pavement section. With this priority, Contractors must bid Categories 001, 005, 007, and 009.

2. Priority 2. Port Lansing Road is reconstructed with an HMA pavement section while Capital City Boulevard is reconstructed with a concrete pavement section. With this priority, Contractors must bid Categories 001, 003, 007, and 009.

3. Priority 3. Wayfinding signing. This priority is optional and should be bid with all options. If the Contractor's bid is within the budget, this option will be included within the project Contractors should bid Category 011.

4. Priority 4. Landscaping improvements. This priority is optional and should be bid with all options. If the Contractor's bid is within the budget, this option will be included within the project Contractors should bid Category 013.

b. Proposal Submission, Award and Execution of the Contract. Submit a bid for items in Category 001 (Common Items); either Category 003 (Port Lansing - HMA Alternative) or Category 005 (Port Lansing - Concrete Alternative); Category 007 (Capital City Blvd – Concrete Reconstruction Alternative South Segment) and Category 009 (Capital City Blvd – Concrete Reconstruction Alternative North Segment); Category 011 (Wayfinding Signage and Branding); and Category 013 (Landscaping) as applicable to the contract.

1. Consideration of Bids. In addition to the requirements of subsection 102.13 of the Standard Specifications for Construction, the following applies to this contract. The project budget is undefined at the time of advertisement for bids. The selection of the successful bidder will be based upon the priorities listed above, in order of priority. The lowest bid within the highest priority that is within the project budget will be selected as the successful bidder.

Do not enter a bid amount (leave blank) for pay items in the Concrete Alternative when bidding on the HMA Alternative and vice versa.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
INSURANCE

CSD:LFS 1 of 1 APPR:CM:DBP:11-19-20

Add the following after the first paragraph in subsection 107.10.C.4, of the Standard Specifications for Construction:

In addition to the above insurance requirements, the following agencies must be listed as additional insured:

Capital Region Airport Authority
Ingham County
Clinton County
Ingham County Road Department
Clinton County Road Commission
Fishbeck

CAPITAL REGION AIRPORT
AUTHORITY

SPECIAL PROVISION
FOR
SOILS EROSION AND SEDIMENTATION CONTROL

1 of 1

a. Description. This work consists of furnishing and installing erosion and sedimentation protection devices (devices) in accordance with the *City of Lansing Soil Erosion and Sedimentation Control Forms and Permits*. All soil and sedimentation control items must conform with the requirements specified in the City of Lansing Soil Erosion and Sedimentation Control Forms and Permits. Please see: www.lansingmi.gov/477/permits for additional information.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
BIORETENTION SEEDING

RSD:JN 1 of 3 APPR:YGQ:DMG:07-15-25

a. Description. This work consists of preparing the surface of the bioretention basin for the application and placement of native seed and mulch materials and placement of the seed and straw-coconut fiber erosion control blanket. Ensure bioretention seeding is in accordance with section 816 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials and application rates specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Ensure the following materials are used on this project:

1. The seeding mixture listed in Table 1 must contain the listed proportions of seed. Ensure the seeds are genotypes from the North Central States only (Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, and Iowa) and must not be mixed together but packaged individually according to species. MDOT will inspect seed before individual packages are opened. Ensure the seeding mixture is composed of seed with the purity Pure Live Seed (PLS) and proportions by acre, as specified in Table 1.

Table 1: Seeding Mixture

Kind of Seeds - *Permanent Grasses/Sedges*(a)	Quantity of PLS in ounces/acre
Calamagrostis canadensis - Bluejoint Grass	1.0
Carex cristatella - Crested Oval Sedge	2.0
Carex lurida - Bottlebrush Sedge	3.0
Carex spp. - Prairie Sedge Species	4.0
Carex stipata - Common Fox Sedge	2.0
Carex vulpinoidea - Brown Fox Sedge	6.0
Elymus canadensis - Canada Wild Rye	16.0
Elymus virginicus - Virginia Wild Rye	16.0
Glyceria striata - Fowl Manna Grass	1.0
Juncus effusus - Common Rush	1.0
Juncus tenuis - Path Rush	1.0
Total	53.0
Kind of Seeds - *Temporary Cover*(a)	
Avena sativa - Common Oat	512.0
Total	512.0

Kind of Seeds – *Forbs*(a)	Quantity of PLS in ounces/acre
Alisma subcordatum - Common Water Plantain	1.0
Euthamia graminifolia - Common Grass-Leaved Goldenrod	0.5
Iris spp. - Blue Flag Species	3.0
Liatris spicata - Marsh Blazing Star	1.5
Lobelia siphilitica - Great Blue Lobelia	0.5
Lycopus americanus - Common Water Horehound	0.5
Mimulus ringens - Monkey Flower	0.5
Pycnanthemum virginianum - Common Mountain Mint	0.5
Rudbeckia hirta - Black-Eyed Susan	4.0
Rudbeckia triloba - Brown-Eyed Susan	2.0
Zizia aurea - Golden Alexanders	2.0
Total	16.0
a. The seed must be debearded and free of awns.	

2. Ensure the soil erosion control blanket is a 70 percent straw and 30 percent coconut fiber matrix sewn between two UV stabilized nets with a cellulose fiber bottom tissue. Ensure the blanket is composed of:

A. Straw. 0.35 pounds/square yard minimum

B. Coconut fiber. 0.15 pounds/square yard minimum

C. Organic Bio-Fertilizer

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction except as described herein. Begin this work as soon as possible after final grading of the bioretention basins but no later than the maximum time frames stated in subsection 208.03 of the Standard Specifications for Construction. Coordinate the sequence of various phases of basin construction with the overall project construction schedule.

Place the seed at an application rate of 36.31 PLS pounds per acre. If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and repair as needed. This replacement will be paid for using the applicable pay items. If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded area to ensure the vegetation is well established, 90 percent weed free, in a vigorous growing condition, and contains all the species specified in the seeding mixture. If weeds are determined by the Engineer to cover more than 10 percent of the total area, furnish weed control in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and

paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Bioretention Seeding	Square Yard

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CULVERT ADJUST

CRF:DLB 1 of 2 APPR:DMG:DBP:03-05-21

a. Description. This work consists of excavating around existing culverts, removing and reinstalling existing sections of pipe and end sections, and backfilling. Conduct this work in accordance with section 401 of the Standard Specifications for Construction, the details shown on the plans and this special provision.

b. Materials. Select pipe joint assemblies for use with culverts from the Qualified Products List (909.03).

Ensure geotextile blanket is in accordance with section 910 of the Standard Specifications for Construction.

Ensure the concrete for end section footings is in accordance with section 1004 of the Standard Specifications for Construction.

c. Construction. Adjust those culvert sections showing signs of settlement or poor alignment, or that require adjustment to meet grade, as determined by the Engineer.

Excavate the existing embankment to a minimum of 6 inches below the proposed bottom of the pipe or end section. Place culvert bedding in accordance with section 401 of the Standard Specifications for Construction and reinstall all existing sections of pipe true to the line and grade of existing culvert, bells or grooves upgrade, ends fully and closely jointed, and with full, firm bearing throughout its length.

Reinstall end sections with a concrete footing in accordance with Standard Plan R-86 Series.

Wrap all pipe joints with geotextile blanket. Use geotextile at least 36 inches wide and center it over the joint. Overlap the ends of the geotextile blanket at least 12 inches.

Backfill all reinstalled culvert sections in accordance with section 401 of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Culv, Adj	Foot

Adjusting culverts necessitated by the Contractor's operations will be at no cost to the contract.

Erosion control measures and restoration items required will be paid for separately.

Dispose of excess material in accordance with subsection 205.03.P of the Standard Specifications for Construction. The costs associated with the disposal will be included in the pay item **Culv, Adj**.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CULVERT CLEANOUT

 APPR:DMG:DBP: 08-19-25

a. Description. This work consists of removing and collecting silt and solids from existing culverts and disposing of all collected material. Dispose of in accordance with section 205 of the Standard Specifications for Construction.

As directed by the Engineer, culvert clean out work may be applied to entire lengths or to portions of the culverts shown on the plans. Portions of culverts will be designated if the length requiring cleaning is readily identifiable.

Culverts requiring cleaning are 12 inches in diameter.

b. Materials. Furnish soil erosion and sedimentation control measures and restoration items in accordance with sections 916 and 917 of the Standard Specifications for Construction, respectively.

c. Construction. Select a cleaning method which ensures removal of all silt and solids from the culvert and end sections resulting in unrestricted flow. Minimize disturbance to the area and contain all silt and solids in a manner approved by the Engineer.

Repair any damage to a culvert resulting from the cleaning operation at no cost to the contract.

Provide soil erosion and sedimentation control measures or restoration items that become necessary due to the cleaning method utilized.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Culv Cleanout	Foot

Culv Cleanout includes all labor, equipment and disposal necessary to complete the work as described for culverts or portions of culverts as directed by the Engineer. Only culverts authorized by the Engineer for cleaning will be eligible for payment. Culvert end sections and spillways will be included in the measurement of length cleaned.

All costs associated with culvert cleanout necessitated by the Contractor's operations will be at no cost to the contract.

All costs associated with soil erosion and sedimentation control, restoration and repair work will be at no cost to the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
STORM SEWER CLEANOUT

 APPR:DMG:NJM:08-19-25

a. Description. This work consists of removing and collecting silt, solids, and other debris from existing storm sewers, spillways, and end sections and disposal of all collected material in accordance with section 205 of the Standard Specifications for Construction.

As directed by the Engineer, storm sewer cleanout may be applied to entire lengths or to portions of the sewers shown on the plans. Portions of storm sewers will be designated if the length requiring cleaning is readily identifiable.

Storm sewers requiring cleaning range in size from 12 to 36 inches in diameter.

b. Materials. None specified.

c. Construction. Select a method which ensures removal of all silt, solids and other debris from the storm sewer, resulting in unrestricted flow. Minimize disturbance to the area and contain all removed material in a manner approved by the Engineer.

Repair any damage to the existing drainage system which results from the cleaning operation. Provide soil erosion and sedimentation control measures or restoration items that become necessary due to the method of cleaning selected.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Storm Sewer Cleanout	Foot

Storm Sewer Cleanout includes only storm sewers authorized by the Engineer for cleaning. End sections and spillways will be included in the measurement of length cleaned. All costs associated with soil erosion and sedimentation control measures, restoration items, and repair work are considered included in this pay item.

All costs associated with sewer cleanout necessitated by the Contractor’s operations will be at no additional cost to the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
WATERBORNE SPECIAL PAVEMENT MARKINGS

PMK:MKB 1 of 1 APPR:MRB:CRB:08-19-25

a. Description. This work consists of installing waterborne special pavement markings at the locations specified on the plans in accordance with the standard specifications and as specified herein.

b. Materials. Ensure materials meet the requirements of sections 811 and 920 of the Standard Specifications for Construction. Ensure all permanent pavement markings placed under this special provision are placed with waterborne paint selected from the Qualified Products List (811.03D1).

c. Construction. Ensure construction methods meet the requirements of section 811 of the Standard Specifications for Construction. The second application for all pavement markings items is at the discretion of the Engineer.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Pavt Mrkg, Waterborne, Lt Turn Arrow Sym	Each
Pavt Mrkg, Waterborne, 2nd Application, Lt Turn Arrow Sym	Each
Pavt Mrkg, Waterborne, Railroad Sym	Each
Pavt Mrkg, Waterborne, 2nd Application, Railroad Sym	Each
Pavt Mrkg, Waterborne, Rt Turn Arrow Sym	Each
Pavt Mrkg, Waterborne, 2nd Application, Rt Turn Arrow Sym	Each
Pavt Mrkg, Waterborne, Yield Triangle Sym	Each
Pavt Mrkg, Waterborne, 2nd Application, Yield Triangle Sym	Each
Pavt Mrkg, Waterborne, 24 inch, Stop Bar	Foot
Pavt Mrkg, Waterborne, 2nd Application, 24 inch, Stop Bar	Foot
Pavt Mrkg, Waterborne, 6 inch, Crosswalk	Foot
Pavt Mrkg, Waterborne, 2nd Application, 6 inch, Crosswalk	Foot

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SLOPE RESTORATION, NON-FREEWAY

RSD:NJM 1 of 3 APPR:DMG:KJK:08-19-25

a. Description. This work consists of preparing all lawns and slopes on non-freeway projects designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket, high velocity mulch blanket, permanent turf reinforcement mat, bonded fiber matrix, or modified mulch blanket to those areas. Ensure turf establishment is in accordance with section 816 and 917 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials, application rates, and construction methods specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Furnish the following materials on this project:

1. Seeding mixture as called for on the plans.

2. Chemical fertilizer nutrient, Class A.

3. Topsoil. The following percentages of furnished and salvaged topsoil are estimated for this project and provided for informational purposes only.

Topsoil Furnished: 80 percent
Topsoil Salvaged: 20 percent

4. Mulching materials.

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas shown on the plans for slope restoration but no later than the time limitations in accordance with subsection 208.03.B of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact, and ensure all areas to be seeded are weed-free prior to placing topsoil. Place topsoil to the minimum depth of 4 inches and in accordance with the plans and standard specifications to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, fill this additional depth using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work for slope restoration.

Ensure topsoil is weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2-inch in diameter or other debris. Apply seed mixture and fertilizer to

prepared soil surface at the specified rates. Incorporate seed into top 1/2-inch of topsoil.

Spread mulch at a rate of two tons per acre. If the Engineer allows dormant seeding spread mulch at a rate of 3 tons per acre. Place mulch anchoring over the mulch at a rate in accordance with subsection 816.03.F of the Standard Specifications for Construction. Place mulch blanket and high-velocity mulch blanket in accordance with subsection 816.03.G of the Standard Specifications for Construction and Standard Plan R-100 Series.

Install areas constructed with the TRM on prepared (seeded) grades as shown on the plans in accordance with the manufacturer's published installation guidelines. Anchor the top edge of the TRM in a minimum six-inch deep trench. Operation of equipment on the slope is prohibited after placement of the TRM. No credit for splices, overlaps, tucks, or wasted material will be made.

Mix the BFM and organic binders thoroughly at a rate of 40 pounds for each 100 gallons of water or as otherwise recommended by the manufacturer. Hydraulically apply the BFM slurry in successive layers, from two or more directions, to fully cover 100 percent of the soil surface. Ensure the minimum application rate is at least 3000 pounds of BFM for each acre or otherwise apply in accordance with the manufacturer's recommendations as appropriate depending on site conditions.

Do not apply BFM on saturated soil or immediately before, during, or after rainfall.

Install modified mulch blanket in accordance with the manufacturer's published guidelines and as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed, and mulch treatment. This replacement will be paid for as additional work using the applicable pay items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded turf to ensure it is well-established, in a vigorous growing condition, contains the species called for in the seeding mixture and acceptance is in accordance with subsection 816.03.K of the Standard Specifications for Construction.

If the seeded turf is not well-established at the end of the first growing season, the Contractor must reseed as detailed herein until the turf is well established and approved by the Engineer at no cost to the contract.

Provide weed control, if weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Slope Restoration, Non-Freeway, Type __	Square Yard

1. Place **Slope Restoration, Non-Freeway, Type A** in all areas not described in the other types of slope restoration and will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type A** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; Mulch; and Mulch Anchoring.

2. Place **Slope Restoration, Non-Freeway, Type B** parallel (8 feet minimum) to the edge of the roadway, in areas that have a 1 on 3 slope or less, in any ditch with a grade less than 1.5 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type B** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type B** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; and Mulch Blanket.

3. Place **Slope Restoration, Non-Freeway, Type C** in areas that have a 1 on 2 slope, any ditch with a grade of 1.5 percent to 3 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type C** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type C** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; and Mulch Blanket, High Velocity.

CAPITAL REGION INTERNATIONAL AIRPORT

SPECIAL PROVISION
FOR
SLOPE RESTORATION, MEDIAN

a. Description. This work consists of preparing all lawns and slopes on non-freeway projects designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket, high velocity mulch blanket, permanent turf reinforcement mat, bonded fiber matrix, or modified mulch blanket to those areas. Ensure turf establishment is in accordance with section 816 and 917 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials, application rates, and construction methods specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Furnish the following materials on this project:

1. Seeding Mixture. Compose the seeding mixture of certified seed of the purity, germination, and proportions by weight, as specified in Table 1.

Table 1: Required Seeding Mixture

Kind of Seed	Minimum Purity	Minimum Germination	Mixture
Kentucky Blue Grass	98%	85%	10%
Creeping Red Fescue	97%	85%	30%
Hard Fescue	97%	85%	25%
Salt Grass	98%	85%	15%
Improved Fine Perennial Ryegrass	96%	85%	20%

2. Seeding Rate. The seeding rate must be 5 pounds/1,000 square feet.

3. Fertilizer. Use Chemical Fertilizer Nutrient, Class A on this project.

3. Topsoil. The following percentages of furnished and salvaged topsoil are estimated for this project and provided for informational purposes only.

Topsoil Furnished: 100 percent
Topsoil Salvaged: 0 percent

4. Mulching materials.

5. Bonded Fiber Matrix (BFM) for use in Slope Restoration, Non-Freeway, Type E. Furnish a product from the list below or an approved equal.

Soil Guard BFM	Mat Inc., Floodwood, MN	(888) 477-3028
HydroStraw BFM	HydroStraw, LLC, Rockford, WA	(800) 545-1755
HydraMax HECP	North American Green, Poseyville, IN	(800) 772-2040
Bindex BFM	American Excelsior Co., Arlington, TX	(800) 777-7645
ProMatrix EFM	Profile Products LLC, Buffalo Grove, IL	(800) 508-8681
Stronghold BFM Plus	Cherokee Mfg. LLC, South St. Paul, MN	(800) 798-9473

Approved equal BFMs must consist of long strand, virgin wood fibers (90 percent by weight) bound together by a pre-blended, high-strength polymer adhesive (10 percent by weight). The virgin wood fibers will be thermally refined from clean whole wood chips. Ensure the organic binders are a high viscosity colloidal polysaccharide tackifier with activating agents to render the resulting matrix insoluble upon drying.

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas shown on the plans for slope restoration but no later than the time limitations in accordance with subsection 208.03.B of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact, and ensure all areas to be seeded are weed-free prior to placing topsoil. Place topsoil to the minimum depth of 4 inches and in accordance with the plans and standard specifications to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, fill this additional depth using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work for slope restoration.

Ensure topsoil is weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2-inch in diameter or other debris. Apply seed mixture and fertilizer to prepared soil surface at the specified rates. Incorporate seed into top 1/2-inch of topsoil.

Spread mulch at a rate of two tons per acre. If the Engineer allows dormant seeding spread mulch at a rate of 3 tons per acre. Place mulch anchoring over the mulch at a rate in accordance with subsection 816.03.F of the Standard Specifications for Construction. Place mulch blanket and high-velocity mulch blanket in accordance with subsection 816.03.G of the Standard Specifications for Construction and Standard Plan R-100 Series.

Install areas constructed with the TRM on prepared (seeded) grades as shown on the plans in accordance with the manufacturer's published installation guidelines. Anchor the top edge of the TRM in a minimum six-inch deep trench. Operation of equipment on the slope is prohibited after placement of the TRM. No credit for splices, overlaps, tucks, or wasted material will be made.

Mix the BFM and organic binders thoroughly at a rate of 40 pounds for each 100 gallons of water or as otherwise recommended by the manufacturer. Hydraulically apply the BFM slurry in successive layers, from two or more directions, to fully cover 100 percent of the soil surface. Ensure the minimum application rate is at least 3000 pounds of BFM for each acre or otherwise apply in accordance with the manufacturer's recommendations as appropriate depending on site conditions.

Do not apply BFM on saturated soil or immediately before, during, or after rainfall.

Install modified mulch blanket in accordance with the manufacturer's published guidelines and as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed, and mulch treatment. This replacement will be paid for as additional work using the applicable pay items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded turf to ensure it is well-established, in a vigorous growing condition, contains the species called for in the seeding mixture and acceptance is in accordance with subsection 816.03.K of the Standard Specifications for Construction.

If the seeded turf is not well-established at the end of the first growing season, the Contractor must reseed as detailed herein until the turf is well established and approved by the Engineer at no cost to the contract.

Provide weed control, if weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Slope Restoration, Median, ...	Square Yard

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SLOPE RESTORATION, NON-FREEWAY

RSD:NJM 1 of 3 APPR:DMG:KJK:08-19-25

a. Description. This work consists of preparing all lawns and slopes on non-freeway projects designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket, high velocity mulch blanket, permanent turf reinforcement mat, bonded fiber matrix, or modified mulch blanket to those areas. Ensure turf establishment is in accordance with section 816 and 917 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials, application rates, and construction methods specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Furnish the following materials on this project:

1. Seeding mixture as called for on the plans.

2. Chemical fertilizer nutrient, Class A.

3. Topsoil. The following percentages of furnished and salvaged topsoil are estimated for this project and provided for informational purposes only.

Topsoil Furnished: 80 percent
Topsoil Salvaged: 20 percent

4. Mulching materials.

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas shown on the plans for slope restoration but no later than the time limitations in accordance with subsection 208.03.B of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact, and ensure all areas to be seeded are weed-free prior to placing topsoil. Place topsoil to the minimum depth of 4 inches and in accordance with the plans and standard specifications to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, fill this additional depth using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work for slope restoration.

Ensure topsoil is weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2-inch in diameter or other debris. Apply seed mixture and fertilizer to

prepared soil surface at the specified rates. Incorporate seed into top 1/2-inch of topsoil.

Spread mulch at a rate of two tons per acre. If the Engineer allows dormant seeding spread mulch at a rate of 3 tons per acre. Place mulch anchoring over the mulch at a rate in accordance with subsection 816.03.F of the Standard Specifications for Construction. Place mulch blanket and high-velocity mulch blanket in accordance with subsection 816.03.G of the Standard Specifications for Construction and Standard Plan R-100 Series.

Install areas constructed with the TRM on prepared (seeded) grades as shown on the plans in accordance with the manufacturer's published installation guidelines. Anchor the top edge of the TRM in a minimum six-inch deep trench. Operation of equipment on the slope is prohibited after placement of the TRM. No credit for splices, overlaps, tucks, or wasted material will be made.

Mix the BFM and organic binders thoroughly at a rate of 40 pounds for each 100 gallons of water or as otherwise recommended by the manufacturer. Hydraulically apply the BFM slurry in successive layers, from two or more directions, to fully cover 100 percent of the soil surface. Ensure the minimum application rate is at least 3000 pounds of BFM for each acre or otherwise apply in accordance with the manufacturer's recommendations as appropriate depending on site conditions.

Do not apply BFM on saturated soil or immediately before, during, or after rainfall.

Install modified mulch blanket in accordance with the manufacturer's published guidelines and as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed, and mulch treatment. This replacement will be paid for as additional work using the applicable pay items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded turf to ensure it is well-established, in a vigorous growing condition, contains the species called for in the seeding mixture and acceptance is in accordance with subsection 816.03.K of the Standard Specifications for Construction.

If the seeded turf is not well-established at the end of the first growing season, the Contractor must reseed as detailed herein until the turf is well established and approved by the Engineer at no cost to the contract.

Provide weed control, if weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Slope Restoration, Non-Freeway, Type __	Square Yard

1. Place **Slope Restoration, Non-Freeway, Type A** in all areas not described in the other types of slope restoration and will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type A** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; Mulch; and Mulch Anchoring.

2. Place **Slope Restoration, Non-Freeway, Type B** parallel (8 feet minimum) to the edge of the roadway, in areas that have a 1 on 3 slope or less, in any ditch with a grade less than 1.5 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type B** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type B** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; and Mulch Blanket.

3. Place **Slope Restoration, Non-Freeway, Type C** in areas that have a 1 on 2 slope, any ditch with a grade of 1.5 percent to 3 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type C** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type C** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; and Mulch Blanket, High Velocity.

CAPITAL REGION INTERNATIONAL AIRPORT

SPECIAL PROVISION
FOR
SLOPE RESTORATION, MEDIAN

a. Description. This work consists of preparing all lawns and slopes on non-freeway projects designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket, high velocity mulch blanket, permanent turf reinforcement mat, bonded fiber matrix, or modified mulch blanket to those areas. Ensure turf establishment is in accordance with section 816 and 917 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials, application rates, and construction methods specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Furnish the following materials on this project:

1. Seeding Mixture. Compose the seeding mixture of certified seed of the purity, germination, and proportions by weight, as specified in Table 1.

Table 1: Required Seeding Mixture

Kind of Seed	Minimum Purity	Minimum Germination	Mixture
Kentucky Blue Grass	98%	85%	10%
Creeping Red Fescue	97%	85%	30%
Hard Fescue	97%	85%	25%
Salt Grass	98%	85%	15%
Improved Fine Perennial Ryegrass	96%	85%	20%

2. Seeding Rate. The seeding rate must be 5 pounds/1,000 square feet.

3. Fertilizer. Use Chemical Fertilizer Nutrient, Class A on this project.

3. Topsoil. The following percentages of furnished and salvaged topsoil are estimated for this project and provided for informational purposes only.

Topsoil Furnished: 100 percent
Topsoil Salvaged: 0 percent

4. Mulching materials.

5. Bonded Fiber Matrix (BFM) for use in Slope Restoration, Non-Freeway, Type E. Furnish a product from the list below or an approved equal.

Soil Guard BFM	Mat Inc., Floodwood, MN	(888) 477-3028
HydroStraw BFM	HydroStraw, LLC, Rockford, WA	(800) 545-1755
HydraMax HECP	North American Green, Poseyville, IN	(800) 772-2040
Bindex BFM	American Excelsior Co., Arlington, TX	(800) 777-7645
ProMatrix EFM	Profile Products LLC, Buffalo Grove, IL	(800) 508-8681
Stronghold BFM Plus	Cherokee Mfg. LLC, South St. Paul, MN	(800) 798-9473

Approved equal BFMs must consist of long strand, virgin wood fibers (90 percent by weight) bound together by a pre-blended, high-strength polymer adhesive (10 percent by weight). The virgin wood fibers will be thermally refined from clean whole wood chips. Ensure the organic binders are a high viscosity colloidal polysaccharide tackifier with activating agents to render the resulting matrix insoluble upon drying.

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas shown on the plans for slope restoration but no later than the time limitations in accordance with subsection 208.03.B of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact, and ensure all areas to be seeded are weed-free prior to placing topsoil. Place topsoil to the minimum depth of 4 inches and in accordance with the plans and standard specifications to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, fill this additional depth using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work for slope restoration.

Ensure topsoil is weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2-inch in diameter or other debris. Apply seed mixture and fertilizer to prepared soil surface at the specified rates. Incorporate seed into top 1/2-inch of topsoil.

Spread mulch at a rate of two tons per acre. If the Engineer allows dormant seeding spread mulch at a rate of 3 tons per acre. Place mulch anchoring over the mulch at a rate in accordance with subsection 816.03.F of the Standard Specifications for Construction. Place mulch blanket and high-velocity mulch blanket in accordance with subsection 816.03.G of the Standard Specifications for Construction and Standard Plan R-100 Series.

Install areas constructed with the TRM on prepared (seeded) grades as shown on the plans in accordance with the manufacturer's published installation guidelines. Anchor the top edge of the TRM in a minimum six-inch deep trench. Operation of equipment on the slope is prohibited after placement of the TRM. No credit for splices, overlaps, tucks, or wasted material will be made.

Mix the BFM and organic binders thoroughly at a rate of 40 pounds for each 100 gallons of water or as otherwise recommended by the manufacturer. Hydraulically apply the BFM slurry in successive layers, from two or more directions, to fully cover 100 percent of the soil surface. Ensure the minimum application rate is at least 3000 pounds of BFM for each acre or otherwise apply in accordance with the manufacturer's recommendations as appropriate depending on site conditions.

Do not apply BFM on saturated soil or immediately before, during, or after rainfall.

Install modified mulch blanket in accordance with the manufacturer's published guidelines and as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed, and mulch treatment. This replacement will be paid for as additional work using the applicable pay items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded turf to ensure it is well-established, in a vigorous growing condition, contains the species called for in the seeding mixture and acceptance is in accordance with subsection 816.03.K of the Standard Specifications for Construction.

If the seeded turf is not well-established at the end of the first growing season, the Contractor must reseed as detailed herein until the turf is well established and approved by the Engineer at no cost to the contract.

Provide weed control, if weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Slope Restoration, Median, ...	Square Yard

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SLOPE RESTORATION, NON-FREEWAY

RSD:NJM 1 of 3 APPR:DMG:KJK:08-19-25

a. Description. This work consists of preparing all lawns and slopes on non-freeway projects designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket, high velocity mulch blanket, permanent turf reinforcement mat, bonded fiber matrix, or modified mulch blanket to those areas. Ensure turf establishment is in accordance with section 816 and 917 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials, application rates, and construction methods specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. Furnish the following materials on this project:

1. Seeding mixture as called for on the plans.

2. Chemical fertilizer nutrient, Class A.

3. Topsoil. The following percentages of furnished and salvaged topsoil are estimated for this project and provided for informational purposes only.

Topsoil Furnished: 80 percent
Topsoil Salvaged: 20 percent

4. Mulching materials.

c. Construction. Ensure construction methods are in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas shown on the plans for slope restoration but no later than the time limitations in accordance with subsection 208.03.B of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact, and ensure all areas to be seeded are weed-free prior to placing topsoil. Place topsoil to the minimum depth of 4 inches and in accordance with the plans and standard specifications to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, fill this additional depth using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work for slope restoration.

Ensure topsoil is weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2-inch in diameter or other debris. Apply seed mixture and fertilizer to

prepared soil surface at the specified rates. Incorporate seed into top 1/2-inch of topsoil.

Spread mulch at a rate of two tons per acre. If the Engineer allows dormant seeding spread mulch at a rate of 3 tons per acre. Place mulch anchoring over the mulch at a rate in accordance with subsection 816.03.F of the Standard Specifications for Construction. Place mulch blanket and high-velocity mulch blanket in accordance with subsection 816.03.G of the Standard Specifications for Construction and Standard Plan R-100 Series.

Install areas constructed with the TRM on prepared (seeded) grades as shown on the plans in accordance with the manufacturer's published installation guidelines. Anchor the top edge of the TRM in a minimum six-inch deep trench. Operation of equipment on the slope is prohibited after placement of the TRM. No credit for splices, overlaps, tucks, or wasted material will be made.

Mix the BFM and organic binders thoroughly at a rate of 40 pounds for each 100 gallons of water or as otherwise recommended by the manufacturer. Hydraulically apply the BFM slurry in successive layers, from two or more directions, to fully cover 100 percent of the soil surface. Ensure the minimum application rate is at least 3000 pounds of BFM for each acre or otherwise apply in accordance with the manufacturer's recommendations as appropriate depending on site conditions.

Do not apply BFM on saturated soil or immediately before, during, or after rainfall.

Install modified mulch blanket in accordance with the manufacturer's published guidelines and as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed, and mulch treatment. This replacement will be paid for as additional work using the applicable pay items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at no cost to the contract.

The Engineer will inspect the seeded turf to ensure it is well-established, in a vigorous growing condition, contains the species called for in the seeding mixture and acceptance is in accordance with subsection 816.03.K of the Standard Specifications for Construction.

If the seeded turf is not well-established at the end of the first growing season, the Contractor must reseed as detailed herein until the turf is well established and approved by the Engineer at no cost to the contract.

Provide weed control, if weeds are determined by the Engineer to cover more than 10 percent of the total area of slope restoration, in accordance with subsection 816.03.I of the Standard Specifications for Construction. Weed control will be at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Slope Restoration, Non-Freeway, Type __	Square Yard

1. Place **Slope Restoration, Non-Freeway, Type A** in all areas not described in the other types of slope restoration and will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type A** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; Mulch; and Mulch Anchoring.

2. Place **Slope Restoration, Non-Freeway, Type B** parallel (8 feet minimum) to the edge of the roadway, in areas that have a 1 on 3 slope or less, in any ditch with a grade less than 1.5 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type B** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type B** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; and Mulch Blanket.

3. Place **Slope Restoration, Non-Freeway, Type C** in areas that have a 1 on 2 slope, any ditch with a grade of 1.5 percent to 3 percent as shown on the plans, or as directed by the Engineer. **Slope Restoration, Non-Freeway, Type C** will be measured by area in square yards in place. **Slope Restoration, Non-Freeway, Type C** includes installing Topsoil Surface; Fertilizer, Chemical Nutrient; seeding mixture; and Mulch Blanket, High Velocity.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
DISSEMINATION OF PUBLIC RELATIONS INFORMATION

CFS:JJG 1 of 1 APPR:LFS:MRB:04-14-21
FHWA:APPR:04-14-21

a. Description. This special provision establishes the requirements for dissemination of any public relations communications and/or products intended for an external audience pertaining to this contract. Dissemination must not be made without prior written approval from the Department's Office of Communications, and then only in accordance with explicit instructions by the Department. This includes the use of the Michigan Department of Transportation (MDOT) logo.

A violation of this provision may be considered a default of contract and the Department may exercise its rights in accordance with subsection 108.11 of the Standard Specifications for Construction.

b. Public Relations Information. Examples of communications and/or products may include, but are not limited to: brochures, flyers, invitations, programs, postings on social media sites or web sites, new or updated video, digital versatile disk (DVD) productions, or video sharing productions, exhibits, presentations, or any other printed materials intended for an external audience.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LABOR COMPLIANCE

a. Description. Ensure all levels of contracting (prime, sub, sub-sub, etc.) comply with all labor compliance requirements in this contract. The Contractor is responsible for subcontractors and lower tier subcontractor labor compliance. Job site poster requirements apply to state and federally funded projects. All Contractors must insert this special provision in each subcontract and further require its inclusion in lower tier subcontracts.

b. Requirements.

1. Jobsite Posters. All jobsite posters and employment notices required by State and Federal regulations and the contract are to be posted on the jobsite in a conspicuous area prior to the commencement of work. Ensure jobsite postings are accessible at all times.

2. Prevailing Wage Law.

A. Federal Prevailing Wage Projects. The Davis-Bacon Related Acts apply to all Contractors, and subcontractors (all tiers) performing work on federally funded or assisted construction contracts where the total construction contract price is in excess of $2,000. Contractors and subcontractors are required to comply with *29 Code of Federal Regulations Parts 1, 3*, and 5 and the revisions within the *2023 Final Rule: "Updating the Davis-Bacon and Related Acts Regulations"*.

B. State Prevailing Wage Projects. Michigan Prevailing Wage, P.A. 10 of 2023 applies to all contractors, and subcontractors (all tiers) performing work on contracts which are sponsored or financed in whole by the State of Michigan. On contracts involving two or more job numbers where the type of funding is mixed, and where one source of funding is federal, the Department inserts only the wage rates issued by the U.S. Department of Labor in the proposal and the federal requirements apply.

The Contractor must advise subcontractors of the requirement to pay the prevailing wage rates prior to commencement of work and that all employees must cooperate during wage rate interviews.

3. Certified Payroll Submittal Requirements. Contractors (all tiers) must submit their certified payrolls and any wage related documentation to the prime Contractor in accordance with the Special Provision for Prevailing Wage and Labor Compliance System 20SP-104D. Submitted payrolls must accurately and completely include all information required by the prevailing wage and labor compliance (PWLC) system. The first certified payroll is to be received by the Engineer within 3 weeks from the week ending in which work is performed. The 3 week period is to allow for the processing and review of the certified payrolls by the prime Contractor. Payroll submitted via the PWLC system must be entered into the system,

certified, and approved by the prime Contractor to be considered received by the Department.

Labor compliance issues must be resolved within 60 calendar days of receiving the Departments first documented notice. The 60-day requirement may be extended based on documented mutual agreement between the Department and the Contractor.

A. Fringe Benefit Statements. Contractors making payments or incurring cost to provide bona fide benefits must submit an hourly breakdown of fringe benefits paid each worker, or work classification where applicable, that must accompany the first certified payroll where fringe benefits are credited towards the prevailing wage. The Contractor must update these documents as necessary to ensure they are current throughout the working life of the contract. Failure to submit or maintain the required fringe benefit statement will constitute a payroll deficiency.

B. Delinquent Payroll. Certified payrolls not submitted per subsection b.3 of this special provision will be considered delinquent.

C. Deficient Payroll. Certified payrolls that are found to be incomplete, inaccurate, or inconsistent with other project records are considered deficient.

D. Non-compliance Damages. A Contractor found to be in non-compliance with the requirements of this special provision will be assessed non-compliance damages listed in Table 1, proportional to the value of their work on the contract (including subcontract, purchase order (P.O.) or invoice amount).

Table 1: Schedule of Non-Compliance Damages

Contract/Subcontract/P.O./Invoice Amount (a)	Non-compliance damages per calendar day
$0 to 49,999	$200
50,000 to 99,999	400
100,000 to 499,999	600
500,000 to 999,999	900
1,000,000 to 1,999,999	1,300
2,000,000 to 4,999,999	1,550
5,000,000 to 9,999,999	2,650
10,000,000 and above	3,000
Trucker	$200
a. “Contract” amount if offending contractor is the prime contractor. “Subcontract/P.O./Invoice” amount if offending contractor is a subcontractor/vendor.	

4. Record Keeping. Maintain payrolls and basic records relating thereto (i.e. employee names, social security numbers, last known address, telephone numbers, email addresses, occupation and hours worked for each worker; W2s, canceled checks, bank statements, etc.) by all levels of contractors during the course of work and retain for a 3-year period from the date of final estimate for all employees working on the site of work. Make these records available for inspection, copying, or transcription by the Department or its representative.

5. Short Duration Projects. The following modifications apply if the project is less than 75 calendar days in duration.

A. Submittal Requirements. On short duration projects the first certified payroll is to be received by the Engineer within 2 weeks from the week ending in which work is performed. The 2-week period is to allow for the processing and review of the certified payrolls by the Contractor. The 2-week period allows the first estimate to be paid assuming the Contractor will submit certified payrolls in a timely manner. Ensure subsequent certified payroll submissions are made weekly. Payroll submissions failing to meet the above requirements will be considered delinquent.

Labor compliance issues are to be resolved within 30 days after receiving the Department's first documented notice. The 30-day requirement may be extended based on documented mutual agreement between the Department and the Contractor.

c. Materials. None specified.

d. Construction. None specified.

e. Measurement and Payment. Payment for compliance with this special provision will not be made separately. Payment will be considered as part of all other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TWELVE-INCH LAYER METHOD

CFS:LLR 1 of 1 APPR:DMG:KK:02-16-24
FHWA:APPR:02-20-24

Delete subsection 205.03.H.4.b, on page 2-26 of the Standard Specifications for Construction, in its entirety.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EROSION CONTROL, INLET PROTECTION, FABRIC DROP

COS:DMG 1 of 2 APPR:TWK:CP:06-16-25
FHWA:APPR:06-17-25

a. Description. This work consists of furnishing and installing acceptable alternatives to inlet protection devices (devices) listed in the *Soil Erosion and Sedimentation Control Manual* when the pay item Erosion Control, Inlet Protection, Fabric Drop is included in the contract.

This work consists of furnishing, installing, maintaining, disposing of collected material and removing devices at the locations shown on the plans or as directed by the Engineer.

b. Materials. The following devices are approved for use as acceptable alternatives:

1. Siltsack Type B, Regular Flow, by ACF Environmental, Inc.

2. Inlet Pro Sediment Bag, Standard Flow, with optional foam deflector by Hanes Geo Components.

3. Dandy Curb Bag, Dandy Bag, Dandy Curb Sack, Dandy Sack, or Dandy Pop by Dandy Products, Inc.

4. Flexstorm Catch-It and Flexstorm Pure used with filter bag types FX, FX+, FXO, PC, PC+ or IL.

5. MKB Inlet Filter Bag by MKB Company

Ensure furnished devices are sized appropriately for the drainage structures in which they will be installed.

c. Construction. Install, maintain and remove the devices in accordance with the manufacturer's guidelines. Remove material collected by the devices in accordance with the manufacturer's guidelines or as directed by the Engineer.

Dispose of collected material in accordance with subsection 205.03.P of the Standard Specifications for Construction. Those devices that are no longer needed and have been removed may be reused elsewhere on the project as approved by the Engineer.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Erosion Control, Inlet Protection, Fabric Drop	Each

Erosion Control, Inlet Protection, Fabric Drop will be paid for as one each for each time the alternate device listed herein is installed, maintained, and removed at a separate location within the project limits.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MAINTENANCE GRAVEL, DRIVEWAY MAINTENANCE, AND INTERSECTION MAINTENANCE MEASUREMENT AND PAYMENT

CFS:MJE 1 of 1 APPR:DMG:LLR:11-17-23
FHWA:APPR:11-21-23

Delete subsections 306.04.B and 306.04.C, on pages 3-24 and 3-25 of the Standard Specifications for Construction, in their entirety and replace with the following:

B. **Maintenance Gravel.** The Engineer will measure **Maintenance Gravel, LM** based on hauling unit dimensions and load count before placement and compaction.

The Engineer will measure **Maintenance Gravel** in tons by the scale weight of the material. The Engineer will perform moisture tests at the start of weighing operations and if construction operations, weather conditions, or other causes may change the moisture content of the material. If tests indicate a moisture content greater than 8%, the Engineer will deduct the weight of the excess moisture from the scale weight of the maintenance gravel until moisture tests indicate the moisture content is no greater than 8%.

The Engineer will determine the moisture content and pay weights as specified in section 109.

The unit price for **Maintenance Gravel** and **Maintenance Gravel, LM** includes the cost of furnishing the aggregate and constructing, maintaining, and removing the aggregate surface.

C. **Driveway Maintenance, Commercial; Driveway Maintenance, Residential** and **Intersection Maintenance** includes material, construction, grading, maintenance, removal, replacement, and disposal of the aggregate surface. These items will be paid for once per location regardless of the number of times the aggregate surface is placed, maintained, removed, or replaced.

Intersection Maintenance will be paid for separately for each approach of the highway, street, or alley that joins or crosses the roadway.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PIPE ALTERNATE FOR CULVERT CLASSES

STM:MLO 1 of 1 APPR:DMG:BDZ:04-25-24
FHWA:APPR:05-01-24

a. Description. This work consists of the use of polypropylene pipe (PPP) at locations shown on the plans. Complete this work in accordance with subsection 401.03 of the Standard Specifications for Construction, except as modified herein. PPP is an acceptable alternative to corrugated polyethylene (CPE) pipe for Culvert Class A, B and F applications.

b. Materials. Furnish PPP in accordance with *AASHTO M330, Type S*. PPP with diameters up to 24 inches will be tested for acceptance at a rate of one sample per diameter of pipe size supplied on the project. PPP with diameters greater than 24 inches up to 30 inches will be tested for acceptance at the rate of one sample for every 1000 feet of pipe.

For PPP diameters up to 24 inches, a sample consists of one 10-foot-long piece, one 6-foot-long piece, and one coupling. PPP with diameters greater than 24 inches, a sample must come from a single 20-foot-long section of pipe and must include three pieces with a length equal to or greater than the diameter, one piece at least 60 inches long, and the necessary pieces to assemble a joint with at least 6 inches of pipe protruding from each end of the joint. Mark all pieces of each sample so that they can be identified as coming from the same section of pipe.

PPE with diameters less than 30 inches may require additional testing if the initial acceptance testing did not meet specifications, or at the request of the Engineer. The Engineer may require the Contractor to furnish additional samples at no cost to the contract.

PPP with diameters greater than 30 inches up to 36 inches will be accepted by Test Data Certification in accordance with subsection 2.01.03 of the *MQAP Manual*.

Use a single manufacturer's complete system of pipe and joint, including the gasket. Below is a product that the Department is aware of that meets the required criteria:

Advanced Drainage Systems HP Storm Polypropylene Pipe

PPP material is allowed for culvert use in Class A and F applications for pipe 36 inches in diameter and less, and in Class B applications for pipe 12 to 24 inches in diameter.

c. Construction. Construct PPP in accordance with the requirements for CPE pipe in subsection 401.03 of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the pay items defined in subsection 401.04 of the Standard Specifications for Construction.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PIPE ALTERNATE FOR STORM SEWER CLASSES

STM:MLO 1 of 1 APPR:DMG:BDZ:04-25-24
FHWA:APPR:05-01-24

a. Description. This work consists of the use of polypropylene pipe (PPP) at the locations shown on the plans. Complete this work in accordance with subsection 402.03 of the Standard Specifications for Construction, except as modified herein. PPP is an acceptable alternative to corrugated polyethylene (CPE) pipe for storm sewer Class A and B applications.

b. Materials. Furnish PPP in accordance with *AASHTO M330, Type S*. PPP with diameters up to 24 inches will be tested for acceptance at a rate of one sample per diameter of pipe size supplied on the project. PPP with diameters greater than 24 inches up to 30 inches will be tested for acceptance at the rate of one sample for every 1000 feet of pipe.

For PPP diameters up to 24 inches, a sample consists of one 10-foot-long piece, one 6-foot-long piece and one coupling. PPP with diameters greater than 24 inches a sample must come from a single 20-foot-long section of pipe and must include three pieces with a length equal to or greater than the diameter, one piece at least 60 inches long and the necessary pieces to assemble a joint with at least 6 inches of pipe protruding from each end of the joint. Mark all pieces of each sample so that they can be identified as coming from the same section of pipe.

PPE with diameters less than 30 inches may require additional testing if the initial acceptance testing did not meet specifications, or at the request of the Engineer. The Engineer may require the Contractor to furnish additional samples at no cost to the contract.

PPP with diameters greater than 30 inches up to 36 inches will be accepted by Test Data Certification in accordance with subsection 2.01.03 of the *MQAP Manual*.

Use a single manufacturer's complete system of pipe and joint, including the gasket. Below is a product that the Department is aware of that meets the required criteria:

Advanced Drainage Systems HP Storm Polypropylene Pipe

PPP material is allowed for storm sewer use in Class A applications for pipe 36 inches in diameter and less, and in Class B applications for pipe 12 to 24 inches in diameter.

c. Construction. Construct PPP in accordance with the requirements for CPE pipe in subsection 402.03 of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the pay items defined in subsection 402.04 of the Standard Specifications for Construction.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
UNDERDRAINS

RSD:NJM 1 of 1 APPR:AJU:DMG:05-12-25
FHWA:APPR:05-13-25

Delete the second sentence in the first paragraph of subsection 404.03.F, on page 4-34 of the Standard Specifications for Construction and replace it with the following:

Install drainage marker posts and reflectors in accordance with subsection 401.03.F.

Delete the last paragraph in section 404.04.E, on page 4-37 of the Standard Specifications for Construction and replace it with the following:

The Engineer will measure and the Department will pay for drainage marker posts and reflectors in accordance with subsection 401.04.I.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS

CFS:TRC 1 of 1 APPR:JWB:KPK:02-19-20
FHWA:APPR:02-19-20

a. Description. This work consists of the Contractor taking samples of the asphalt binder and delivering the samples to the Engineer prior to incorporation into the hot mix asphalt mixture.

b. Materials. For informational purposes, original samples of asphalt binder will be taken by the Contractor and delivered to the Engineer prior to incorporation into the mixture. The frequency of sampling will be determined by the Engineer.

The Contractor must certify in writing that the materials used in the HMA mixture are from the same source as the materials used in developing the HMA mixture design and the bond coat is from an approved supplier as stated in the *Material Quality Assurance Procedures Manual*.

c. Construction. None specified.

d. Measurement and Payment. The cost of obtaining and delivering the samples to the Engineer will be included in the hot mix asphalt (HMA) pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PRICE ADJUSTMENTS ON PERFORMANCE GRADE ASPHALT BINDERS

CFS:TRC 1 of 6 APPR:KPK:JWB:01-23-24
FHWA:APPR:01-23-24

a. Description. This special provision provides the pay adjustment process for HMA pay items regarding the performance grade (PG) asphalt binder. The project specific PG asphalt binder(s) is(are) listed in the HMA Application Estimate Table found on the plans. Furnish the PG binder in accordance with the requirements of the standard specifications, except where modified herein.

b. Terminology.

Asphalt Binder Sample. The asphalt binder sample is obtained by the Contractor once per day for every asphalt binder grade that is being incorporated into any HMA mixture. Submit the asphalt binder sample to the Engineer. The specification testing will be performed by the Construction Field Services (CFS) HMA Laboratory or a third party *AASHTO* accredited asphalt binder laboratory, other than the laboratory potentially designated as the dispute laboratory.

Base Price. Price established by the Department to be used in calculating incentives or adjustments to pay items and shown in the contract.

c. Materials. Ensure the PG asphalt binder(s) meets the requirements of the standard specifications.

The following note (g) has been added to the 2020 Standard Specifications for Construction, Table 904-1, Table 904-2, and Table 904-3 Pressure Aging Vessel Residue Dynamic Shear: (g) The maximum intermediate temperature stiffness, G* sinδ, is 5000 kPa. If the intermediate phase angle is greater than or equal to 42 degrees, the maximum intermediate temperature stiffness, G* sinδ, is 6000 kPa.

Asphalt binder prepared with reclaimed engine oil based products is prohibited.

Direct in-line blending of polymer at the hot mix plant is allowed if the Contractor is one of the approved manufacturers listed in the *MDOT Materials Source Guide*.

Ensure the modified asphalt binder complies with the requirements shown in Table 6 or Table 7.

If polymers and modifiers other than styrene-butadiene-styrene (SBS) or styrene-butadiene rubber (SBR) are used for asphalt binder modifications, approval from MDOT is required before they are used.

The Contractor may substitute a better asphalt binder grade at no cost to the Department. Notify the Department of this substitution at the pre-production meeting. The Contractor may substitute

an asphalt binder grade that is higher on the high temperature end and/or lower on the low temperature end. For example, if the project requires PG 58-22 in the base course, the Contractor could use PG 64-22, PG 58-28, or PG 64-28. Specification testing will pertain to the actual asphalt binder grade used in the HMA mixture.

d. Asphalt Binder Samples. Obtain the asphalt binder sample, correctly label the sample container, and complete a Sample Identification (Bituminous Material) (Form 1923B). Ensure the form is filled out correctly and completely and signed before the sample is given to the Engineer. Ensure the asphalt binder sample is taken from a sampling spigot located on the pipeline supplying asphalt binder to the plant, in a position between the asphalt binder pump and the point where the asphalt binder enters the mixture. Personnel safety is critical in selecting the position of the sampling spigot.

Collect the asphalt binder sample in three one-pint (16 ounce), slip top, seamless ointment tins. Ensure the tins are at least three quarters full. The Contractor will keep possession of one tin and the Engineer will take possession of two tins. If the asphalt binder sample has the “P” designation (e.g., PG 70-28P), obtain six one-pint containers. The Contractor will keep possession of two tins, and the Engineer will take possession of four tins. Label all tins in a legible format with the following information:

- MDOT control section and job number
- Binder grade
- Binder supplier certifier number
- Date sampled

The Engineer may request to witness the sampling of the asphalt binder upon any visit to the HMA plant. The Engineer will complete the 1923B form for the witness sample. The witness sample will become the asphalt binder sample of record for that specific asphalt binder grade. Any other asphalt binder sample of that grade taken that same day will be discarded.

The Contractor is responsible for keeping the MDOT Binder Certification Documents on file for a period of 3 years after the project completion date. The Engineer may request a copy of the MDOT Binder Certification Documents at any time. If requested, ensure these copies are presented to the Engineer. The Engineer will review these documents and communicate any problems that may arise.

e. Price Adjustments.

1. Ensure asphalt binder samples are taken daily prior to incorporation into the HMA mixture. The Engineer will witness and obtain a minimum of one asphalt binder sample for every PG asphalt binder grade being supplied to the project except for HMA mixtures that are used for temporary pavement or accepted by visual inspection criteria. When the witnessed asphalt binder sample of a specific PG binder grade falls within the ranges shown in Tables 1 through 5, the contract base price for the HMA mixture containing the out of specification binder will be reduced by the percentage shown in the table for that days production represented by the sample. If multiple tests on an asphalt binder sample are out of specification, the greatest price reduction from Tables 1 through 5 will apply. If the price reduction is 50 percent, the day of production will be evaluated by the Engineer. If the Engineer determines that removal is warranted, the Contractor must remove and replace the pavement at the Contractors expense. The CFS HMA Laboratory will continue testing to determine the extent of the non-specification asphalt binder.

2. The Engineer may test any asphalt binder sample to ensure it meets the requirements of the standard specifications. When the asphalt binder sample of a specific PG binder grade falls within the ranges shown in Tables 1 through 5, the contract base price for the HMA mixture containing the out of specification binder will be reduced by the percentage shown in the table for that days production represented by the sample. If multiple tests on an asphalt binder sample are out of specification, the greatest price reduction from Tables 1 through 5 will apply. If the price reduction is 50 percent, the day of production will be evaluated by the Engineer. If the Engineer determines that removal is warranted, the Contractor must remove and replace the pavement at the Contractors expense.

3. When the HMA Application Estimate Table specifies a polymer modified PG asphalt binder, they will be identified by the suffix “P” at the end of the grade (e.g., PG 70-28P). In addition to subsections e.1. and e.2. of this special provision, the polymer modified PG asphalt binder must also meet the criteria shown in Tables 6 or 7. If the polymer modified PG asphalt binder fails to meet the criteria shown in Tables 6 or 7, the contract base price for the bituminous mixture containing the out of specification asphalt binder will be decreased by 25 percent for the day of production represented by the sample. This 25 percent will be in addition to any price reductions incurred from Tables 1 through 5.

4. If any of the following four situations occur, the Engineer will evaluate those days of production. The Engineer will require the Contractor to remove and replace the pavement at the Contractors expense, or if the pavement is not removed, a 50 percent reduction in the contract base price will be imposed on the HMA mixture.

- Asphalt binder supplier is not on the approved certifier's list or has not been approved through acceptance testing for this project.
- The Certification Document states less than the minimum grade of binder, as specified by the contract, is used in the HMA mixture.
- An asphalt binder sample is not taken.
- Any of the specified one pint sample tins are less than three quarters full.

f. Dispute Resolution Process for Asphalt Binder Samples. If the asphalt binder test results performed by CFS HMA laboratory fall within the ranges shown in Tables 1 through 5, and/or fail to meet the criteria shown in Tables 6 or 7, the asphalt binder sample is eligible for dispute resolution. The dispute resolution process is as follows:

1. The Contractor must send their corresponding retained asphalt binder sample to an *AASHTO* accredited asphalt binder laboratory for PG binder grade verification. These results must verify the disputed PG asphalt binder grade.

2. Submit a request for asphalt binder dispute resolution testing electronically to the Engineer, within 15 working days of being notified of asphalt binder sample failing to meet specification. The request must include the test results that verify the disputed corresponding PG asphalt binder grade. A signed statement certifying that the test results represent the disputed corresponding PG grade is required.

3. The Engineer will document receipt of the request for dispute resolution and test results from the Contractor. The Engineer will notify MDOT CFS HMA Laboratory within 2 working days of the receipt of the request.

4. The CFS HMA Laboratory will send the dispute resolution asphalt binder sample to a third party *AASHTO* accredited asphalt binder laboratory for PG binder grade verification.

5. All dispute resolution results will replace the original asphalt binder results.

6. If any of the dispute resolution results fall within the limits shown in Tables 1 through 5, and/or fail to meet criteria in Tables 6 or 7, all costs associated with completing the dispute resolution sample will be borne by the Contractor.

7. If the dispute resolution results do not fall within the limits shown in Tables 1 through 5, and/or meet criteria in Tables 6 or 7, all costs associated with completing the dispute resolution sample will be borne by the Department.

g. Measurement and Payment. Payment for this work is considered included in the price bid for the applicable HMA items of work.

Table 1: Dynamic Shear Rheometer Original Material

% Reduction	Spec. Range (kPa)
2.5	0.98 - <1.00
5	0.93 - <0.98
10	0.88 - <0.93
15	0.83 - <0.88
20	0.78 - <0.83
30	0.73 - <0.78
40	0.68 - <0.73
50	less than 0.68

Table 2: Dynamic Shear Rheometer RTFO Material

% Reduction	Spec. Range (kPa)
2.5	2.08 - <2.20
5	1.98 - <2.08
10	1.88 - <1.98
15	1.78 - <1.88
20	1.68 - <1.78
30	1.58 - <1.68
40	1.48 - <1.58
50	less than 1.48

Table 3a: Dynamic Shear Rheometer PAV Material

% Reduction	Spec. Range (kPa)
2.5	>5000 - 5350
5	>5350 - 5600
10	>5600 - 5850
15	>5850 - 6100
20	>6100 - 6350
30	>6350 - 6600
40	>6600 - 6850
50	greater than 6850

Table 3b: Dynamic Shear Rheometer PAV Material (Intermediate Phase Angle ≥ 42 Degrees)

% Reduction	Spec. Range (kPa)
2.5	>6000 -6350
5	>6350 - 6600
10	>6600 - 6850
15	>6850 - 7100
20	>7100 - 7350
30	>7350 - 7600
40	>7600 - 7850
50	greater than 7850

Table 4: Bending Beam Rheometer Stiffness

% Reduction	Spec. Range (MPa)
2.5	>300 - 309
5	>309 - 324
10	>324 - 339
15	>339 - 351
20	>351 - 369
30	>369 - 384
40	>384 - 399
50	greater than 399

Table 5: Bending Beam Rheometer M-Value

% Reduction	Spec. Range
2.5	0.292 - <0.300
5	0.285 - <0.292
10	0.270 - <0.285
15	0.255 - <0.270
20	0.240 - <0.255
30	0.225 - <0.240
40	0.210 - <0.225
50	less than 0.210

Table 6.Requirements for Styrene-Butadiene-Styrene (SBS) Modified Binders

Test	Asphalt Grade PG 58-34(P), PG 64-28(P) PG 70-22(P), PG 70-28(P)	Asphalt Grade PG 64-34(P), PG 70-34(P), PG 76-22(P), PG 76-28(P)
Tests On Original Binder, (a)		
Separation of Polymer *ASTM D7173* 163°C, 48 hours, (R & B, *ASTM D36/D36M*, difference between top and bottom), Maximum	2	2
Force Ratio *AASHTO T300* 4°C, 50 mm/min.; 300 mm elongation, Minimum	0.30	0.35
Tests On Residue From Rolling Thin Film Oven, (a)		
Elastic Recovery *AASHTO T301*, 25°C 100 mm elongation, and cut immediately, % Minimum	60	70
a. Report DSR values for G*/sin delta, and the phase angle at the high-grade temperature on the original and on the RTFO residue for informational purposes.		

Table 7. Requirements for Styrene-Butadiene-Rubber (SBR) Modified Binders

Test	Asphalt Grade PG 58-34(P), PG 64-28(P) PG 70-22(P), PG 70-28(P)	Asphalt Grade PG 64-34(P), PG 70-34(P) PG 76-22(P), PG 76-28(P)
Tests On Original Binder, (a)		
Separation Of Polymer *ASTM D7173* 163°C, 48 hours, (R & B, *ASTM D36/D36M*, difference between top and bottom), Maximum	2	2
Toughness *ASTM D5801* 25°C, 500 mm/min Newton-Meters (inch-pounds), Minimum	12.5 (110)	12.5 (110)
Tenacity *ASTM D5801* 25°C, 500 mm/min, Newton-Meters (inch-pounds)	8.5 (75)	8.5 (75)
Tests on Residue from Rolling Thin Film Oven, (a)		
Elastic Recovery *AASHTO T301*, 25°C 100 mm elongation, and cut immediately, %minimum	40	50
a. Report DSR values for G*/sin delta, and the phase angle at the high-grade temperature on the original and on the RTFO residue for informational purposes.		

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
HOT MIX ASPHALT MATERIAL TRANSFER DEVICE

CFS:KPK 1 of 1 APPR:JWB:CJB:02-26-20
FHWA:APPR:03-02-20

a. Description. This work consists of providing and using a hot mix asphalt (HMA) material transfer device on all mainline paving of rehabilitation and reconstruction projects on Interstate routes, limited access U.S. routes, and limited access M routes when there is more than 7,500 tons of HMA for an individual paving course other than Stone Matrix Asphalt (SMA). Shoulders paved in a separate operation with inadequate base conditions identified on the plans and more than 5000 tons of HMA for an individual paving course will require a material transfer device. Base course mixes placed on a rubblized pavement, a shoulder paved separately (with adequate base conditions or less than 5000 tons), and paving courses with less than 7,500 tons of HMA for an individual paving course other than SMA will not require the use of a Material Transfer Device. Use a material transfer device on all rehabilitation and reconstruction projects and Capital Preventative Maintenance projects utilizing SMA when there is more than 5000 tons of SMA on the project. This device must independently deliver HMA mixture from the truck transport to the paver hopper to assure constant paver speed without stopping the laydown operation.

For limited access routes with intersections and at grade crossings the project Maintenance of Traffic (MOT) must close all intersections and at grade crossings during paving operations.

b. Materials. None specified.

c. Construction. The material transfer device must meet all the requirements as specified in subsection 501.03.A.7 of the Standard Specifications for Construction.

A windrow pickup machine will not satisfy the requirements of this special provision.

d. Measurement and Payment. Payment for this work will not be made separately but will be included in the cost for the related HMA items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK 1 of 7 APPR:CJB:JWB:02-26-20
FHWA:APPR:03-13-20

a. Description. This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the standard specifications, except where modified herein.

b. Materials. Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter			Top and Leveling Course		Base Course	
Number	Description		Range 1 (a)	Range 2	Range 1 (a)	Range 2
1	% Binder Content		-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)		Below 10%	Below 15%	Below 10%	Below 15%

a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).
b. Deviation from JMF.

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

c. Construction. Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless specified otherwise on HMA application estimate. For mixtures meeting the definition of base course, field regress air void content to 3.0 percent with liquid asphalt cement unless specified

otherwise on HMA application estimate.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are "Local Agency HMA Sampling Qualified" samplers. At the pre-production or preconstruction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with *MTM 313 (Sampling HMA Paving Mixtures)* or *MTM 324 (Sampling HMA Paving Mixtures Behind the Paver)*. Samples are to be taken from separate hauling loads.

For production/mainline type paving, obtain a minimum of two samples, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample and maintain possession of the sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram parts with one part being for initial testing and the other part being held for possible dispute resolution testing. Obtain a minimum of three samples for each mix type regardless of the number of days of production.

Obtain samples that are representative of the day's paving. Sample collection is to be spaced throughout the planned tonnage. One sample will be obtained in the first half of the tonnage and the second sample will be obtained in the second half of the tonnage. If planned paving is reduced or suspended, when paving resumes, the remaining sampling must be representative of the original intended sampling timing.

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified.

Ensure daily test samples are obtained, except, if the first test results show that the HMA mixture is in specification, the Engineer has the option of not testing additional samples from that day.

At the pre-production or preconstruction meeting, the Engineer and Contractor will collectively determine the test method for measuring asphalt content (AC) using *MTM 319 (Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method)* or *MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures)*. Back calculation will not be allowed for determining asphalt content.

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual and the Michigan Quality Assurance Procedures Manual,* and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory* (AMRL) accredited for *AASHTO T30* or *T27*, and *AASHTO T164* or *T308*. Ensure on non-National Highway System (NHS) routes, Contractor labs are made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 14 calendar days, except holidays and Sundays, for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendars days, except holidays and Sundays, for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. QA test results will be provided to the Contractor after the Engineer receives the QC test results. Failure on the part of the Engineer or the laboratory to provide QA test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from MTM 319. Gradation (*ASTM D5444*) and Crushed particle content *(MTM 117)* based on aggregate from *MTM 319*. The incineration temperature will be established

at the pre-production meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment per the Measurement and Payment section of this special provision.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised JMF or proposed alterations to the plant and/or materials to achieve the JMF to the Engineer. Effects on the Aggregate Wear Index (AWI) and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or preconstruction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

Option 1 - Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density 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 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

Option 2 - Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Use of the density gauge requires establishing a rolling pattern that will achieve the required in-place density. The Engineer will measure pavement density with a density gauge using the Gmm from the JMF for the density control target.

Use of the Roller Method requires developing and establishing density frequency curves, and

meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or QC rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer's recommended procedures.

Table 2: Minimum Number of Rollers Recommended Based on Placement Rate

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1

a. Number of rollers may increase based on density frequency curve.
b. The compaction roller may be used as the finish roller also.

After placement, roll the HMA mixture as soon after placement as the roller is able to bear without undue displacement or cracking. Start rolling longitudinally at the sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drum. Ensure each required roller is 8 tons minimum in weight unless otherwise approved by the Engineer.

Ensure the initial breakdown roller is capable of vibratory compaction and is a maximum of 500 feet behind the paving operations. The maximum allowable speed of each roller is 3 miles per hour (mph) or 4.5 feet per second. Ensure all compaction rollers complete a minimum of two complete rolling cycles prior to the mat temperature cooling to 180 degrees Fahrenheit (F). Continue finish rolling until all roller marks are eliminated and no further compaction is possible. The Engineer will verify and document that the roller pattern has been adhered to. The Engineer can stop production when the roller pattern is not adhered to.

d. Measurement and Payment. The completed work, as described, will be measured and paid for using applicable pay items as described in subsection 501.04 of the Standard Specifications for Construction, or the contract, except as modified below.

Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt

of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractors QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract base price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the Contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.

Table 3: Penalty Per Parameter

Mixture Parameter out-of-Specification per Acceptance Tests	Mixture Parameter out-of-Specification per Dispute Resolution Test Lab	Price Adjustment per Parameter
No	N/A	None
Yes	No	None
	Yes	Outside Range 1 but not Range 2: decrease by 10%
		Outside Range 2: decrease by 25%

The quantity of material receiving a price adjustment is defined as the material produced from the time the first out-of-specification sample was taken until the time the sample leading to the first in-specification test was taken.

Each parameter of Table 1 is evaluated with the total price adjustment applied to the contract base price based on a sum of the two parameter penalties resulting in the highest total price adjustment as per Table 4. For example, if three parameters are out-of-specification, with two parameters outside Range 1 of Table 1 tolerance limits, but within Range 2 of Table 1 limits and one parameter outside of Range 2 of Table 1 tolerance limits and the Engineer approves leaving the mixture in place, the total price adjustment for that quantity of material is 35 percent.

Table 4: Calculating Total Price Adjustment

Cost Adjustment as a Sum of the Two Highest Parameter Penalties		
Number of Parameters Out-of-Specification	Range(s) Outside of Tolerance Limits of Table 1 per Parameter	Total Price Adjustment
One	Range 1	10%
	Range 2	25%
Two	Range 1 and Range 1	20%
	Range 1 and Range 2	35%
	Range 2 and Range 2	50%
Three	Range 1, Range 1 and Range 1	20%
	Range 1, Range 1 and Range 2	35%
	Range 1, Range 2 and Range 2	50%
	Range 2, Range 2 and Range 2	50%

Table 5: Density Frequency Curve Development

Tested by: _____ Date/Time: _____

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: _____

_____

_____

_____

_____

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PAVEMENT RIDE QUALITY (MEAN ROUGHNESS INDEX ACCEPTANCE CRITERIA)

CFS:PDS 1 of 11 APPR:KPK:CRB:04-08-25
FHWA:APPR:04-14-25

a. Description. This work consists of furnishing a pavement surface with acceptable ride quality for all pavements covered by this special provision. Furnish, operate, and maintain a profiler, in proper calibration, to measure ride quality for QC purposes. Prepare and submit a Ride Quality Plan and, if required, a corrective action plan, to the Engineer for approval. Complete all corrective action as required by this special provision.

Ensure that the pavement on which ride quality measurements are taken, including acceptance runs conducted by the Engineer, is clean prior to ride quality measurements.

The following subsections of the Standard Specifications for Construction apply only to areas excluded from pavement ride quality in Class II, III and IV sections:

Subsection 501.03.H (10-foot straightedge on HMA pavements)

Subsection 602.03.I (10-foot straightedge on concrete pavements)

b. Terminology.

Bridge Ride Quality Limits. That area between the two end reference lines or between the outermost limits of any structure expansion joint devices, whichever is longer. Within Class I sections ride quality requirements will apply unless specifically noted otherwise. Within Class II, Class III and Class IV sections, bridge ride quality limits will be considered predetermined excluded areas.

Certified Operator. Operators of profilers used for acceptance testing who pass a proficiency test and are certified by the Department.

Class I Ride Quality. Sections where no project specific excluded areas are allowed, a threshold MRI criteria must be met, and incentives will apply.

Class II Ride Quality with Incentive. Sections having a design speed of 50 mph or greater where a threshold Mean Roughness Index (MRI) criteria must be met and incentives will apply.

Class II Ride Quality. Sections where threshold MRI criteria must be met, but incentives do not apply.

Class III Ride Quality. Sections where the preconstruction MRI must be maintained or improved by a specified percentage. Penalties may apply in lieu of corrective action.

Class IV Ride Quality. Sections where acceptance is based on a 10-foot straightedge criteria. Incentives and penalties do not apply.

Contractor Quality Control Run. Informational run(s) made by the Contractor to determine ride quality acceptability, need for corrective action, or need for a process change. Also includes runs made after corrective action to determine if corrective action has been sufficient.

Correction Areas. Areas of the pavement that exceed any of the correction limits for ride quality as defined in Table 1 or Table 2 as applicable.

Course. A layer of a particular bituminous mixture, paved in one or more lifts.

Equipment Validation Section. Equipment Validation Sections are established throughout the state with a minimum of one in each MDOT Region. The Engineer determines a reference MRI value for each validation site based on the mean of 10 runs taken with Department owned or provided equipment. The standard deviation of the 10 runs is also calculated.

International Roughness Index (IRI). A statistic used to determine the amount of roughness in a measured longitudinal profile. The IRI is computed from a single longitudinal profile using a quarter-car simulation as described in the paper "On the Calculation of International Roughness Index from Longitudinal Road Profile" (Sayers 1995). The IRI is reported as described in *ASTM E1926*.

Mean Roughness Index (MRI). A number calculated by averaging the IRI values from the left and right wheel path profiles.

Predetermined Excluded Areas. Areas of pavement within the project where this Pavement Ride Quality special provision does not apply. Straightedge requirements of subsection 501.03.H or 602.03.I of the Standard Specifications for Construction will apply. Predetermined excluded areas include:

- Ramps other than freeway-to-freeway ramps
- All ramp tapers
- Shoulders
- Railroad crossings
- Designated QC/QA loose material sampling areas on the wearing course of HMA pavement projects within Class II, Class III and Class IV sections only collected per MTM 324. This will not include areas where informational samples are taken by the Contractor for other purposes.

Profile. The elevation of a pavement along a line parallel to the centerline of the pavement. Also defined as a two-dimensional plot of the elevation of a pavement, taken in a longitudinal direction, and drawn to scale. Profiles are measured separately along each wheel path of a lane.

Profiler. In general, a device that measures the relative elevation of a pavement surface at discrete intervals and creates a profile. In particular, a device that meets the requirements for a General Motors type rapid travel profiler, as stated in *MTM 726 - Michigan Test Method for Determining Ride Quality Using an Inertial Profiling System*

Project Specific Excluded Areas. Pavement areas identified in the approved ride quality plan where this Special Provision for Pavement Ride Quality does not apply. Straightedge requirements will apply. No project specific excluded areas will be considered within Class I Ride Quality sections of the project.

Ride Point of Beginning. Ride Point of Beginning will be 20 feet after the start of the new pavement surface.

Ride Point of Ending. Ride Point of Ending will be 20 feet before the end of the new pavement surface.

Ride Quality Equipment Certification. A process managed by the Department to assure that ride quality measuring equipment are capable of measuring ride quality to the standards established in *MTM 730 - Michigan Test Method for Certification of Profilometers.*

Ride Quality Measurement Area. The traveled way, collector distributor roadways, freeway to freeway ramps, and other areas as shown on the plans.

Section. A portion of a project which has a single class of ride quality assigned to it. Section beginning and section ending points will be defined in the Special Provision for Ride Quality Limits contained in the contract.

Segment. For ride quality reporting purposes, each lane of each section will be subdivided into segments. A full segment is 0.1 miles long while a partial segment is less than 0.1 miles long.

Wheel Path. Longitudinal locations 3 feet from each edge of a lane.

c. Ride Quality Plan. Submit a written Ride Quality Plan to the Engineer for approval a minimum of 14 calendar days prior to the start of paving operations. The Engineer will submit the Plan to the Pavement Evaluation Group at Construction Field Services for concurrent review and to coordinate ride quality acceptance testing. Do not begin paving operations before approval of the Ride Quality Plan by the Engineer. The Engineer will notify the Contractor in writing of approval, or any objections to the Plan, within 14 calendar days of receipt of the Plan.

Include the following minimum details in the Ride Quality Plan:

1. Equipment used to measure ride quality on the project for quality control.

2. Proposed project specific excluded areas (see Section d of this special provision). Use the form “Proposed Ride Quality Excluded Areas” (MDOT Form 1978).

3. Method(s) to correct surface irregularities.

4. Correction layout method.

5. Anticipated ride quality measurement schedule for acceptance testing, including how project staging will affect Department access to the completed pavement.

6. Predetermined excluded areas that apply to this project.

d. Project Specific Excluded Areas. Propose for exclusion, from Class II, III and IV ride

quality sections, circumstances or physical features that will substantially hinder the ability to achieve ride quality. Identify these proposed areas in the Ride Quality Plan. The Engineer has the right to accept or reject each proposed project specific excluded area. Project Specific Excluded Areas may include, but are not limited to, the following for freeway and non-freeway projects:

1. Freeway Pavements. Areas where the constructed pavement must match grades of an existing feature (e.g. curb and gutter or an existing lane that will not be overlaid).

2. Non-Freeway Pavements.

A. Areas where the constructed pavement must match grades of an existing feature (e.g. curb and gutter, or an existing lane that will not be overlaid).

B. Major at-grade intersections with part width or staged construction (where traffic flow is maintained during construction) may be considered for exclusion if listed as such in the ride quality plan. The excluded area will extend between the approach and departure spring points of the intersection.

C. In general, areas surrounding existing utility and drainage structures may be designated as excluded areas.

D. In general, pavement gapped areas may be designated as excluded areas.

E. Roundabouts.

3. Bridge Decks (as defined by the Bridge Ride Quality Limits). For bridge decks included in Class I sections, no exclusions will be considered.

Project specific excluded areas will not be considered for Class I Ride Quality sections.

e. Contractor Quality Control Runs. Test in accordance with *MTM 726*. If the equipment used to measure ride quality excludes a given distance at the beginning and end of each run, account for this when marking the actual starting and stopping locations.

For any HMA project with 2 or more lifts, take QC runs on both the leveling and top courses. Furnish results of the QC runs to the Engineer as requested.

f. Corrective Action Requirements. Take initial corrective action to address all surface irregularities (bumps or dips) on any leveling course that exceed 0.5 inches in 25 feet.

Take corrective action to address all surface irregularities (bumps or dips) as defined in Table 1 or Table 2 prior to the ride quality acceptance runs on the final riding surface.

Use QC measurements to locate surface irregularities. Examine the profilograph measurements to identify surface irregularities and field check the locations to verify that correction is justified. Alternate bump finding methods which utilize software may be considered. All QC measurements are at Contractor's expense.

Submit a corrective action plan to the Engineer for approval. The Engineer must approve of the Contractor's corrective method prior to the Contractor starting corrective work. Any corrective

action must meet the specifications for ride quality over the entire length of the segment. Replace, at no cost to the Department, any permanent pavement markings that are damaged or destroyed during surface correction activities. All proposed corrective action is at the Contractor's expense.

Use a profiler or an Engineer approved method to locate and mark all surface irregularities requiring correction. Correct all segments containing areas exceeding the corrective limits shown in Table 1 or Table 2.

Corrective action for Class I, II, III and IV sections must consist of the following methods:

1. For Concrete Pavement and Diamond Grinding Work Types. Diamond grind in accordance with subsections 603.03.A.4 and 603.03.C of the Standard Specifications for Construction. Do not impair surface drainage or create any areas that allow water to pond.

2. For All Other Work Types. Use one or a combination of the following methods:

A. Diamond grind the HMA surface in accordance with the requirements as stated in subsections 603.03.A.4 and 603.03.C of the Standard Specifications for Construction. Do not impair surface drainage or create any areas that allow water to pond.

B. Fine Tooth Milling. Furnish equipment that consistently mills the HMA surface in one or more passes to the required grade or cross section with the required uniform textured surface. Do not impair surface drainage or create any areas that allow water to pond. Use equipment that will not cause damage to the underlying surface of the pavement. To remove residue and excess water, furnish vacuum equipment that extracts the milled material and excess water from the pavement and prevents dust from escaping into the air.

Furnish machines equipped with the following:

(1) Automatically controlled and activated cutting drums,

(2) Grade reference and transverse slope control capabilities,

(3) Cutting drums with teeth spacing at a maximum 5/16 inch, and

(4) Built-in automatic grade averaging control.

Mill HMA pavement in the longitudinal direction beginning and ending at lines perpendicular to the pavement centerline. Ensure the milled surface has a mean texture depth of at least 0.03 inches and a maximum 0.06 inches, in accordance with *ASTM E965*.

Construct a uniform transverse slope with no depressions or misalignment greater than 1/8 inch when checked with a 10-foot straightedge. Provide for cross slope drainage.

C. Remove and replace a minimum of 1.5 inches of HMA pavement surface one full lane width wide by the length required (a minimum of 100 feet).

D. Profile milling can be used for corrective action on leveling and base courses only.

For Class III pavements (all segment speeds) that exceed the correction limits indicated in Table

1 or Table 2, the Engineer may assess penalties in accordance with Table 3 in lieu of corrective action.

Do not, under any circumstance, subject the pavement to an artificial heat source.

g. Documentation of Ride Limits. As part of the corrective action plan, furnish a list of approved excluded areas on the form "Proposed Ride Quality Excluded Areas" (MDOT form 1978) for each lane. Include the locations of any noted surface irregularities on new surfaces that the Engineer evaluated and agreed did not require correction.

h. Ride Quality Acceptance. The Engineer will take measurements for ride quality acceptance. Ride quality acceptance testing will be completed within 7 days of notification provided the following conditions are met: the entire length of the pavement (or an entire phase of a phased project) can be accessed and measured, the pavement is clean and clear of all obstructions for the entire length of a proposed run, and the Contractor has kept the Engineer informed of changes to the anticipated ride quality measurement schedule. It is the Engineer's responsibility to coordinate ride quality measurement with the appropriate MDOT personnel. The Engineer will determine pavement acceptance based on the selected method of measurement for the final MRI for each lane for the entire project length minus excluded areas. Each tenth-mile segment of pavement falling outside the acceptable range for ride quality will be removed and replaced or corrected at the Contractor's expense.

1. Unit of Measurement. Ride quality measurements will be calculated and reported by the Engineer as MRI. Calculations will be in accordance with *MTM 726*.

2. Project Layout. Acceptance runs will be laid out in one tenth-mile segments in the direction of travel starting at the section beginning point and ending at the section ending point. Distance measurement will be continuous through excluded areas. Segments that include an excluded area will be reported as partial segments. Project phasing will not affect project layout.

3. Measurement Means. One of the following methods will be selected by the Engineer at the time of approval of the Ride QC Plan. Method B can only apply if agreed to by the Contractor:

A. The Engineer will furnish and operate a certified profiler. Should discrepancies exist between the Department's acceptance measurement and the Contractor's QC measurements, the Contractor may request that the segments of the project with discrepancies be tested for acceptance using method B.

B. The Engineer will furnish a Certified Operator to operate the Contractor's certified profiler. The Contractor may require that their employee drive the vehicle the profiler is mounted on, but the Engineer must be in total control of the profile measurement and analysis.

4. Equipment Validation. For each day that acceptance measurements are taken, the Engineer will verify that the profiler passes all daily checks as outlined in *MTM 726*. In addition, for each day that acceptance measurements are taken using Contractor furnished equipment, the Engineer will use one of the following three methods to validate the profiler operation:

A. Measure a nearby Equipment Validation Section. One run will be made with the Contractor's profiler and the data of profilograph plot must visually match valid plots previously obtained by Department owned or furnished equipment. In addition, the MRI value obtained by the Contractor's profiler must be within two standard deviations of the Department's previously determined reference value, using the Department's previously determined standard deviation.

B. When acceptance measurements are taken on consecutive days, re-measure a one tenth-mile long portion of the previous day's acceptance runs. Method A or C must have been used to validate equipment operation on the first day of acceptance testing. One run will be made and the graphical representation of the profile (for example, a profilograph plot) must visually match the valid plot previously obtained. In addition, the MRI value obtained must be within 5.7 percent of the previous day's value.

C. Measure a one tenth-mile long portion of the project with both Contractor- and Engineer-furnished equipment. One run will be made with each piece of equipment and the graphical representation of the profile (for example, a profilograph plot) must visually match. In addition, the MRI value obtained by the Contractor's equipment must be within 10 percent of the value obtained by the Engineer's equipment.

The Engineer may require equipment re-certification if measurements cannot be validated or the equipment repeatedly fails daily checks.

5. Calculation Method. The Engineer will calculate and report an MRI value for each tenth-mile segment and for the entire length of each lane in each section. Reported values will be rounded to the nearest whole number following the rounding method of *ASTM E29*.

Segments less than a tenth of a mile in length will be reported as partial segments and the MRI calculation will account for the shorter length by using weighted averaging.

Ride quality on Class III sections will be measured by the Engineer before and after construction. The "before" measurement will be completed in the same construction season as the paving. The "after" measurement will be completed within 10 days after completion of each stage of paving. Before and after MRI values (for the entire lane length and for each tenth-mile segment) will be compared to calculate the percentage improvement in ride quality. Percent improvement values will be rounded to the nearest whole percent following the rounding method of *ASTM E29*.

Acceptance test results will be made available to the Contractor within 7 calendar days of the run.

6. Ride Quality Requirements. Required ride quality values are given in the attached tables for each Class of Ride Quality. Each lane of each section must meet the criteria listed for both the entire length of the lane, and for each tenth-mile segment.

i. Measurement Appeal Process. Appeal only applies if the method in subsection h.3.A is used for acceptance measurement. If the Engineer's acceptance measurements indicate corrective action is required and the Contractor's QC measurements show no corrective action is required, the Contractor may request that the disputed segments be rerun. The Engineer and the Contractor will recertify the profilers and rerun the disputed segments.

j. Measurement and Payment. All costs associated with QC ride quality measurements are included in other items of work and will not be paid for separately.

All corrections within the limits of ride quality will be done at the Contractor's expense. In addition, all corrections required to bring excluded areas into compliance with the straightedge requirements of subsections 501.03.H or 602.03.I of the Standard Specifications for Construction, will be done at the Contractors expense.

Table 1: Ride Quality Requirements (MRI) for Design Speeds Greater than 50 mph

Class	Work Type	For Total Length of Lane		For Each Tenth-Mile Segment	Surface Irregularities Subject to Correction (a)
		Acceptable Range (MRI)	Correction Limit (MRI)	Correction Limit (MRI)	
I	HMA Pavement (Excluding Bridge Decks)	0-70	> 70	> 75	> 0.3 inch in 25 feet
I	Concrete Pavement (Excluding Bridge Decks)	0-70	> 70	> 75	> 0.3 inch in 25 feet
I	Bridge Decks (b)	0-130	> 130	N/A	> 1/8 inch in 10 feet
II	HMA or Composite Pavement (2 or more lifts)	0-75	> 75	> 85	> 0.3 inch in 25 feet
II	Concrete Pavement	0-75	> 75	> 85	> 0.3 inch in 25 feet
III	Single Course HMA Overlay (with milling)	≥ 25% Improvement (c)	< 25% Improvement (c)	>Initial MRI (c)	N/A
III	Single Course HMA Overlay (without milling)	≥ 20% Improvement if initial MRI is > 165	< 20% Improvement if initial MRI is > 165	> Initial MRI (c)	N/A
		< 105 if the initial MRI is ≤ 165.	> 105 if the initial MRI is ≤ 165.	> Initial MRI (c)	N/A
III	Diamond Grinding	≥ 40% Improvement (d)	< 40% Improvement (d)	< 30% Improvement (d)	> 0.3 inch in 25 feet
IV	HMA Pavement	N/A	N/A	N/A	(e)
IV	Concrete Pavement	N/A	N/A	N/A	(f)

a. See Section f of this special provision.
b. Includes all new bridge decks, and all shallow and deep concrete overlays within Class I sections.
c. Requirement waived if final MRI ≤ 85.
d. Requirement waived if final MRI ≤ 75.
e. See subsection 501.03.H of the Standard Specifications for Construction.
f. See subsection 602.03.I of the Standard Specifications for Construction.

Table 2: Ride Quality Requirements (MRI) for Design Speeds 30 to 50 mph

Class	Work Type	For Total Length of Lane		For Each Tenth-Mile Segment	Surface Irregularities Subject to Correction (a)
		Acceptable Range (MRI)	Correction Limit (MRI)	Correction Limit (MRI)	
II	HMA or Composite Pavement (2 or more lifts)	0-100	> 100	> 125	> 0.5 inch in 25 feet
II	Concrete Pavement	0-100	> 100	> 125	> 0.5 inch in 25 feet
III	Single Course HMA Overlay (with milling)	≥ 25% Improvement (b)	< 25% Improvement (b)	> Initial MRI (b)	N/A
III	Single Course HMA Overlay (without milling)	≥ 20% Improvement if initial MRI is > 165	< 20% Improvement if initial MRI is > 165	> Initial MRI (b)	N/A
		< 105 if the initial MRI is ≤ 165	> 105 if the initial MRI is ≤ 165	> Initial MRI (b)	N/A
III	Diamond Grinding	≥ 40% Improvement (b)	< 40% Improvement (b)	< 30% Improvement (b)	> 0.3 inch in 25 feet
IV	HMA Pavement	N/A	N/A	N/A	(c)
IV	Concrete Pavement	N/A	N/A	N/A	(d)

a. See section f of this special provision.
b. Requirement waived if final MRI ≤ 100.
c. See subsection 501.03.H of the Standard Specifications for Construction.
d. See subsection 602.03.I of the Standard Specifications for Construction.

Table 3: Optional Penalties for Class III Pavements in Lieu of Corrective Action Based on Final MRI

Class	Work Type	Acceptable Range (MRI) from Table 1 or Table 2, as applicable	Actual Range of Improvement in MRI for total length of lane		
III	Single Course HMA Overlay (with milling)	≥ 25% Improvement (a)	20-24% Improvement	15-19% Improvement	< 15% Improvement
III	Single Course HMA Overlay (without milling)	≥ 20% Improvement if initial MRI is > 165	15-19% Improvement	10-14% Improvement	< 10% Improvement
III	Single Course HMA Overlay (without milling)	< 105 if initial MRI is ≤ 165	≥ 105 and < 115	≥ 115 and < 135	≥ 135
III	Diamond Grinding (b)	≥ 40% Improvement	35-39% Improvement	25-34% Improvement	< 25% Improvement
		Penalty Amount (c)	**$200.00/segment of traffic lane**	**$400.00/segment of traffic lane**	**$600.00/segment of traffic lane**

a. Requirement waived if final MRI ≤ 85 for design speeds above 50 mph or if final MRI ≤ 100 for design speeds 30 to 50 mph.
b. For diamond grinding all surface irregularities per Table 1 or 2 must be addressed in each segment.
c. Penalties will be determined based on the average MRI value for each segment of each lane. The penalties will be assessed for segment of the lane. Calculate lane lengths to the nearest tenth of a mile.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PAVEMENT ACCEPTANCE FOR JOINTED PLAIN CONCRETE PAVEMENT

CFS:JFS 1 of 1 APPR:JAB:TES:04-02-20
FHWA:APPR:04-03-20

a. Description. This special provision defines the requirements for pavement acceptance that are in addition to those specified in section 602 of the Standard Specifications for Construction. When applicable, the condition for initial acceptance of the pavement in accordance with the Materials and Workmanship Warranty still apply. This special provision does not relieve the Contractor of responsibility for performing the work in accordance with subsection 107.11 of the Standard Specifications for Construction.

The Engineer will inspect the completed pavement for any visible indication of cracking. If cracking is found, decisions regarding corrective actions will be made jointly by the Engineer and the Construction Field Services Division, in accordance with Table 1.

All costs for the work required to repair or replace any unacceptable pavement are the responsibility of the Contractor. No time extensions will be granted to the Contractor for any required repair work to meet the requirements of this special provision.

For purposes of this special provision, a crack is defined as a fissure of varying length and orientation in the pavement that extends to some measurable depth. A crack may be a single entity or found in groups or clusters with possible associated distress features.

Table 1: Acceptance Factors and Corrective Action

Acceptance Factor	Length	Extent	Severity	Corrective Action (a)(d)
LC	any	single/multiple	all	Replace slab (b)
TC - ≥ 1.5 ft. from TJ	any	single/multiple	all	Replace slab (b)
TC - < 1.5 ft. from TJ	any	single/multiple	all	Replace joint (c)

LC = longitudinal crack TJ = transverse joint
TC = transverse crack

a. Repair must establish an acceptable transverse load transfer of efficiency greater than 90%.
b. An appropriate corrective treatment (based on the specific crack's characteristics, its location relative to a longitudinal or transverse joint, and the corrective treatment's contribution toward the pavement's intended service life) may be proposed by the Contractor in lieu of full slab replacement. The Contractor's corrective treatment proposal is subject to approval by the Engineer.
c. Full-depth PCC repair. FDR must be 6 feet long, minimum, by the entire lane width in accordance with Standard Plan R-44 Series. Install contraction joints (Type Crg) at both transverse joint locations.
d. Do not overcut into the adjacent lane or shoulder.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CURING CONCRETE PAVEMENT SURFACES

CFS:JFS 1 of 3 APPR:ARB:TES:04-02-20
FHWA:APPR:04-03-20

a. Description. This work sets forth requirements for curing horizontal and vertical surfaces of the concrete pavement. All work will be in accordance with the standard specifications, except as modified herein.

Curing requirements for temporary concrete pavements are not covered by this special provision and will be in accordance with the standard specifications.

b. Materials. Curing materials are specified in subsection 903.06.A of the Standard Specifications for Construction.

c. Construction. For concrete pavements other than temporary applications the following requirements apply.

1. Curing. Curing operations will take precedence over texturing in accordance with subsection 602.03.K of the Standard Specifications for Construction.

Include details for the operation and oversight of curing in the approved Quality Control (QC) plan.

The curing period will commence immediately after application of curing compound and must be continuously maintained until the pavement concrete attains the opening to traffic flexural strength.

Use the fully-automatic, self-propelled mechanical atomizing power sprayer approved by the Engineer to apply the curing compound. Operate the equipment to direct the curing compound onto the surface from two different lateral directions. Do not allow the sprayer to ride on the pavement surface. Ensure the sprayer covers the entire pavement horizontal and vertical surfaces with no puddling, dripping, or non-uniform application occurs.

A foot bridge, or other means, may be used to apply curing compound for concrete pavements and shoulders less than 24 feet wide. Ensure the atomizing mechanical sprayer is capable of uniformly applying the curing compound at the specified rate , as described in this special provision.

Do not commence concrete paving until it is demonstrated to the Engineer that the curing materials and personnel are on site and the curing equipment is fully operational.

Maintain a thoroughly mixed curing compound in accordance with the manufacturer’s recommendations. Do not dilute curing compound.

Protect curing compounds from freezing before application.

Temporarily suspend paving operations if it is observed that the curing operations are not in conformance with specification requirements. Resume paving only after action has been taken to correct deficiencies and it has been demonstrated that the corrective action will ensure contract compliance moving forward.

2. Time of Application. Place the curing compound within 30 minutes of screeding and floating the fresh concrete pavement surface or within 15 minutes after the sheen from bleed water has dissipated, whichever is greater. Where applicable, apply the second coat after the first coat dries, but do not allow more than 2 hours between coats. Temporarily suspend paving operations if it is observed that the maximum time limitations between finishing and curing, described above, have been exceeded. Place the curing compound on the edges within 30 minutes after permanent removal of curing blankets. If fixed forms are removed within 7 days after concrete placement, coat the sides of the pavement with curing compound after removing the forms. Manually operated pressure-type sprayers may be used to coat the sides of formed pavement with curing compound, as approved by the Engineer.

3. Rate of Application. Apply one coat of curing compound at a minimum application rate of 1 gallon per 16 square yards on non-grooved surfaces and two coats at a minimum application rate of 1 gallon per 25 square yards for each coat on grooved surfaces. For grooved surfaces, apply the first coat within the required time of application, described above.

4. Uniformity of Application. Apply curing compound homogeneously to provide a uniform, solid, white opaque coverage on all exposed concrete surfaces (equal to a white sheet of typing paper). Immediately reapply curing compound to surfaces damaged by rain, tracking of the joint saw, Contractor foot traffic, or other activities. If the Engineer determines that the initial or corrective spraying results in unsatisfactory curing, the Engineer may require the Contractor to use the blanket curing method, at no additional cost to the Department.

Replace concrete showing damage due to inadequate curing, at no additional cost to the Department.

5. Protection from Cold Weather. If using cold-weather protection during the curing period, curing compound may be temporarily omitted, if approved by the Engineer.

Protect the concrete pavement from freezing for the entire curing period. Application of curing compound at the minimum rate specified in section c of this special provision is then required immediately after removal of cold-weather protection. Remove and replace concrete slabs damaged by cold weather, as directed by the Engineer, at no additional cost to the Department.

d. Acceptance. Pavement surfaces not in compliance with the curing requirements described in this special provision will be subject to a price adjustment (ADJ). A unit of pavement representing the area for price adjustment (ADJ) will include the entire width of concrete placement times the length of concrete that is not in compliance, as determined by the Engineer. Acceptance will be based on conformance with the time of application, rate of application, and uniformity of application described in section c of this special provision. One or more of the following criteria will warrant price adjustment (ADJ) for a unit of pavement.

1. Time of Application. Price adjustment (ADJ) will apply to all concrete surfaces not

receiving timely application of curing compound, irrespective of conformance with the rate or uniformity criteria.

2. Rate of Application. Price adjustment (ADJ) will apply to concrete surfaces not receiving the specified rate of curing compound within the specified time of application.

3. Uniformity of Application. Price adjustment (ADJ) will apply to concrete surfaces not uniformly coated at the minimum rate of application within the specified time of application.

ADJ = minus one dollar (- $1.00) per square yard of finished concrete surface.

Positive price adjustment (ADJ) does not apply.

e. Measurement and Payment. All costs associated with this work will be included in the respective concrete pavement items.

Price adjustment (ADJ) described in section d of this special provision will apply to the respective concrete pavement item.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
BACKFILL FOR CONCRETE CURB, GUTTER, AND DIVIDERS

CFS:JJG 1 of 1 APPR:DMG:DBP:02-16-23
FHWA:APPR:02-21-23

Delete subsection 802.04.H, on page 8-7 of the Standard Specifications for Construction, in its entirety and replace with the following:

H. **Backfill.** Unless the contract includes separate pay items for backfill, the unit price for other items of work will include the cost of backfill.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SIGN, REMOVE, AND SALVAGE

SGN:RO 1 of 1 APPR:AJU:MWB:12-14-21
FHWA:APPR:12-22-21

a. Description. This work consists of removing, salvaging, and storing signs of the type required at locations as shown on the plans. Complete this work in accordance with this special provision, the plans, sections 810 and 919 of the Standard Specifications for Construction, and as directed by the Engineer.

b. Materials. None specified.

c. Construction. Prior to removal of the existing sign, provide an inspection to the Engineer documenting the condition of the existing sign, and identifying any defects or damaged substrate. Upon approval of the Engineer, remove the existing sign. Salvage, transport, and store signs in accordance with the manufacturer's recommendations and section 810 of the Standard Specifications for Construction. Replace any signs damaged during removal, loading transport, unloading and storage at no cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Sign, Type __, Rem, Salv	Each

Sign, Type __, Rem, Salv includes the cost of removing attaching or fastening hardware if shown on the plans; and removing signs from supports; storing signs after removal, loading, transporting, and unloading the salvage sign to a location shown on the plans or as directed by the Engineer.

Removal and replacement of defective signs not damaged by the Contractor will be paid for separately under the associated pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
GROUND MOUNTED SIGN SUPPORTS, REMOVE

DES:DBP 1 of 1 APPR:AJU:MWB:06-28-22
FHWA:APPR:06-28-22

a. Description. This work consists of removing each ground mounted sign support including but not limited to steel posts, wood posts and breakaway sign supports per section 810.03 Standard Specifications for Construction. Complete this work in accordance with this special provision, the plans, sections 810 and 919 of the Standard Specifications for Construction, and as directed by the Engineer.

b. Materials. None specified.

c. Construction. Once the existing sign has been removed and addressed per the contract remove the ground mounted sign support.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Ground Mtd Sign Support, Rem	Each

Ground Mtd Sign Support, Rem includes the cost of removing each support as shown on the plans or as directed by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
H BRACKETS

BFS:JJG 1 of 1 APPR:MWB:AJU:12-08-23
FHWA:APPR:12-12-23

Delete subsection 810.04.N, on page 8-58 of the Standard Specifications for Construction, in its entirety and replace with the following:

N. **H Bracket.** Provide and install H brackets in accordance with MDOT's Sign Support Standard Plans SIGN 740 series, or as directed by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PAVEMENT MARKING EQUIPMENT

PMK:MKB 1 of 2 APPR:MWB:DBP:06-07-23
FHWA:APPR:06-20-23

Delete subsection 811.03.A on page 623 of the Standard Specifications for Construction in its entirety and replace it with the following:

A. **Equipment.** Provide self-propelled equipment certified by the Department in accordance with MDOT's *Equipment Certification Guidelines – Pavement Markings* for longitudinal striping on roadways. Certification is effective for 2 years. The Engineer may approve other equipment for special markings, parking lots, or areas inaccessible to self-propelled pavement marking equipment.

Apply longitudinal lines using certified self-propelled pavement marking equipment equipped with at least two binder tanks (plus a third catalyst tank for plural component materials) each having a capacity of at least 100 gallons and, if a double drop of two different optics is required, at least two optics tanks that may be utilized at the same time and have enough capacity to match the operating duration of 100 gallon binder tanks. Operate marking equipment at no greater than the certified speed. The Engineer will assume that a striper operating above the certified working speed has operated at that speed for the entire day.

The Department may inspect the equipment at any time.

Use equipment capable of uniformly applying material to the required length and width.

Combination lines (double solid, solid and broken, double broken) must be placed in a single pass utilizing a multi-gun system. If the project calls for 4-inch width centerlines, provide equipment for placing centerlines equipped to apply three 4-inch-minimum-width lines on a two-lane road in one pass. If applying multiple centerlines, use three spray guns positioned 6 inches on center. If the project calls for 6-inch width centerlines, provide equipment for placing centerlines equipped to apply two 6-inch-minimum-width lines on a two-lane road in one pass. If applying multiple centerlines, use two spray guns positioned 10 inches on center. For two-lane freeways, apply the lane line from the left lane. For freeways with at least three lanes, apply the right lane line with the right edgeline when the right lane line and edgeline are the same material.

Use an easily adjusted, dashing mechanism to retrace existing lane or centerline markings.

Use a self-propelled pavement marker equipped to mark pavement in either direction on a roadway. Provide equipment setup to apply markings off both sides of the truck simultaneously when not striping in a recess. The driver's side carriage must be equipped with a dedicated white gun along with the yellow guns. The truck must also be

equipped with blowers in front of the gun carriages with the air supply produced by a minimum 185 cfm compressor. If striping contraflow to traffic, a lane closure must be utilized. Use a continuous skip cycle. Do not zero or return the cycle control unit to the beginning or start of a new cycle.

Provide a distance meter to measure the length of each line.

The Engineer may check the calibration of metering devices at any time. If the Engineer determines that the equipment is unsatisfactory, use other methods approved by the Engineer.

Use equipment for placing hot-applied thermoplastic and sprayable thermoplastic material that can maintain the temperature recommended by the material manufacturer.

Allow time for the Engineer to inspect traffic control devices as shown in MDOT's *Pavement Marking Convoy Typicals* or the project plans prior to marking applications and make any corrections as directed by the Engineer before continuing. If applying markings on a roadway closed to traffic, the traffic control devices specified in MDOT's *Pavement Marking Convoy Typicals* are not required, unless otherwise directed by the Engineer.

The equipment must have the following minimum safety equipment: a backup camera; strobes on the front, rear and midpoint of the truck bed; flood lights for night work; and flashers on the gun carriages.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONSTRUCTION REQUIREMENTS FOR OVERLAY COLD PLASTIC PAVEMENT MARKINGS

PMK:MKB 1 of 1 APPR:GJD:KJK:03-24-25
FHWA:APPR:03-24-25

Delete subsection 811.03.D.4, on page 8-65 of the Standard Specifications for Construction in its entirety and replace it with the following:

4. **Cold Plastic.** Prepare the pavement surface and apply the cold plastic tape in accordance with the manufacturer's specifications.

   Remove curing compound from new concrete surfaces before applying cold plastic tape. For pavements with two or more layers of existing overlay cold plastic marking material or any other non-compatible materials, remove the existing marking material before installing the new cold plastic markings.

   Install cold plastic tape longitudinal lines, symbols, legends, crosswalks, cross hatching, guide lines, and stop bars, as shown on the MDOT Standard Plans, unless otherwise required on the plans or directed by the Engineer.

   Provide adhesive-backed cold plastic for all installations. The use of surface preparation adhesive is required for all recessed cold plastic markings, all cold plastic guide line pavement markings, any time either the air or pavement temperature is below 60 °F at the time of cold plastic application, and for any other application where required by the manufacturer of the cold plastic.

   When constructing a 24-inch cold plastic stop bar, utilizing 4- or 6-inch-wide cold plastic tape is prohibited and the stop bar must instead be made from 12-inch minimum width material.

   Ensure that the weather has been dry for at least 24 hours and that the pavement surface is dry before applying the cold plastic tape marking. Clean the pavement surface using an air compressor with at least 185 cfm air flow and 120 psi. On all pavement surfaces, prevent damage to transverse and longitudinal joint sealers.

   Immediately after placement, roll transverse and special markings at least six times with a roller weighing at least 200 pounds. The Engineer will not require additional rolling for longitudinal applications if the equipment installing the line is equipped with a roller.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MOBILE ATTENUATOR

COS:CRB 1 of 4 APPR:CT:LLR:08-04-22
FHWA:APPR:08-15-22

a. Description. This special provision sets the guidelines for when mobile attenuators are to be used to protect workers or work equipment from vehicular traffic. Throughout this special provision, mobile attenuators refer to truck mounted attenuators (TMA) and trailer mounted attenuators.

Use mobile attenuators in projects to protect personnel or equipment when one or more of the following conditions are met.

- The vehicle is designated as a protective vehicle (shadow vehicle or barrier vehicle) as part of the Maintaining Traffic Typicals, maintenance of traffic plans, or other contract documents.

- Aerial work is being performed on scaffolding, lifts, hoists, bucket trucks, etc., where workers using this equipment are in an occupied lane or shoulder and not protected by temporary barrier. Mobile attenuators are not intended to be used for the removal, installation, or maintenance of traffic signals.

- Mobile/short duration operations such as pavement marking convoys, grinding in rumble strips, permanent sign installations, temporary ground mounted sign installations, sign installations located in areas where a work-vehicle cannot pull entirely outside of the edge line, luminescent installations, etc. Mobile attenuators are not intended to be used for the removal or installation of special markings.

Do not mount mobile attenuators on the vehicle or equipment used by personnel to complete aerial work. Do not use mobile attenuators as a temporary/permanent barrier ending except during replacement of damaged temporary/permanent barrier endings. In the event that a mobile attenuator is used as a temporary safety measure for a damaged temporary/permanent barrier ending, the maximum length of time that it can be used for this purpose is 48 hours or as approved by the Engineer.

1. Stationary and Mobile Operation. This work consists of furnishing a vehicle with a gross vehicle weight meeting manufacturer's specifications, or meeting the minimum weight requirements shown in Tables 1 and 2, whichever is greater. Furnish, install, and operate a mobile attenuator in accordance with the manufacturer's recommendations, the contract, and/or as directed by the Engineer. Locate the attenuator placement as detailed in the applicable Maintaining Traffic Typical, maintenance of traffic plans or elsewhere in the contract.

Securely attach material loaded onto the vehicle to obtain the required gross weight, for transport or during work operations to the vehicle. Hazardous materials will not be allowed

on this vehicle. Materials that will be off loaded and incorporated into the construction activities will not be considered part of the vehicle gross weight.

b. Materials and Design. Use mobile attenuators that meet or exceed the requirements of *NCHRP 350 Test Level 2 (TL-2) or Test Level 3 (TL-3*), or *MASH TL-2 or TL-3*, as described below for work zone traffic control devices.

1. Utilize a mobile attenuator rated for *NCHRP 350, TL-2* or *MASH, TL-2* on non-freeway roadways with a normal posted speed of 40 mph or less. TL-2 mobile attenuators are prohibited for use on all freeways, regardless of the posted speed limit, and non-freeway roadways and work zones with posted speed limits of 45 mph or greater.

2. Utilize a mobile attenuator rated for *NCHRP 350, TL-3* or *MASH, TL-3* on all freeways, regardless of the posted speed limit, and non-freeway roadways and work zones with posted speed limits of 45 mph or greater. TL-3 mobile attenuators may be used on all roadways and work zones regardless of the posted speed limit.

Furnish the Engineer a copy of the FHWA letter of eligibility for federal aid stating the mobile attenuator meets the appropriate *NCHRP 350* or *MASH* test level specified in the above stated criteria. In addition, furnish a letter to the Engineer stating the mobile attenuator system has been installed and maintained in accordance with the manufacturer's specifications.

The face of the mobile attenuator, visible to approaching traffic must have reflectorized alternating yellow and black stripes, sloping downwards in both directions from the center of the attenuator.

c. Operating Details and Utilization. Operate the mobile attenuator per manufacturer’s recommendations, the contract, and/or as directed by the Engineer. This includes, but is not limited to, the following:

- Unless otherwise specified by the mobile attenuator manufacturer, ensure the height from the bottom of the mobile attenuator to the roadway surface is 12 inches (±2.5 inches). When specified otherwise by the manufacturer, furnish documentation to the Engineer indicating the manufacturer’s bottom height recommendations and tolerances.

- Ensure the mobile attenuator is parallel (level) with the roadway surface.

- Furnish a shoulder harness and headrest for the mobile attenuator vehicle’s operator.

For stationary operations, when operating the vehicle with the attenuator installed, ensure the vehicle is in second gear if it has a standard transmission (park if an automatic transmission), with the parking brakes set and steering wheels turned away from the work area and traffic, if possible.

Place the mobile attenuator in accordance with the manufacturer’s recommended roll-ahead distance, or the minimum roll-ahead distance shown in Tables 1 and 2, whichever is greater.

If the mobile attenuator is involved in a crash, provide pictures of the crash scene and the damage of the mobile attenuator to the Engineer within 7 days of the incident.

d. Measurement and Payment. Mobile attenuators will be furnished and operated at no cost to the Department for all contract items associated with pavement marking operations.

The cost for the equipment, mobilization, and labor to furnish and operate this equipment will be included in other contract pay items. The Department will pay for repair or replacement of a mobile attenuator called for as part of the pavement marking operations if damaged by something other than the Contractor's own equipment, during contract operations as described below. Measurement and payment for the use of mobile attenuators on all other contract items will be as described below.

Pay Item	**Pay Unit**
Mobile Attenuator	Each

The Department will pay for the maximum number of mobile attenuators deployed per the Maintaining Traffic Typicals, maintenance of traffic plans or elsewhere in the contract and in use at any one time during the life of the project or as approved by the Engineer. If the Contractor uses alternative construction operations or methods that require additional mobile attenuators that exceed the amount specified in the contract, the additional mobile attenuators must be provided at the Contractor's expense.

The Department will pay for repair or replacement of a mobile attenuator called for as part of the contract if damaged by something other than the Contractor's own equipment, during contract operations by contract modification with the name of the extra pay item to be defined as Mobile Attenuator, Repair or Mobile Attenuator, Replace if the following criteria are met:

1. The damaged or destroyed attenuator must meet all of the manufacturing and operating criteria of this special provision.

2. The Contractor must have attenuators repaired or replaced in accordance with the Manufacturer/Supplier recommendations to ensure that the units are in good working order. Documentation of repair is to be furnished to the Engineer via signed certification from the Contractor stating that the repairs have been done in accordance with the Manufacturer's recommendations prior to implementing the mobile attenuators for use.

3. Furnish a crash report from the enforcement agency involved in the crash investigation.

4. Furnish pictures of the crash scene and damages to the mobile attenuator.

5. Ensure the attenuator repair or replacement is for the actual unit as required by this special provision. The cost to perform the repairs or replace the attenuator including installation will be paid for by the Contractor. Furnish to the Engineer a detailed invoice from the Supplier showing material costs for replacement or repair for payment. The Department will not pay for repair or replacement cost beyond the Suppliers' invoice cost for a new attenuator.

6. The Department will not pay for any costs that are required to replace or repair the attenuator vehicle and any other items which were used to operate the attenuator.

7. Attenuators that have been repaired or replaced as part of the contract are not eligible for additional payment using the Mobile Attenuator pay item once the attenuator is placed back into service.

Table 1. Guidelines For Roll-Ahead Distance For Mobile Attenuator Vehicles Test Level 2

Weight of Mobile Attenuator Vehicle (b)	Posted Speed (mph) (Posted Speed Prior to Work Zone)	Roll Ahead Distance (a), (c) (Distance from front of Mobile Attenuator Vehicle to Work Area)
5.5 Tons (Stationary Operation)	40 or Less	25 feet

a. Roll ahead distances are calculated using a 4,410 pound impact vehicle weight.
b. Minimum vehicle weight specified. Use manufacturer's recommended mobile attenuator vehicle weight when the manufacturer's recommendation exceeds the minimum weight specified in this table.
c. Minimum roll-ahead distance specified. Use manufacturer's recommended roll-ahead distance when the manufacturer's recommendation exceeds the minimum roll-ahead distance specified in this table.

Table 2. Guidelines For Roll-Ahead Distance For Mobile Attenuator Vehicles Test Level 3

Weight of Mobile Attenuator Vehicle (b)	Posted Speed (mph) (Posted Speed Prior to Work Zone)	Roll-Ahead Distance (a), (c) (Distance from front of Mobile Attenuator Vehicle to Work Area)
5 Tons (Mobile Operation)	60-70 50-55 45	175 feet 150 feet 100 feet
12 Tons (Stationary Operation)	60-70 50-55 45	50 feet 25 feet 25 feet

a. Roll ahead distances are calculated using a 10,000 pound impact vehicle weight.
b. Minimum vehicle weight specified. Use manufacturer's recommended mobile attenuator vehicle weight when the manufacturer's recommendation exceeds the minimum weight specified in this table.
c. Minimum roll-ahead distance specified. Use manufacturer's recommended roll-ahead distance when the manufacturer's recommendation exceeds the minimum roll-ahead distance specified in this table.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ROLL-UP SIGNS

COS:SAH 1 of 1 APPR:MLD:LLR:03-27-23
FHWA:APPR:03-30-23

Delete the seventh paragraph of subsection 812.03.D.1, on page 8-79 of the Standard Specifications for Construction, in its entirety and replace it with the following:

The Department will allow the use of flexible, roll-up signs during daylight hours. Roll-up signs may be used at night for up to 7 consecutive nights and must meet the requirements of subsection 922.02.B. Ballast may be used per the manufacturer's recommendation. The Department will not allow the use of mesh signs.

Delete section 922.02.B, on page 9-211 of the Standard Specifications for Construction, in its entirety and replace it with the following:

B. **Reflective Sheeting**. Reflective sheeting must meet or exceed the requirements of ASTM D4956 for Type VIII reflective sheeting on rigid signs. Reflective sheeting must meet or exceed the requirements of ASTM D4956 for Type VI reflective sheeting on flexible, roll-up signs. Orange sheeting must be fluorescent orange reflective sheeting.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONNECTED LIGHTED ARROW, TYPE C

COS:SAH 1 of 2 APPR:CRB:KJK:12-05-24
FHWA:APPR:12-05-24

a. Description. This work consists of furnishing, operating, maintaining, relocating, and the removal of Connected Arrow Board (CAB) at locations shown in the contract.

The Contractor is responsible for coordinating with any work in adjacent work zone projects.

b. Materials. Furnish a Type C Lighted Arrow Board meeting the requirements of subsection 922.07 of the Standard Specifications for Construction, the MMUTCD section 6F.61 and the requirements below:

1. Ensure all hardware components of this system are crashworthy in accordance with the *NCHRP 350* or *MASH*.

2. Ensure arrow board or associated system can produce real-time status for remote monitoring using the required elements of Version 4.0 or greater of the USDOT Workzone Data Exchange Swz Device Feed (WZDx Device Feed).

c. Construction. Install the CAB in accordance with the manufacturer's recommendations, subsection 812.03.D.8 of the Standard Specifications for Construction, the plans, and the following requirements:

1. Ensure boards are connected at all times during operation.

2. Traditional arrow boards may be upgraded to a CAB.

3. If requested at any time during the project, furnish reports that indicate the location and display history of each CAB, including a log of all power and communication errors and/or failures. Ensure the report data is in a common spreadsheet format (comma-separated values (CSV), Excel, etc.) or as directed by the Engineer.

4. If requested, upon project completion furnish a single complete report which includes a full summary for all CABs utilized on the project. At a minimum the report must include the complete location and display history of each CAB, including a log of all power and communication errors and/or failures. Ensure the report data is in a common spreadsheet format (CSV, Excel, etc.) or as directed by the Engineer.

5. Furnish secure access to real-time WZDx Device Feed for the connected arrow board.

6. Ensure the status of the arrow board is communicated at the following rates and intervals as described below:

A. Display changes within 1 minute.

B. Movement greater than 250 feet, within 1 minute.

C. Status check every 30 minutes.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	**Pay Unit**
Connected Arrow Board, Type C, Furn	Each
Connected Arrow Board, Type C, Oper	Each

1. **Connected Arrow Board, Type C, Furn** includes furnishing and installing one connected arrow board. The Department will pay for the maximum number of connected arrow boards in use at one time on the project.

2. **Connected Arrow Board, Type C, Oper** includes operating, furnishing valid real-time device feed and removing one connected arrow board. No additional payment will be made for relocating the device on the project. All communication costs and reporting requirements are considered included in the unit price.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LANDSCAPE PLANTS SOURCE LIST

RSD:YGQ 1 of 1 APPR:KK:JN:04-05-24
FHWA APPR:04-08-24

a. Description. This work consists of submitting a Landscape Plants Source list to the Engineer at the preconstruction meeting.

b. Materials. Furnish a Landscape Plants Source list to the Engineer that identifies each plant by species, size, origin and quantity specified on the project. The list will be reviewed at the preconstruction meeting. Nursery stock must come from nurseries located in Zone 4 or Zone 5 of the 2023 USDA Hardiness Zone Map for landscaping in Michigan's lower peninsula. Nursery stock for landscaping in Michigan's upper peninsula must come from nurseries located in Zone 3 or Zone 4. Nurseries located in Zone 6 of the upper Great Lakes region will be allowed as follows:

1. Located at or north of latitude 40 degrees North.

2. Zone 6b will only include nurseries located in counties that border the Great Lakes.

3. Zone 6 plants will not be accepted for use in the upper peninsula nor in the lower peninsula counties north of US-10 except for those counties bordering Lake Michigan.

Submit requests for plant substitutions to the Engineer at the preconstruction meeting. All substitution requests will be reviewed and approved by the Engineer and Landscape Architect.

c. Construction. None specified.

d. Measurement and Payment. The completed work, as described, will not be paid for separately, but will be included in the plant material pay items.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LANDSCAPING

RSD:JN 1 of 1 APPR:NJM:DBP:12-08-23
FHWA:APPR:12-12-23

Make the following changes to section 815 of the Standard Specifications for Construction.

Delete subsection 815.03.B, on page 8-135 of the Standard Specifications for Construction, in its entirety and replace with the following:

B. **Site Preparation**. Excavate holes from the center of staked location. Excavate the hole to a width which is a minimum of twice the diameter of the root ball. Place the root ball on undisturbed soil.

Backfill the planting holes with prepared soil the same day they are dug.

After backfilling is complete, place 4 inches of shredded bark mulch unless otherwise shown on plans.

Delete subsection 815.03.F.5, on page 8-137 of the Standard Specifications for Construction, in its entirety.

Delete subsection 815.04.B, on page 8-141 of the Standard Specifications for Construction, in its entirety and replace with the following:

B. **Site Preparation.** The unit price for **Site Preparation, Max (dollar)** includes the cost of digging holes, providing prepared soil, backfilling holes, disposing of excess excavated material, shredded bark mulch, and bracing and guying.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EXCAVATED TOPSOIL OR SALVAGED TOPSOIL

RSD:NJM 1 of 1 APPR:NMA:DMG:02-16-23
FHWA:APPR:02-21-23

Delete subsection 816.03.A.3, on page 8-145 of the Standard Specifications for Construction, in its entirety and replace with the following:

3. **Excavated Topsoil or Salvaged Topsoil.** Excavate topsoil intended for salvaging in accordance with subsection 205.03.A.1. The Engineer will direct stockpiling excavated or salvaged topsoil within the right-of-way. Salvaged topsoil must be weed-free prior to establishing new growth. Salvaged topsoil that is made unsuitable for use from excavation, maintenance, or other Contractor operations will be rejected by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PORTLAND CEMENT (TYPE IL)

CFS:JFS 1 of 2 APPR:TES:TEB:12-14-21
FHWA:APPR:12-16-21

a. Description. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for concrete mixtures and other applications where Type I Portland cement is specified, provided documentation showing specification compliance is provided as described herein.

The Contractor must provide the Engineer a minimum of 14 calendar days prior notification of their intent to substitute Type IL Portland cement in lieu of Type I Portland cement for the project.

b. **Materials.** Furnish Type IL Portland cement in accordance with section 901 of the Standard Specifications for Construction meeting the chemical and physical requirements specified in *ASTM C595/C595M*, *Standard Specifications for Blended Hydraulic Cements*. Ensure the Type IL Portland cement proposed for substitution is from the same Approved Manufacturer as the Type I Portland cement in the approved JMF.

c. Construction. At least 7 days prior to concrete production, the concrete producer must provide test data (specified below) generated from a four cubic yard (minimum) trial batch of concrete using Type IL Portland cement for the Engineer's review and approval. The trial batch must represent a current approved JMF for either a standard MDOT Grade 3500, Grade 3500HP, Grade 4500, or Grade 4500HP concrete mixture produced using Type I Portland cement, as described in section 1004 of the Standard Specifications for Construction. Ensure the materials and mixture proportions for the Type IL JMF are the same as those documented in the above mentioned JMF using Type I Portland cement. Minor adjustments to chemical admixture dosages are permitted in efforts to achieve the specified fresh concrete properties. Trial batch compliance for applications other than Portland cement concrete mixtures will be in accordance with the contract.

1. Fresh Concrete Properties.

   A. Concrete temperature,

   B. Air content of fresh concrete, and

   C. Slump.

2. Hardened Concrete Properties.

   A. 7-day compressive strength.

The Engineer will review the trial batch test data to determine if the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of

concrete represented by the trial batch. If the Engineer determines that the trial batch test data are in conformance with specification requirements, then the Type IL Portland cement will be permitted to be substituted in lieu of the Type I Portland cement for all approved concrete mixtures generated at the concrete production facility for the project. If the Engineer determines that the trial batch test data do not meet specification requirements for the respective MDOT Grade of concrete, the Contractor will not be permitted to substitute Type IL Portland cement in lieu of Type I Portland cement. Mix design and JMF documentation for concrete mixtures using Type IL Portland cement will then be required in accordance with subsection 1003.03.C of the Standard Specifications for Construction or the contract, where applicable.

Once Type IL Portland cement is approved for use on the project, reinstatement of Type I Portland cement into the JMF is not permitted. Substitution of other material types or sources, including admixtures, as documented in the initial Type I JMF is not permitted.

The Engineer will complete field sampling and testing for all production lots containing Type I Portland cement JMF prior to respective Type IL Portland cement substitution. Do not include concrete mixtures containing Type I and Type IL Portland cement types in the same production lot.

d. Acceptance. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for the project with no additional laboratory trial batch requirements, as described in subsection 1003.03.C.2.a of the Standard Specifications for Construction, provided the Engineer has reviewed the concrete producer's test data generated from a four cubic yard (minimum) trial batch of concrete, described above, and has determined that the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of concrete represented by the trial batch.

e. Measurement and Payment. The work included in this special provision will not be paid for separately and is included in other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
AGGREGATE, 46G

CFS:JJG 1 of 1 APPR:SAG:DMG:02-15-22
FHWA:APPR:02-16-22

Delete the last row of Table 902-2 in subsection 902 of the Standard Specifications for Construction in its entirety and replace with the following:

Open-graded aggregates	46G	80	45	___	___	___

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
REVISIONS TO PLAIN AND HEAVY RIPRAP SPECIFICATIONS

HYD:EJC 1 of 1 APPR:DMG:RWS:10-10-24
FHWA:APPR:11-21-24

Delete subsections 916.01.C.1 and 916.01.C.2, on page 9-128 of the Standard Specifications for Construction in their entirety and replace with the following:

1. **Plain Riprap.** Provide natural stone and broken concrete with intermediate (axis B) dimension of 8 to 16 inches as shown in Figure 1. Provide an in-place thickness of at least 16 inches. Use smaller pieces to fill spaces and maximize surface contact between individual stones, as directed by the Engineer.

   Provide precast concrete block at least 6 inches thick with a surface area no greater than 15 square feet.

2. **Heavy Riprap.** Provide natural stone and broken concrete with a minimum intermediate (axis B) dimension of at least 16 inches as shown in Figure 1 below. The ratio of the greatest (axis A) to least (axis C) dimension must not exceed 3:1 for any individual stone for at least 80% of the material, as shown in Figure 1 below.

   Provide precast concrete block at least 16 inches thick with a surface area no greater than 20 square feet.

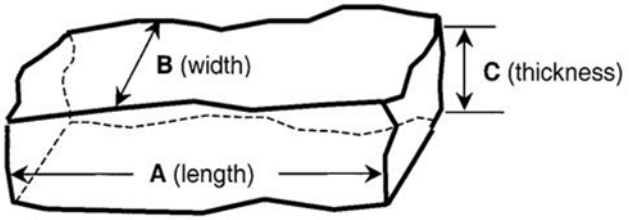


Figure 1: Riprap shape depicting A, B and C axis.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PAVEMENT MARKING SHELF LIFE

PMK:MKB 1 of 1 APPR:GJD:KK:04-05-24
FHWA:APPR:04-08-24

Delete the fourth paragraph of section 920.01 on page 9-168 of the Standard Specifications for Construction, in its entirety and replace it with the following:

Use both liquid and solid applied pavement marking materials within the shelf life directed by the manufacturer. Provide certification that liquid and solid applied pavement marking materials have been stored per the manufacturer's requirements. Materials not in compliance will be rejected and removed at the Contractor's expense.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MIXING PORTLAND CEMENT CONCRETE

CFS:JFS 1 of 1 APPR:CPM:TEB:12-17-21
FHWA:APPR:12-20-21

Add the following paragraph to subsection 1001.03.E.1 of the Standard Specifications for Construction:

Weigh and batch each material into its respective weighing device within the tolerance from the individual batch weights or quantities documented in the approved JMF as follows:

a. Cementitious Materials. Provide cementitious materials within -2.0 percent to +5.0 percent of the required weight.

b. Aggregates. Provide aggregate within ±3.0 percent of the required weight.

c. Water. Provide net water to not exceed the required water quantity and the required maximum water/cementitious ratio (w/cm).

d. Air Entraining Admixtures. Provide the necessary quantity or dosage rate per 100 pounds of cementitious material to achieve the required air content of fresh concrete.

e. Other Admixtures. Provide water-reducing and other admixtures within ±3.0 percent of the required quantity.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ALKALI SILICA REACTIVITY OF FINE AGGREGATE USED IN PORTLAND CEMENT CONCRETE

a. Description. This special provision sets out the requirements for all fine aggregate used in Portland cement concrete (PCC) mixtures to be tested by an independent testing laboratory and determined to be resistant to the potential for deleterious expansion caused by alkali-silica reactivity (ASR). ASR testing is not required for concrete pavement repairs, temporary concrete pavements, and other items covered by the contract.

Except as explicitly modified by this special provision, all materials, test methods, and PCC mixture requirements of the standard specifications and the contract apply.

b. Definition. ASR is a chemical reaction which occurs over time within concrete between highly alkaline cement paste and reactive forms of silica found in some aggregates. In the presence of moisture, an expansive ASR gel is formed which can exert pressure within the concrete, causing random cracking and premature deterioration of the concrete.

c. Laboratory Requirements. The independent laboratory, including all associated testing equipment and staff performing ASR testing of aggregates, must be proficient in ASR testing in accordance with the applicable test methods and procedures. The laboratory must provide documentation to the Regions that they are qualified and proficient to conduct ASR testing in accordance with the required test procedures.

d. Laboratory Testing Requirements. Perform testing on fine aggregate proposed to be used in any PCC Job Mix Formula (JMF). The Contractor must ensure the testing is conducted in accordance with a designated standard test procedure described herein. Test results must conform to the specified criterion for one of the following standard test methods. The Rounding Method described in *ASTM E29* must be used when reporting expansion test results.

(1) Method 1. *ASTM C1293*. Concrete Prism Test. If the expansion of concrete prisms is not greater than 0.040 percent (rounded to the nearest 0.001 percent) after 1 year, the fine aggregate is considered non-deleterious to ASR and may be used in the JMF.

(2) Method 2. *ASTM C1567*. Mortar Bar Test. If no previous test data are available for the fine aggregate that shows it is resistant to ASR using Method 1, above, replace 25 to 40 percent of the Portland cement in the concrete mixture with a supplementary cementitious material (slag cement of fly ash). A blended cement meeting the requirements of *ASTM C595/C595M* containing the above Portland cement and supplementary cementitious material proportions may also be used.

Demonstrate the ability of the supplementary cementitious material to control the deleterious expansion caused by ASR by molding and testing mortar bars in accordance with the standard

test method described in *ASTM C1567* using the mix proportions and constituent sources for both the aggregates and the cementitious materials that will be used for the project. Make at least three test specimens for each cementitious materials-aggregate combination. If the average of three mortar bars for a given cementitious materials-aggregate combination produces an expansion less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the JMF associated with that combination will be considered non-deleterious to ASR. If the average expansion is 0.10 percent (rounded to the nearest 0.01 percent) or greater, the JMF associated with that combination will be considered not sufficient to control the deleterious expansion caused by ASR and the JMF will be rejected.

(3) Method 3. *ASTM C1260*. Mortar Bar Test. If the expansion of the mortar bars is less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the fine aggregate is considered non-deleterious to ASR and may be used in the concrete without the need for ASR mitigation.

The Engineer will not approve the use of the JMF if the expansion exceeds the threshold limits for the respective *ASTM* test method used. The test results and report are valid for 2 years from the completion of testing.

e. Submittals. A current ASR test report for the fine aggregate proposed to be used in the Job Mix Formula (JMF) must accompany each JMF. Ensure the ASR test report is accompanied by a certification stating which test procedure was followed and that all testing was conducted in accordance with the designated standard test procedure.

f. Measurement and Payment. All materials, labor, equipment, and laboratory facilities necessary to complete the work in accordance with this special provision is included in other contract pay items and no additional compensation will be permitted.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
REDUCED TESTING FOR NON-CRITICAL CONCRETE PLACEMENTS

CFS:JJG 1 of 2 APPR:JFS:TES:11-17-21
FHWA:APPR:12-09-21

a. Description. The Contractor must administer QC and the Department will administer QA procedures that will be used for acceptance of and payment for all Portland cement concrete (PCC) for the project. Except as explicitly modified by this special provision, all materials, test methods, and PCC mixture requirements of the standard specifications and the contract apply. Non-critical concrete placements as specified in this special provision or otherwise approved by the Engineer are eligible for reduced testing. All other QC and QA requirements for the project apply.

b. Terminology.

Non-critical Concrete Placements. Concrete meeting the reduced testing requirements below, that is incorporated into a non-structural element such as a sign post foundation, fence post foundation, signal controller foundation, electrical service pedestals, electrical racks, encased conduits, and isolated sidewalk panels, or similar items as approved by the Engineer.

Quality Control (QC). All activities administered by the Contractor to monitor, assess, and adjust production and placement processes to ensure the final product will meet the specified levels of quality, including, but not limited to, training, materials selection, construction, sampling, testing, project oversight and documentation.

c. Reduced Concrete Testing Requirements. Ensure all of the following criteria are met for use of reduced concrete testing:

1. The concrete must be a non-critical placement as defined above.

2. Ensure a concrete QC plan is submitted for approval and followed for all other concrete work on the project per the contract. This applies even if the total concrete quantity on the project is less than 100 cubic yards.

3. No more than 100 cubic yards of non-critical concrete placements will be permitted for the project. Quantities greater than this value must follow the standard specifications.

4. No more than five cubic yards of non-critical quantity concrete will be incorporated into any individual work element (pedestal foundation, single fence post foundation, etc.) per day unless approved otherwise by the Engineer.

5. No more than 20 cubic yards of non-critical quantity concrete will be allowed on the project per day unless approved otherwise by the Engineer.

6. The Engineer has received written certification from the Contractor that the ready-

mixed concrete producer/supplier has a current QC plan in place for their facility for all concrete, which is available for review by the Engineer, upon request.

7. The Engineer is given advanced notification of each concrete placement and is provided sufficient opportunity to witness concrete placement.

8. Any modifications or adjustments to the JMF for non-critical concrete prior to concrete placement, which are necessary to ensure compliance, must be made by a certified concrete technician (Michigan Level II).

9. The JMF represents a standard MDOT Grade of Concrete. Ensure the JMF is approved prior to placement.

10. Reduced testing for non-critical concrete placements will not be considered for any items of work associated with concrete pavements, driveways and driveway ramps, anchorage foundations, structures, and/or any other element that will be subjected to live loading.

11. Strain pole foundations are not eligible for reduced testing.

d. Quality Control Testing. Contractor QC testing of fresh concrete is not required for placements meeting the requirements for reduced concrete testing above. Compressive strength sampling and testing is not required for non-critical concrete placements as defined in this special provision.

e. Acceptance, Sampling and Testing. Prior to concrete discharge into forms, the Engineer will confirm by visual inspection and/or verification testing (and note in the Inspector's Daily Report) that the concrete represents the required physical quality properties. At any time during concrete placement, the Engineer may sample and conduct verification testing for temperature, slump, and air content of the fresh concrete. Do not resume concrete placement until verification tests validate that the concrete meets specifications. Do not add additional water to the concrete mixer after commencement of discharge.

The Engineer may perform QA testing of any nature on any non-critical quantity concrete at their discretion. If test results do not meet specification requirements, the use of reduced testing for non-critical concrete placements may be eliminated on the project and standard concrete QC and QA will apply per the contract.

f. Measurement and Payment. All costs associated with this work will be included in the item of work associated with the non-critical placement of concrete.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
QUALITY INDEX FOR PORTLAND CEMENT CONCRETE (FOR LOCAL AGENCY PROJECTS ONLY)

CFS:CPM 1 of 4 APPR:TES:JFS:05-28-20
FHWA:APPR:06-04-20

a. Description. This special provision establishes pay factor and price adjustments for Portland cement concrete (PCC) based on Quality Assurance (QA) testing of 28-day compressive strength and fresh concrete air content of PCC. Perform all work in accordance with the standard specifications and this special provision.

b. Materials. Mixture requirements will be in accordance with section 1004 of the Standard Specifications for Construction, unless otherwise specified in the contract.

c. Sampling. Sampling will be in accordance with subsections 1003.03.H and 1003.03.L of the Standard Specifications for Construction, except as modified herein. A sample is defined as a representative quantity of concrete taken during production which is used to measure the quality characteristics for the concrete. Compressive strength specimens for each sample consist of two cylinders, either 4-inch by 8-inch or 6-inch by 12-inch. A random number will be generated for each respective sublot. The sampling frequency for a production lot is one QA sample per sublot.

See subsection 1003.03.J in the Standard Specifications for Construction for reduced sampling and testing for small incidental quantities.

d. Quality Index Analysis. The Engineer's QA test results will be used to determine the pay factor (PF) and price adjustment (ADJ). The Contractor QC test results will be not used for PF and ADJ analysis. The Engineer will complete PF and ADJ analysis within 7 working days after completion of all 28-day compressive strength testing for the represented production lot or quantity of concrete. All values of PF and OLPF in these formulas are decimal, not percent. All values of PF and OLPF are rounded to two decimal places.

Table 1: Quality Index Parameter Specification Limits

Quality Characteristic	Specification Limits
Air Content of Fresh Concrete (percent)	5.5 – 8.5
Rejection Limit (percent)	<5.0 or >9.0
Conc. Temp. (deg. F)	45 - 90 at time of placement
Slump (max.) (inch)	See footnotes a through l in Table 1004-1 of the Standard Specifications for Construction
28-day Compressive Strength (psi)	For LSL see Table 2
Rejection Limit - 28-day Compressive Strength	See Table 2

Table 2: Quality Index Parameter Specification Limits for 28-Day Compressive Strength

Parameter	Grade of Concrete						
	3000	3500	3500HP	4000	4000HP	4500	4500HP
Lower Specification Limit (psi)	3000	3500	3500	4000	4000	4500	4500
Rejection Limit for an Individual Strength Sample Test Result (psi)	2500	3000	3000	3500	3500	4000	4000

1. Pay Factor for 28-Day Compressive Strength (PF_s). (not to exceed 1.00)

PF_s = (QA Test Strength)/LSL

Where:

QA Test Strength = QA 28-day compressive strength sample test result.

LSL = Lower specification limit (see Table 2).

If the tested strength does not meet the rejection limit specified in Table 2, the Engineer will require additional evaluation as described in section e of this special provision.

2. Pay Factor for Air Content of Fresh Concrete (PF_{ac}). The pay factor for air content of fresh concrete (PF_{ac}) will be in accordance with Table 3.

Table 3: Air Content of Fresh Concrete Pay Factor (PF_{ac})

Air Content of Fresh Concrete (percent)	Pay Factor (PFac)
5.5 – 8.5	1.00
5.0 – 5.4	0.50
Below 5.0	Rejection
8.6 – 9.0	0.75
Above 9.0	Rejection

If the air content of fresh concrete is below 5.0 or above 9.0 percent, the Engineer will elect to do one of the following:

A. Require removal and replacement of the entire quantity of concrete represented by the test with new testing conducted on the replacement concrete and repeat the evaluation procedure.

B. Allow submittal of a corrective action plan for the Engineer's approval. If the Engineer does not approve the plan for corrective action, subsection d.2.A. will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

3. Overall Lot Pay Factor (OLPF). Use the following formula to determine the OLPF and ADJ. The OLPF will not exceed 1.00:

$OLPF = (0.60 \times PF_s) + (0.40 \times PF_{ac})$

Where:

PF_{ac} = Pay factor for Air Content (see Table 3)

4. Price Adjustment (ADJ). Use the following formula to determine the ADJ.

ADJ = (OLPF - 1)(Price)

5. Price Adjustment for Small Incidental Quantities. Price adjustment for 28-day compressive strength deficiencies will be based on test results for the corresponding weekly QA test specimens and the pay factor (PF_s) calculated in accordance with the formula defined in subsection d.1. The price adjustment is calculated by the following equation:

$(ADJ) = (PF_s - 1)(Price)$

Where:

ADJ = Price adjustment per pay unit to be applied to the quantity represented by the QA test.

PF_s = Pay Factor for 28-day compressive strength (not to exceed 1.00).

Price = Base price when established for the pay item or the Contractors unit price bid when concrete is included in another pay item without a base price.

e. Evaluation of Rejectable Concrete. The Engineer will require additional evaluation to decide what further action may be warranted. Acceptance for air content of fresh concrete will be based on QA test results reported at the time of concrete placement.

If the Engineer determines that non-destructive testing (NDT) is appropriate, this work will be done by the Contractor in the presence of the Engineer within 45 calendar days of concrete placement. All costs associated with this work will be borne by the Contractor. Ensure complete set of non-destructive tests is conducted (in accordance with the respective standard test method) at a minimum three randomly selected locations. If NDT is used to estimate the in-situ strength, a calibrated relationship between the project job mix formula (JMF) under evaluation and the NDT apparatus must have been established prior to NDT testing in accordance with its respective standard test method.

If the 28-day compressive strength QA test results show that the rejection limit (as specified in Table 2) has not been achieved, the quantity of concrete under evaluation will be rejected and the Engineer will require additional evaluation to decide what further action may be warranted.

Propose an evaluation plan and submit it to the Engineer for approval before proceeding. The results from NDT will be used only to decide what further action is required. This determination will be made by the Engineer, as follows:

1. For Non-structural Concrete. If no test result from non-destructive testing falls below the lower specification limit (LSL) 28-day compressive strength, the represented quantity of

concrete under evaluation will remain in place and a pay factor for 28-day compressive strength (PF_s) of 1.00 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations in accordance with section d of this special provision.

2. For Structural Concrete (including overhead sign foundations). If no test result from non-destructive testing falls below the lower specification limit (LSL), the represented quantity of concrete under evaluation will remain in place and a pay factor for 28-day compressive strength (PF_s) of 0.85 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

3. If one or more of the non-destructive test results fall below the lower specification limit (LSL) 28-day compressive strength, the Engineer may elect to do one of the following:

A. Require removal and replacement of the entire rejected quantity of concrete, including new initial tests for quality index analysis conducted in accordance with section d of this special provision.

B. Allow the Contractor to submit a plan for corrective action, for the Engineer's approval, to address the disposition of the rejected concrete. If the Engineer does not approve the plan for corrective action, subsection e.3.A of this special provision will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

C. Allow the in-situ quantity of concrete under evaluation to remain in place and a pay factor (PF_s) of 0.50 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

f. Measurement and Payment. If a price adjustment is made for reasons included in this special provision, that adjustment will be made using the base price established for the specific item. If a contract unit price requires adjustment for other reasons not described in this special provision, the adjustments will be made using the original unit price and the adjustments will be cumulative.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
MULTIPLE DAVIS-BACON WAGE DECISIONS

CSD:LFS 1 of 1 APPR:CT:03-24-22

This proposal may contain multiple Davis-Bacon Wage Decisions. In order to clarify the work covered by each decision, the following explanations are offered:

General Decision MIxxxx0001 covers all airport construction, bridge construction, highway construction, and sewer and water main work that are incidental to highway projects. The construction type indicated on this decision is "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)". This wage decision is the most commonly used wage decision in MDOT's federally funded projects.

In accordance with the U.S. Department of Labor's (DOL) all agency memorandums No. 130, No 131 and No. 236, multiple wage decisions will be included in those projects in which a second category of work is substantial in relation to project cost – more than approximately 20 percent or $2,500,000. Sewer and water main work is considered to fall under the heavy construction work classification by the DOL, therefore when that work type is more than 20 percent of the engineer's estimate or $2,500,000, the wage decision with the construction type "HEAVY CONSTRUCTION PROJECTS" will also be included in the proposal and is to be used for the sewer and watermain work in the proposal. All other work performed on the project will be covered by the "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)" wage decision.

Also, when the landscape work is more than 20 percent of the project cost or $2,500,000, the "HEAVY CONSTRUCTION PROJECTS" wage decision will be included in the proposal to cover all landscape work. All other work performed on the project will be covered by the "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)" wage decision. If the project is a total landscape project, only the "HEAVY CONSTRUCTION PROJECTS" wage decision will be in the proposal.

Rest area building projects will include the construction type "BUILDING" wage decision when the building portion of the work is more than 20 percent of the project cost or $2,500,000. The other work performed on the project will be covered by the "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)" wage decision and/or the "HEAVY CONSTRUCTION PROJECTS" wage decision (landscape and/or sewer and water main work) if either or both are greater than 20 percent or $2,500,000.

Although there is only one wage decision for "HIGHWAY (HIGHWAY, AIRPORT & BRIDGE xxxxx and SEWER/INCID. TO HWY.)", work (MIxxxx0001), the "HEAVY CONSTRUCTION PROJECTS" and "BUILDING" wage decisions vary from county to county.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
BID RIGGING

CSD:LS 1 of 1 APPR:MAS:02-09-21

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially, and caller anonymity will be respected.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
FRAUD AND ABUSE HOTLINE

CSD:LS 1 of 1 APPR:MAS:02-09-21

The Michigan Department of Transportation (MDOT) has established a Fraud and Abuse Hotline for employees, contractors, consultants, and others to report suspected fraud or abuse, such as: prevailing wage non-compliance, theft, kickbacks, wrongful claims, contract fraud, use of materials that do not comply with specifications, unapproved substitution of materials, commodities, or test samples, or failure to follow contract procedures.

Anyone with knowledge of any activity involving the potential for fraud or abuse is requested to call the Hotline at (toll free) **1-866-460-6368** or **517-241-2256**.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
USE OF CRUSHED CONCRETE FOR DENSE- AND OPEN-GRADED AGGREGATES

ENV:CP 1 of 1 APPR:MAS:09-09-21

Pursuant to section 902 of the 2020 Standard Specifications for Construction, the use of crushed concrete for dense-graded aggregate, open-graded aggregate is prohibited within 100 feet of a waterbody (stream, river, county drain, wetland, lake, etc.).

Waterbodies are located at the following stations:

Port Lansing Road:
- Station 2+25 to Station 4+55
- Station 18+35 to Station 29+00
- Station 42+60 to Station 49+75
- Station 102+00 to Station 106+60

CAPITAL REGION AIRPORT AUTHORITY

COORDINATION CLAUSE
FOR
WORK ON RAILROAD PROPERTY CSX TRANSPORTATION

The following information may be pertinent to the determination of construction methods and railroad protective insurance rates.

OPERATING RAILROAD COMPANY

CSX Transportation
PO Box 530192
Atlanta, GA 30353-0192

Contact: Larry Shaw, PE
Senior Public Project Manager

Phone: 317.417.1902
e-mail: LShaw@benesch.com

TRAIN MOVES AND SPEED

Approximately 4 freight trains per 24-hour day, at 40 mph.

The train movement and the speed information does not represent a commitment by the railroad and is subject to change without notice.

PERCENTAGE OF PROJECT WITHIN RAILROAD RIGHT OF WAY

Less than 5 percent of the total project work at the structures will be performed over, under, or adjacent to the track and right-of-way operated by CSX Transportation, Inc.

POTENTIAL OF REMOVAL OF WORK

Railroad coordination is ongoing at the time of advertisement of this project. There is a potential that all or some of the work within the Railroad right-of-way will be removed from this project. If removal of work is required, a plan revision will be issued detailing the proposed work or lack thereof within the Railroad right-of-way.

CAPITAL REGION AIRPORT
AUTHORITY

COORDINATION CLAUSE
FOR OTHER CONTRACTS WITHIN THE VICINITY

The Contractor shall coordinate this work with other Contractors and Capital Region Airport Authority Contract Agencies performing work within the Construction Influence Area (CIA) or adjoining areas to avoid conflicts in the maintenance of traffic, construction signing and the orderly progress of contract work.

The Clinton County Road Commission will be performing road, drainage and utility-related work on Airport Road at the time of this project. The Contractor shall coordinate the work contained within this contract with the Clinton County Road Commission work.

There will be no additional compensation for any coordination required with other projects. The Contractor's attention is directed to Section 104.08 of the Standard Specifications.

NOTICE TO BIDDERS

UTILITY COORDINATION

21-Nov-2025

Job Number(s): 241594

Control Section(s):

ACD.NET

As shown on the plans for the Capital Region Airport Authority (CRAA) Roadway Improvement Project, there is underground fiber running parallel to Capital City Blvd on the west side between Grand River Ave and the CSX Transportation (CSXT) railroad. These facilities will not require relocation. Contractor to protect ACD.NET facilities at all times during construction. Contractor to contact ACD.net two weeks prior to working in the vicinity of ACD.NET facilities.

Contact: Katelyn LaBelle
Phone: 517-999-3275 (Work)
Email: LaBelle.Katelyn@acd.net
Email: osp@acd.net
Contact: Shirley Yohnka
Phone: 517-999-3240
Email: yonka.shirley@acd.net

AT&T

As shown on the plans for the CRAA Roadway Improvement Project, there are underground facilities throughout the project. A fiber duct runs parallel to Grand River Ave on the north side and parallel to Capital City Blvd on the west side. Fiber lines are on the east side parallel to Capital City Blvd at the Grand River Ave intersection and cross Capital City Blvd at various locations between Grand River Ave and the railroad. Three copper telecommunications lines run parallel to Capital City Blvd in the median, from Grand River Ave to Port Lansing Rd Intersection. From the Port Lansing Rd intersection to the airport entrance two copper telecommunications lines run parallel to Capital City Blvd in the median. A fiber line runs parallel to Capital City Blvd on the east side from the Port Lansing Rd intersection to the airport entrance and crosses Capital City Blvd at various locations. At the Airport Rd and Port Lansing Rd intersection there are telecommunications lines running parallel to Airport Rd on the west side and fiber lines running parallel to Airport Rd on the east side. There are copper telecommunications lines throughout the Capital City Blvd and Port Lansing Rd intersection. From the Capital City Blvd and Port Lansing Rd intersection copper telecommunications lines run parallel to Port Lansing Rd on the south side going west and the north side going east. From the Capital City Blvd and Port Lansing Rd intersection there is a fiber line running parallel to Port Lansing on the north side going east. There is an underground telecommunication line crossing Port Lansing Rd at station 114+50 and a fiber optic line crossing at 116+50. These facilities will not require relocation. Contractor to protect AT&T facilities at all times during construction. Contractor to contact AT&T two weeks prior to working in the vicinity of AT&T facilities.

Contact: Joe Bonacci
Phone: 517-488-3985
Email: jb8342@att.comAT&T (Long Distance)

NOTICE TO BIDDERS

UTILITY COORDINATION

21-Nov-2025

As shown on the plans for the CRAA Roadway Improvement Project, there is an underground fiber transmission line that runs parallel to the CSXT railroad on the southside. These facilities will not require relocation. Contractor to protect AT&T (Long Distance) facilities at all times during construction. Contractor to contact AT&T (Long Distance) two weeks prior to working in the vicinity of AT&T (Long Distance) facilities.**Contact: Bill Taggart**
Phone: 614-868-2511 (Work)
Phone: 614-370-5414 (Cell)
Email: wt2463@att.com

Cogent (Sprint Long Distance)
As shown on the plans for the CRAA Roadway Improvement Project, there is an underground fiber transmission line that runs parallel to the CSXT railroad on the southside. These facilities will not require relocation. Contractor to protect Cogent facilities at all times during construction. Contractor to contact Cogent two weeks prior to working in the vicinity of Cogent facilities.**Contact: Paul Becker**
Phone: 815-557-8416
Email: PBecker@cogent.co.com

Comcast
As shown on the plans for the CRAA Roadway Improvement Project, there are underground facilities throughout the project. Underground fiber lines are located on Capital City Blvd coming off utility poles on the west side and servicing buildings. Underground fiber lines are located at the Capital City Blvd and Port Lansing Rd intersection. Fiber lines run parallel to Capital City Blvd heading north in the median, parallel to Port Lansing Rd on the south side heading west and parallel to Port Lansing Rd on the north side heading east. These facilities will not require relocation. Contractor to protect Comcast facilities at all times during construction. Contractor to contact Comcast two weeks prior to working in the vicinity of Comcast facilities.**Contact: Stephen Beck**
Phone: 734-359-2074 (Work)
Phone: 248-972-7511 (Cell)
Email: Stephen_Beck@comcast.com

Consumers Energy (Gas)
As shown on the plans for the CRAA Roadway Improvement Project, there is a 4” gas main running parallel to Capital City Blvd on the west side. At the Capital City Blvd and Port Lansing Rd intersection there are 2” and 4” gas mains with the 4” gas main continuing north, parallel to Capital City Blvd on the west side and the 2” gas main continuing east parallel to Port Lansing Rd on the south side. Between station 16+00 and 18+00 on Port Lansing Rd there are 16” and 8” gas mains crossing Port Lansing Rd. At station 116+50 on Port Lansing Rd there is a 20” gas main that crosses Port Lansing Rd. These facilities will not require relocation. Contractor to protect Consumers Energy facilities at all times during construction. Contractor to contact Consumers Energy two weeks prior to working in the vicinity of Consumers Energy facilities.**Contact: Adam Bertram**

NOTICE TO BIDDERS

UTILITY COORDINATION

21-Nov-2025

Phone: 517-374-2375 (Work)
Phone: 517-614-8570 (Cell)
Email: Adam.Bertram@cmsenergy.com

CRAA Communications

As shown on the plans for the CRAA Roadway Improvement Project, there is an underground fiber line that runs parallel to Port Lansing Rd from station 36+00 to station 43+00 and crossing Port Lansing Rd at station 43+00. These facilities will not require relocation. Contractor to protect CRAA Communications facilities at all times during construction. Contractor to contact CRAA Communications two weeks prior to working in the vicinity of CRAA Communications facilities.
Contact: Robert Benstein
Phone: 517-886-3716 (Work)
Phone: 517-449-8579 (Cell)
Email: rbenstein@craa.com

Lansing Board Water and Light (Electrical)

As shown on the plans for the CRAA Roadway Improvement Project, there are underground electrical facilities throughout the project. There are underground electrical lines that come off utility poles on the west side of Capital City Blvd that service buildings and facilities in the boulevard median section. Underground electrical lines are located at the intersection of Capital City Blvd and Port Lansing Rd. Underground electrical lines run north from the CSXT railroad to the airport entrance parallel to Capital City Blvd on the west and east sides. Underground electrical lines run parallel on Port Lansing Rd on the north and south sides throughout the project limits. These facilities will not require relocation. Contractor to protect LBWL Electrical facilities at all times during construction. Contractor to contact LBWL Electrical two weeks prior to working in the vicinity of LBWL Electrical facilities.**Contact: Lucas Hayward**
Phone: 517-702-6492
Email: Lucas.Hayward@LBWL.com
Contact: Ashlei Stovall
Phone: 517-702-6736
Email: Ashlei.Stovall@LBWL.com

Lansing Board Water and Light (Lighting)

As shown on the plans for the CRAA Roadway Improvement Project, there are underground electrical lines running parallel to Capital City Blvd serving light poles on the west and east sides. At the intersection of Port Lansing Rd and Airport Rd on the south side, an underground electrical line runs parallel to Port Lansing Rd feeding three light poles. Two light poles at stations 5+18 and 9+20 and underground electrical service are in conflict with the road project and will require relocation. Light poles are to be relocated before the project start date. Existing electrical service will be de-energized and abandoned before the project start date. New electrical service will be installed after road project completion. Contractor to protect LBWL Lighting facilities at all times during construction. Contractor to contact LBWL Lighting two weeks prior to working in the vicinity of LBWL Lighting facilities.**Contact: Travis Archer**

NOTICE TO BIDDERS

UTILITY COORDINATION

21-Nov-2025

Phone: 517-702-6621 (Work)
Phone: 517-897-2777 (Cell)
Email: Travis.Archer@LBWL.com

Lansing Board Water and Light (Water)

As shown on the plans for the CRAA Roadway Improvement Project, there is a 12" water main that runs parallel to Grand River Ave on the north side. An 8" water main runs parallel to Capital City Blvd on the west side. On Port Lansing Rd a 16" water main runs parallel on the south side from station 20+00 to Global Logistics Dr. East of the Port Lansing Rd and Capital City Blvd intersection, an 8" water main runs parallel on the north side converting to a 12" at station 80+00 and ending at station 91+50. A 12" water main crosses Port Lansing Rd at station 17+00. Underground water main will not require relocation. The hydrant at station 60+00 on Port Lansing Rd is in conflict with the proposed road project and will require relocation. The hydrant will be relocated prior to project start date. Contractor to protect LBWL Water facilities at all times during construction. Contractor to contact LBWL Water two weeks prior to working in the vicinity of LBWL Water facilities.

Contact: Liz Curtin
Phone: 517-702-6970 (Work)
Phone: 517-855-1950 (Cell)
Email: Liz.Curtin@LBWL.com
Contact: Michael Lehtonen
Email: Michael.Lehtonen@LBWL.com

Metronet

As shown on the plans for the CRAA Roadway Improvement Project, there are underground fiber lines in conduit that run parallel to Grand River Ave on the north and south side. These facilities will not require relocation. Contractor to protect Metronet facilities at all times during construction. Contractor to contact Metronet two weeks prior to working in the vicinity of Metronet facilities**Contact: Debora Blen Umana**
Email: Debora.BlenUmana@metronet.com
Email: 811design@metronet.com
Contact: Ryan Egan
Email: Ryan.Eegan@metronet.com

NOTICE TO BIDDERS

UTILITY COORDINATION

21-Nov-2025

Zayo

As shown on the plans for the CRAA Roadway Improvement Project, there is underground fiber running parallel to Port Lansing Rd on the south side from Airport Rd to station 43+00. There is underground fiber running parallel to Port Lansing Rd on the north side from Capital City Blvd to station 62+00. There is underground fiber running parallel to Grand Rive Ave on the north side. These facilities will not require relocation. Contractor to protect Zayo facilities at all times during construction. Contractor to contact Zayo two weeks prior to working in the vicinity of Zayo facilities.

Contact: Ryan Galeazzi
Phone: 517-235-3844
Email: rgaleazzi@challengertech.net
Email: zayo.relo.michigan@zayo.com

Michigan Department
of Transportation
2286 (06/17)

UTILITIES STATUS REPORT

Clear Form

CONTROL SECTION(S)	JOB NUMBER(S)
	241594 - Capital Region Airport Authority Roadway Reconstruction

UTILITY	FACILITY TYPE	RELOCATION WORK IDENTIFIED		UTILITY TO RELOCATE PRIOR TO START DATE		COORDINATION INFORMATION IN CONTRACT DOCUMENTS		UTILITY WORK INCLUDED IN CONTRACT	
		YES	NO	YES	NO	YES	NO	YES	NO
ACD.NET	Communications		✔		✔	✔			✔
AT&T	Communications		✔		✔	✔			✔
AT&T (Long Distance)	Communications		✔		✔	✔			✔
Cogent (Sprint Long Distance)	Communications		✔		✔	✔			✔
Comcast	Communications		✔		✔	✔			✔
Consumers Energy	Gas		✔		✔	✔			✔
CRAA Communications	Communications		✔		✔	✔			✔
LBWL (Electrical)	Electrical		✔		✔	✔			✔
LBWL (Lighting)	Lighting	✔		✔		✔			✔
LBWL (Water)	Water	✔		✔		✔			✔
Metronet	Communications		✔		✔	✔			✔
Zayo	Communications		✔		✔	✔			✔

ONE OF THE FOLLOWING SHALL BE CHECKED:

☑ The above is a list of utilities which have indicated they have facilities in the project area. Coordination arrangements, if necessary, have been made and are noted in the Notice to Bidders and/or Special Provisions documents.

☐ The above is a list of utilities which have indicated they have facilities in the project area. There are no known utility adjustments required by this project.

☐ There are utilities within the project area. However based upon the project's limited scope of work, no utility impacts are anticipated. Utility information has not been solicited for this project and does not need to be listed above.

NAME	DATE
Keith Simons, PE, PTOE	11/21/25
OFFICE	
Fishbeck	

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2020 STANDARD SPECIFICATIONS

Page	Subsection	Errata
1-06	101.02	Delete the second abbreviation of the list on this page reading: “IES .....Illuminating Engineering Society
1-06	101.02	Add the abbreviation to the list on this page reading: “IESNA Illuminating Engineering Society of North America
1-07	101.02	Change the first abbreviation of the list on this page to read: MMUTCD.....Michigan Manual on Uniform Traffic Control Devices
1-83	108.05.A.2	In the first paragraph of this subsection change the language “MDOT Form 1130” to read “MDOT Form 1130A”.
1-88	108.08.D	Move the last paragraph of this subsection to the left one indent to align with the first paragraph of the subsection and not with the subsection 108.08.D.3.
2-29	205.03.P.1	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, beyond the normal plan fill slope across wetlands or floodplains.”
2-30	205.03.P.2	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, in wetlands or floodplains.”
2-30	205.03.P.3	Delete the second paragraph of this subsection and replace with the following: “Contact the appropriate regulatory agencies to determine whether an area is a regulated wetland or floodplain before disposing of surplus or unsuitable material in areas outside the right-of-way and not shown on the plans as disposal sites.”
2-30	205.03.P.3	Delete the first sentence of the third paragraph of this subsection and replace with the following: “Immediately move to an upland site any surplus or unsuitable material that was disposed of in portions of wetlands or floodplains not shown on the plans as disposal sites, at no additional cost to the Department.”

2-30	205.03.P.4	Delete the first sentence of this subsection and replace with the following: "The Department will notify the applicable regulatory agencies if the Department becomes aware that the Contractor disposed of surplus or unsuitable material in portions of a wetland or floodplain not shown on the plans."
3-31	308.04.D	Change the subsection title from "D. **General**." to read "A. **General**."
4-5	401.03.A	Delete the fourth sentence of the second paragraph on this page of this subsection and replace it with the following: "Place the backfill up to 4 inches below the proposed bottom of the pipe and cover with geotextile separator."
4-7	401.03.E	Delete the third sentence of the second paragraph of this subsection and replace with the following: "Use precast or cast-in-place footings for precast end sections as required."
4-8	401.03.E	Delete the first sentence of the fourth paragraph on this page of this subsection and replace with the following: "When discharging stormwater directly to waters of the state, permanently label all end sections or other piped points of stormwater entry with "MDOT" or the local agency's name in a conspicuous location that will remain visible after construction."
4-11	401.04	Change the eighth pay item from the bottom of the list on this page to read as follows: Culv End Sect __ inch, Grate.....Each
4-11	401.04.A.3	Delete this subsection in its entirety and replace it with the following: "3. Providing and placing culvert bedding, culvert, and geotextile blanket;"
4-12	401.04.C.4	Change this subsection to read: "The Engineer will measure Culv End Sect __ inch, Grate by each as shown on the plans for the size of grate required."
4-16	402.03.A	Delete the fourth sentence of the third paragraph on this page of this subsection and replace it with the following: "Place the backfill up to 4 inches below the proposed bottom of the pipe and cover with geotextile separator."
4-21	402.03	Add a new subsection to the end of subsection 402.03 on this page reading as follows: "K. **Outfall Labeling.** Label all stormwater outfalls directly discharging to waters of the state in accordance with subsection 401.03.E.

4-21	402.04.A	Delete the last sentence of this subsection and replace it with the following: "The unit price for **Sewer** and **Sewer, Reinf Conc, Ellip** includes the cost of excavation, bedding, backfill, geotextile blanket, and conducting mandrel testing if required."
4-33	404.03.D.1	Delete this subsection in its entirety and replace it with the following: "1. **Foundation, Bank, Subbase and Subgrade Underdrains.** Backfill using granular material Class IIAA."
4-39	406.02	Change the third line in the list of materials to read: Coarse Aggregate 6A, 6AA, 17A.....902
4-41	406.03.A.3	Delete the third paragraph of this subsection and replace with the following: "Design joints between adjacent box culvert sections in accordance with Section 9 of ASTM C1577 and to accommodate the joint sealing material in accordance with section 914 as applicable."
4-50	406.03.G.3	Change the first sentence of the first paragraph to read: "Unless otherwise shown on the plans, construct culvert bedding for box culverts by placing a 9-inch-thick layer of 46G aggregate, covered with a 3-inch-thick layer of 34G, 34R aggregate, or approved equal."
4-51	406.03.G.3	Add the following sentence to the end of the second paragraph of this subsection: "The cold applied joint sealer must completely cover the external rubber gasket with the placement limits matching the width of the geotextile blanket."
4-52	406.04.B	In the second paragraph of this subsection delete the first sentence and replace with the following: "The Department will pay separately for cast-in-place concrete, other than for culvert segments, headwalls, wingwalls, aprons, and curtain walls."
5-26	502.02	Delete the first sentence of the subsection and the listed materials in this subsection.
5-26	502.02.A	Add the following to the end of the first sentence in this subsection: "(914.04A)"
5-26	502.02.B	Add the following to the end of the first sentence in this subsection: "(502.02B)"
5-35	503.04	Change the first paragraph to read: "The unit price for **Paver-Placed Surface Seal**, of the type required, includes the cost of preparing the surface, and placing a membrane and paver placed surface seal course for full-width coverage,

except that the Department will pay separately for removing pavement markings in accordance with subsection 812.04”

5-46 504.04.A Change the first paragraph to read:
“A. **General**. The unit prices for **Micro-Surface**, regardless of the type required, include cleaning existing pavement, applying a bond coat, stationing, corrective action, and traffic control to complete corrective action.”

6-20 602.04 Delete the fifteenth pay item of the list on this page reading:
“Shoulder, Reinf Conc.....Square Yard

6-20 602.04 Change the sixteenth thru the eighteenth pay items on this page to read as follows:
Shld, Nonreinf Conc.....Square Yard
Shld, Nonreinf Conc, High Performance .....Square Yard
Shld, Freeway.....Square Yard

6-21 602.04.B.1 Delete this subsection and replace with the following:
“**Shld, Nonreinf Conc;** and **Shld, Nonreinf Conc, High Performance.** The Engineer will measure, and the Department will pay for, **Shld, Nonreinf Conc;** and **Shld, Nonreinf Conc, High Performance** by area, based on plan quantities in accordance with subsection 109.01.”

6-21 602.04.B.2 Delete this subsection and replace with the following:
“**Shld, Freeway.** The Engineer will measure, and the Department will pay for, **Shld, Freeway** based on plan quantities in accordance with subsection 109.01. If the Contractor uses concrete for the shoulder, the unit price for **Shld, Freeway** includes the cost of the transverse joints in the shoulder and the external longitudinal pavement joints.”

6-23 602.04.F Add the following sentence to the end of the first paragraph of this subsection:
Temporary concrete pavement, pavement within 4 feet of an obstruction, pavement areas less than 300 square yards, or pavement less than 3 feet wide will not be cored.

6-23 602.04.F Delete the following language from this subsection on this page:
“The Engineer will not core the following:

1. Temporary concrete pavement;

2. Pavement within 4 feet of an obstruction;

3. Pavement areas less than 300 square yards; or

4. Pavement less than 3 feet wide.”

6-24 602.04 Rename the following subsections as follows:

		"1. Initial Core.
6-24	602.04	2. Additional Cores.
6-24	602.04	3. Price Adjustment for Thickness.
6-25	602.04	4. Price Adjustments for Steel Locations within the Pavement.
6-26	602.04	5. Remove and Replace."
6-29	603.02	Change the first sentence in the last paragraph in this subsection to read: "Provide coarse aggregate with no greater than 2.5% absorption in accordance with AASHTO T85."
7-11	705.02	Change the second sentence in the last paragraph in this subsection to read: "Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete."
7-29	706.02	Change the first sentence in the seventh paragraph in this subsection to read: "Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete."
7-107	709.04	Change the Pay Unit on the second pay item from the top of the list on this page to read as follows: Thousand Board Foot
7-115	711.02	Change the first sentence in the last paragraph in this subsection to read: "Provide natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
7-120	712.02	Change the first sentence in the sixth paragraph in this subsection to read: "Provide concrete containing natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
7-185	718.02	Change the first sentence in the last paragraph in this subsection to read: "Provide concrete with natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
8-12	804.03.B.2	Change the first sentence in this subsection to read: "Cast in place light standard and sign support foundations using fixed forms in accordance with the *MDOT Standard Plan R-50 series.*"
8-27		Change the last pay item at the bottom of this page to read as follows: Guardrail Anch, Bridge, Det __, Curved.....Each
8-44	810.03.J.9	Add a period to the end of the third sentence in this subsection.

8-53	810.03.V	Add a period to the end of the second sentence of the first paragraph of this subsection.
8-53	810.04	Change the fourth pay item from the top of the list on this page to read as follows: Post, Steel, __ pound.....Foot
8-53	810.04	Change the last four pay items at the bottom of this page to read as follows: Fdn, Truss Sign Structure Type __, __ inch dia, Cased.....Foot Fdn, Truss Sign Structure Type __, __ inch dia, Uncased.....Foot Fdn, Cantilever Sign Structure Type __, __ inch dia, Cased ....Foot Fdn, Cantilever Sign Structure Type __, __ inch dia, Uncased.Foot
8-55	810.04.B.1	Delete the second paragraph of this subsection and replace with the following: "The unit prices for **Fdn, Truss Sign Structure Type __, __ inch dia, Cased** and **Fdn, Cantilever Sign Structure Type __, __ inch dia, Cased** include the cost of concrete, slurry, steel reinforcement, permanent casings, anchor bolts, excavation, and disposal of excavated material."
8-55	810.04.B.2	Delete this subsection and replace with the following: "**Foundation, Truss Sign Structure, Uncased and Foundation, Cantilever Sign Structure, Uncased.** The unit prices for **Fdn, Truss Sign Structure Type __, __ inch dia, Uncased** and **Fdn, Cantilever Sign Structure Type __, __ inch dia, Uncased** include the cost of concrete, slurry, steel reinforcement, temporary casings, anchor bolts, excavation, and disposal of excavated material."
8-57	810.04.I	Delete the first paragraph of this subsection and replace with the following: "The unit price for **Sign, Rem** of the type required includes the cost of removing signs from supports and stacking by shape and size."
8-57	810.04.I	Delete the second paragraph of this subsection and replace with the following: "The unit prices for **Ground Mtd Sign Supports, Rem**; **Cantilever, Rem** and **Truss, Rem** include the cost of removing ground mounted sign supports, cantilever or truss supports."
8-57	810.04.L	Change this subsection to read: "The unit price for Sign, Erect, Salv of the type required includes erecting the salvaged sign on a new sign support or existing sign support, as shown on the plans, and attaching devices, and hardware, including brackets."
8-93	812.03.D.14	Add the following paragraph after the second paragraph in this subsection: "If the temporary rumble strips lose their adhesion to the pavement during the life of the project, replace or re-adhere them, as directed

by the Engineer. Upon completion of the project, or as directed by the Engineer, entirely remove the temporary rumble strips using a method that does not permanently damage the pavement surface."

8-95	812.03.D.14	Delete the third, fourth, fifth and sixth paragraphs of this subsection.
8-110	812.04	Change the fifth and sixth pay item from the top of the list on this page to read as follows: Sign, Type B, Temp, Prismatic, Spec, Furn ..... Square Foot Sign, Type B, Temp, Prismatic, Spec, Oper ..... Square Foot
8-141	815.04.C.1.b	Delete this subsection in its entirety.
8-141	815.04.C.1.c	Rename and change this subsection as follows: "b. Removal and disposal of unacceptable plants including the root ball.
8-141	815.04.C.1.d	Delete this subsection in its entirety.
8-142	815.04.C.2.d	Change this subsection to read: "During the first watering of the second growing season, remove and dispose of the guying material, identification tags, and inspection tags."
8-144	816.03.A	Change the third sentence in this subsection to read: "Use topsoil from within the project limits; or from off-site sources meeting the requirements in subsection 917.06."
8-167	818.04	Add the pay item to the bottom of the list on this page as follows: Power Company (Estimated Cost to Contractor)..... Dollar
8-170	818.04.G	Delete this subsection in its entirety.
8-170	818.04	Rename the following subsections as follows: "G. **Handholes (Hh).**
8-171	818.04	H. **Service Disconnect.**
8-171	818.04	I. **Metered Service.**
8-171	818.04	J. **Unmetered Service.**
8-172	818.04	K. **Wood Pole.**
8-172	818.04	L. **Concrete Pole, Fit Up.**
8-172	818.04	M. **Steel Pole, Fit Up.**
8-172	818.04	N. **Bracket Arm.**"
8-171	818.04.J	Delete the second paragraph of this subsection and replace with the following: "The pay item, **Power Company (Estimated Cost to Contractor)**, establishes a budgeted amount in the contract to cover the cost of reimbursing the Contractor for payments made to the power company for providing electrical power at the locations shown on the plans. The Department will estimate the reimbursement costs to the Contractor and establish a budgeted amount as shown on

		the plans. The Department will pay the Contractor for power company invoices paid, as submitted to the Engineer."
8-176	819.03.B.5.b	In the second paragraph of this subsection delete the first sentence and replace with the following: "Tighten bolts connecting the pole to the frangible base to a snug tight condition in accordance with subsection 707.03.E.6.c."
8-185	820.01.B	Add a period to the end of the first sentence of this subsection.
8-187	820.02	Change the first line in the list of materials on this page to read: Conduit Material.....918
8-196	820.03.O	In the fourth paragraph of this subsection delete the last sentence and replace with the following: "Use smooth wall, Schedule 80, rigid PVC conduit, or coilable, Schedule 80 PE conduit in accordance with section 818."
8-199	820.04	Add the pay item to the list on this page: TS, (number) Way (type) Mtd (LED) Optic
8-200	820.04	Change the second pay item from the top of the list on this page to read as follows: TS Head, Temp .....Each
8-200	820.04	Change the eleventh pay item from the top of the list on this page to read as follows: TS, Lens, Pedestrian Sym (LED) .....Each
8-200	820.04	Delete the following pay items from the list: Strain Pole, Steel, 6 bolt, __ foot.....Each Mast Arm Pole, Cat__.....Each Mast Arm, __Foot, Cat.....Each
8-200	820.04	Change the eleventh pay item from the bottom of the list on this page to read as follows: Mast Arm, Rem.....Each
8-200	820.04	Delete the following pay item from the list: Pushbutton, Pedestal, Alum.....Each
8-201	820.04	Delete the following pay item from the list: Pushbutton, Pedestal, Rem .....Each
8-201	820.04	Delete the following pay item from the list: Power Co. (Est Cost to Contractor)..... Dollar
8-202	820.04	Add the following pay item to the list: Bracket, Truss, Salv.....Each
8-204	820.04.C	Delete the last paragraph of this subsection in its entirety.

8-204	820.04.D	Delete the first paragraph of this subsection in its entirety.
8-205	820.04.E	Delete the sixth paragraph of this subsection in its entirety.
8-205	820.04.E	Delete the seventh paragraph of this subsection in its entirety.
8-205	820.04.E	Change the eighth paragraph to read: "The unit price for **Pedestal, Pushbutton, Alum** includes the cost of installing the aluminum pushbutton pedestal assembly, installing hardware, fittings, grounding, and ground rod."
8-205	820.04.E	Change the nineth paragraph to read: "The unit price for **Pedestal, Pushbutton, Rem** includes the cost of removing the pedestal assembly and hardware."
9-5	902.02	Delete the first line under the Material list and relace with the following: "Wire Cloth and Sieves ..... ASTM E11"
9-9	902.03.C.1.b	Delete the first sentence in this subsection and replace with the following: "The physical requirements for the coarse aggregate are as specified in Table 902-2 and as follows:"
9-14	Table 902-1	In the row that includes the information on the 34G material, under the column titled Item of Work by Section Number (Sequential) delete the reference to the section 404.
9-15	Table 902-2	Add the superscript (n) in the first row in the Dense-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).
9-16	Table 902-2	Add the superscript (n) in the first row in the Open-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).
9-16	Table 902-2	Delete the superscript footnote in the first through fourth rows under the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
9-16	Table 902-2	Add the following row after the third row in the Open-graded aggregates section reading:

46R	--	45	--	--	--

9-16	Table 902-2	Add the superscript footnote in the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
9-15	Table 902-2	Delete the footnote (d) in one location in the table.

9-17	Table 902-2	Delete the footnote (d) in one location in the table.
9-17	Table 902-2	Add the following footnote below the existing footnotes in this table. "(n) For recycled crushed concrete, if the source concrete uses primarily rounded river gravel aggregates, the minimum crushed particle content can be reduced to 90%."
9-21	Table 902-6	Delete the footnote (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (c) to read (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (d) to read (c) in two locations in the table.
9-25	903.04	Delete the second sentence of the second paragraph of this subsection.
9-70	909.07.A	Delete the second sentence of this subsection.
9-70	909.05.D	Change the first sentence in this subsection to read: "Provide steel pipe for jacking in place meeting the requirements of ASTM A53/A53M for Type E or Type S, Grade B, or ASTM A139/A139M for Grade B."
9-71	909.08.A	Change the first sentence in this subsection to read: "Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F714, PE 4710, DR 26 or Schedule 80 PVC.
9-94	Table 910-01	Change the value in the fifth row under the header row in the Permittivity (min) (per second) column from 0.5 to read: "0.05"
9-94	Table 910-01	Change the value in the seveth row under the header row in the Permittivity (min.) (per second) column from 0.5 to read: "0.05"
9-95	Table 910-2	Change the second row under the Ultimate strength section to read: "CMD[(c)] 1950 lb/ft"
9-119	913.06	Change this subsection to read: Circular precast concrete units with circular reinforcement for adjusting rings, tops, risers, and sump bases for manholes, catch basins, and inlets must meet the requirements of AASHTO M199 and the following additions and exceptions:
9-133	917.03	Rename the four subsections following the first paragraph on this page as follows: D. Deciduous Shade Trees. E. Small Trees, Ornamentals, and Shrubs. F. Evergreen Trees. G. Vines, Ground Cover, and Herbaceous Ornamental Plants.

9-149	918.08	In the first paragraph of this subsection delete the second sentence and replace with the following: "Provide light standards designed in accordance with AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."
9-150	918.10	In the first paragraph of this subsection delete the first sentence and replace with the following: "Provide tower lighting units designed in accordance with AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."
9-164	919.04.B	In the first paragraph of this subsection delete the first sentence and replace with the following: "Provide square tubular steel sign supports meeting the chemical, mechanical, and geometric properties of material used in the crash tests referenced in AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals."
9-170	920.02.C	Change the reference to Table 920-2 to read Table 920-3 in two locations.
9-218	922.06	Add the following subsection after subsection 922.06.C: "D. **Temporary Rumble Strips (Orange).** The completed temporary rumble strip consists of one layer of the 0.25- by 4-inch material. Apply the primer to the surface of the pavement only if recommended by the manufacturer. Place the pre-adhesive surface of the rumble strip on the primer or directly on the pavement surface, as recommended by the manufacturer. Seat the rumble strips with a minimum of three passes of a 200-pound weighted roller. Provide temporary rumble strips that are composed of a polymer with pre-applied adhesive, orange, and a tensile strength of 250 psi. Provide primer in accordance with the manufacturer's recommendations."
9-222	922.10.A.3	Delete this subsection and replace with the following: "Conform to the wind load requirements specified by AASHTO's LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals with all equipment mounted without the need for additional ballast;"
10-5	1001.03.A.4.m	Delete this subsection and replace it with the following: "m. Contractor's signature or initials when water is added on-site."
10-15	1002.03.A.9	Delete this subsection and replace it with the following: "9. AASHTO T177 - Standard Method of Test for Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)"

10-23	1003.03.B	Delete the last sentence of this subsection and replace with the following: “Aggregate sampling for concrete will be performed by an MCAT-certified Aggregate Technician Level II.”
10-42	Table 1006-01	Change footnote (a) to read: “(a) Ensure that the coarse aggregate’s absorption does not exceed 2.5% in accordance with AASHTO T85.”
10-43	Table 1006-02	Replace Table 1006-02 with the Table 1006-02 below.
1A - 20A	Pay Item Index	Replace the Pay Item Index in its entirety.

Table 1006-2:
Overlay Mixtures

Mixture Type	Aggregate	Slump (inch)	Air Content	Admixture Required	Mixture Proportions lb/yd³, dry weight					
					Cement[a]	Dry Densified Silica Fume[b]	Net Mix Water	Fine Agg	Coarse Agg	Latex Admixture
SFMC	2NS and 26A[c]	4–6	6.5 ±1.5%	[d],[e],[f]	618	40	273[g]	1273	1601	—
LMC	2NS and 26A[c]	[h]	4.5 ±1.5%	—	658	—	[h]	1490[i],[j]	1300[i],[j]	206

(a) Use only Type I or Type IL Portland cement.

(b) For SFMC mixtures, the Contractor may use a blended silica fume Portland cement. However, if the silica fume content of the blended material is greater than 8% of the total cementitious material, submit to the Engineer modified mix proportions with Type I Portland cement added to the blended material to achieve the equivalent individual cementitious material mixture proportions.

(c) Provide coarse aggregate, 95% minimum crushed materials in accordance with Michigan Test Method (MTM) 117, with an absorption no greater than 2.5%, in accordance with AASHTO T85.

(d) Water-reducing high-range admixture or water-reducing high-range and retarding admixture.

(e) Virgin polypropylene collated fibers at 2 lb/yd³.

(f) Air-entraining admixture.

(g) Provide a net water to cementitious material ratio of 0.41 (cementitious material includes cement and silica fume).

(h) Add water in addition to water in the latex admixture to control slump to within 3 to 5 inches. Measure slump from 4 to 5 minutes after discharge from the mixer. During the waiting period, deposit concrete on the deck and do not disturb. If placing mixtures on sections within superelevated curves, the Contractor may need to use the lower allowable range of the slump requirement, as determined by the Engineer. Do not exceed water-cement ratio, by weight, of 0.30 including water contained in the latex emulsion.

(i) Aggregate proportions are approximate; due to gradation changes, the Contractor may increase proportions by no greater than 5% by weight of total aggregate if reducing coarse aggregate by an equivalent volume.

(j) Aggregate weights specified in the table are based on a dry bulk specific gravity of 2.65 for gravel and stone. Adjust the weights if the specific gravity of the materials used varies by more than 0.02 from the specified values.

NOTICE TO BIDDERS - INQUIRY

All inquiries concerning the plans and proposal for this project are to be directed to:

Keith Simons, PE, PTOE

Name

Project Manager

Title

Ksimons@Fishbeck.com

E-mail Address

All inquiries must be made by E-mail.

Telephone inquiries will not be answered.

To be able to process and distribute an addendum, if required, all inquiries shall be made at least seven (7) calendar days before the letting.

Inquiries made after this date will be considered by Capital Region Airport Authority, but will not require a response.

Inquiries made must include the following information:

- Proposal Item Number
- Contract ID
- Name of Inquiring Person
- Company Name
- Phone and E-mail address
- Detailed question(s) with reference to proposal page and plan sheet number

Other employees of Capital Region Airport Authority and Fishbeck have been instructed to direct all inquiries to the person mentioned above.