

CITY OF ANN ARBOR

PROGRESS CLAUSE

AA:JKA

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3/27/2019

**a. General.-**

The Owner anticipates that construction can begin no earlier than:

- **June 17, 2019**

In no case shall any work be commenced prior to receipt of formal notice of award by the Department.

The Contractor shall prepare and submit a complete, detailed, and signed MDOT Form 1130, Progress Schedule, according to 12SP-101A

The Progress Schedule shall include, at minimum, the controlling work items for the completion of the project, as well as the planned dates or work days that these work items will be controlling operations. All contract dates including open to traffic, project completion, interim completion and any other controlling dates in the contract, must be included in the progress schedule.

If the bidding Proposal specifies other controlling dates, these shall also be included in the Progress Schedule.

The Project shall be completed in its entirety including final site restoration and clean-up:

- on or before **September 20, 2021**

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, should attend the preconstruction meeting if such items materially affect the work schedule.

Liquidated Damages shall be assessed in accordance with Section 108.10 of the 2012 Standard Specifications for Construction.

A. Milestones

1. MILESTONE 1: Open to vehicular and pedestrian traffic along John A Woods, Traver Street, Barton Drive, and Starwick Drive

The sidewalk and roadway items must be complete, including restoration, and open to vehicular and pedestrian traffic along John A Woods, Traver Street, Barton Drive, and Starwick Drive on or before **August 30, 2019**.

The project shall be sufficiently complete and in suitable condition to be designated "Approved for Traffic" and shall be Opened to Traffic as directed by the Engineer along John A Woods, Traver Street, Barton Drive, and Starwick Drive, on or before **August 30**,

**2019.** The “Approved for Traffic” condition shall be as defined in section 107.21, Approved for Traffic, of the MDOT 2012 Standard Specifications for Construction.

2. MILESTONE 2: Open to vehicular and pedestrian traffic on all streets

The entire project must be complete, including restoration, and open to vehicular and pedestrian traffic on or before **October 26, 2019**.

The project shall be sufficiently complete and in suitable condition to be designated “Approved for Traffic” and shall be Opened to Traffic as directed by the Engineer, on or before **October 26, 2019**. The “Approved for Traffic” condition shall be as defined in section 107.21, Approved for Traffic, of the MDOT 2012 Standard Specifications for Construction.

3. MILESTONE 3: Final Acceptance of Restoration

Final acceptance of restoration items shall be completed on or before **June 1, 2020**.

4. MILESTONE 4: Watering and Cultivating, First Season

Watering and Cultivating, First Season shall be completed on or before **September 19, 2020**, after the first season of Watering and Cultivating.

5. MILESTONE 5: Watering and Cultivating, Second Season

Watering and Cultivating, Second Season shall be completed on or before **September 19, 2021**, after the second season of Watering and Cultivating.

6. MILESTONE 6: Final Acceptance

Final Acceptance shall be completed on or before **September 20, 2021**, after Milestone 5 is complete.

CITY OF ANN ARBOR

**NOTICE TO BIDDERS**

PROJECT COORDINATION

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The Contractor is hereby notified that there may be other construction projects, not associated with this project, scheduled for construction during the same timeframe as this project within the local vicinity.

The following is a listing of known road construction projects within the local vicinity that may have an impact on this project. Please note that this listing may not be complete and the Contractor shall verify any other projects within the local vicinity that may impact this project.

- Longshore, Indianola, Ottawa, Argo & Amherst Water Main Project will be under construction.
- Ann Arbor Street Resurfacing project will be ongoing.
- Miscellaneous private utility relocations, as described in the Utility Coordination Clause. Intermittent closures are anticipated.

The Contractor shall coordinate its work on this project with that by the Contractor on other projects, as directed by the Engineer. No additional compensation will be allowed for costs incurred by the Contractor due to coordinating with or delays caused by other projects.

CITY OF ANN ARBOR

**NOTICE TO BIDDERS**

**UTILITY COORDINATION**

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The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2012 MDOT Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the 2012 MDOT Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 109.05.E of the 2012 MDOT Standard Specifications for Construction.

For protection of underground utilities and in conformance with Public Act 174, the contractor shall dial 800-482-7171 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning construction in areas where utilities have not been previously located. Members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

The following is a list of Private and Public Utilities that may or may not have facilities located within the Right-of-Way. This list is for informational purposes only and is not meant to be an exhaustive list of utilities located within the Right-of-Way.

Utilities will not be required by the City to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are dangerous to the Contractor's operations.

Private utility relocations, such as pole relocations, shall be relocated prior to construction.

DTE Energy – Gas  
3150 E. Michigan Ave  
Ypsilanti Township, MI 48198  
Contact: Robert Czapiewski 734-544-7818

ATT – Phone  
550 South Maple Road  
Ann Arbor, MI 48103  
Contact: Jeff Lehman Sr. 734-996-5334

DTE Energy – Electric  
Western Wayne Service Center  
8001 Haggerty Road  
Belleville, MI 48111  
Contact: Anthony Ignasiak 734-397-4447

Comcast - Cable  
27800 Franklin Road  
Southfield, MI 48034  
Contact: Ron Sutherland 313-999-8300

MCI – Fiber Optic  
2800 North Glenfille Road  
Richardson, TX 75082  
Contact: Dean Boyers 972-729-6016

City of Ann Arbor – Water & Sewer  
301 E Huron Street  
Ann Arbor, MI 48107  
Contact: Dan Wooden – Water  
Travis Coneley – Sewer  
734-794-6350

City of Ann Arbor – Signs & Signals  
4251 Stone School Road  
Ann Arbor, MI 48108  
Contact: Chuck Fojtik 734-794-6361  
Email - [CFojtik@a2gov.org](mailto:CFojtik@a2gov.org)

DTE Energy – Street Lighting  
8001 Haggerty Road  
Bellville, MI 48111  
Contact: Lance Alley 734-397-4188

Windstream- Fiber Optics  
1295 S Linbden Road, Suite B  
Flint, MI 48532  
Contact: Greg Serich 810-244-3500

CITY OF ANN ARBOR  
**SPECIAL PROVISION  
FOR  
MAINTAINING TRAFFIC**

AA:JKA

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3/19/2019

**a. Description.-** This work shall consist of all labor, materials, and equipment required to maintain traffic as specified on John A Woods, Traver Street, Barton Drive, Starwick Drive, and Brookside Drive; including limited cross street access point work to provide a smooth transition to the roadways in the City of Ann Arbor, Washtenaw County, Michigan.

**b. Materials.-** The materials and equipment shall meet the requirements specified in the sections designated of the MDOT 2012 Standard Specifications for Construction and all Special Provisions contained elsewhere in these Contract Documents.

**c. General.-** Traffic shall be maintained in accordance with Sections 104.07.C, 104.11, 808, 811, 812, 920, and 922 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and in accordance with the 2011 Michigan Manual on Uniform Traffic Control Devices (MMUTCD) as amended, except as herein provided. Work shall consist of all labor, materials, and equipment required for maintaining vehicular and pedestrian traffic in accordance with the special provisions for maintaining traffic for the Northside STEAM SRTS Sidewalk Gap Project.

1. The Contractor shall furnish, erect, maintain and, upon completion of the work, remove all traffic control devices and barricade lights within the project and around the perimeter of the project for the safety and protection of through, local and pedestrian traffic. This includes, but is not limited to, advance, regulatory, and warning signs; barricades and channeling devices at intersecting streets on which traffic is to be maintained; barricades at the ends of the project and at right-of-way lines of intersecting streets, and the moving of traffic control devices as many times as required for the multiple construction operations that may be performed.
2. The Contractor shall coordinate his operations with all Contractors performing work on this project or other projects within, or adjacent to, the Construction Influence Area (CIA) to avoid conflicts in maintaining traffic, construction signing, and progression of construction activities.
  - A. The Contractor's attention is called to the requirements of cooperation with others as covered in Section 104.08 of the MDOT 2012 Standard Specifications for Construction. The Contractor is to coordinate his operations with all sub-Contractors and all other projects in the vicinity. No additional payment will be made to the Contractor for joint use of the traffic control items. All work activities are subject to local ordinances and restrictions.

- B. City of Ann Arbor Public Services Area maintenance crews and/or Contract Maintenance Agencies may perform maintenance work within, or adjacent to, the CIA. The City of Ann Arbor Public Services Area and/or Contract Maintenance Agencies will coordinate their operations with the Engineer to minimize interference to the Contractor.
3. No phase changes will be allowed without written approval from the Engineer. Work is to be completed in each phase (including pre-phases) prior to progressing to the next phase.
    - A. Open to vehicular and pedestrian traffic along John A Woods, Traver Street, Barton Drive, and Starwick Drive on or before August 30, 2019.
    - B. Open to vehicular and pedestrian traffic along Brookside Drive on or before October 5, 2019.
  4. Notify the Engineer a minimum of 72 hours prior to the implementation of any detours, ramp or lane closures and major traffic shifts. The Contractor will start work at the time agreed upon with the Engineer. Any delay in the start time may result in delaying the project, until another start date can be agreed upon with the Engineer. Any delay on a new start date will not be considered a reason for an extension of time.
  5. Notify emergency services, law enforcement, etc. prior to traffic pattern changes and or closures. Notification shall be given a minimum of 7 calendars days in advance.
  6. Provide 24-hour emergency contacts to the Engineer. During non-working periods the Contractor will have a maximum 4-hour response time for addressing issues within the work zone.
  7. Obtain permits from the City of Ann Arbor prior to placing any traffic control devices on City of Ann Arbor streets. The City of Ann Arbor will waive permit fees for this project.
  8. Contractor must maintain emergency vehicle access at all times. The Contractor must submit the plan to provide emergency vehicle access to the Engineer for review and approval.

**d. Construction Influence Area (CIA).**- The CIA shall include the right-of-way of the following roadways within the project limits:

1. Brookside Dr.
2. Pontiac St.
3. Delafield Dr.
4. Traver St.
5. Braton Dr.
6. Starwick Dr.
7. John A Woods
8. Pear St.

**e. Hours of Work.-**Work day, hour, and other work restrictions imposed by the City of Ann Arbor

The work hours described may be modified or changed by the Engineer due to Holidays, Special Events, or Traffic Volumes.

A. Contractors operations shall be limited by local municipality work time, noise, and dust ordinance unless approved by the local municipality and the Engineer in writing, as shown below:

- Monday – Friday: 7am-8pm
- Saturday: 7am-8pm; Notice given to City of Ann Arbor no less than 48 hours and no more than 5 days.
- Sunday: only with approval from the City of Ann Arbor
- No work may be done on holidays

B. No work or lane closures, unless approved by the Engineer, shall be performed during:

- Memorial Day (3:00 pm Friday May 24, 2019 – 7:00 am Tuesday, May 28, 2019)
- Fourth of July (3: 00 pm Wednesday July 3, 2019 - 7:00 am Friday July 5, 2019)
- Labor Day (3:00 pm Friday August 30, 2019 – 7:00 am Tuesday, September 3, 2019.

**f. Traffic Restrictions.-**

1. Failure to comply with any restrictions in subsection e. Traffic Restrictions Items 2, 4, 5, and 7 will result in the assessment of liquidated damages per subsection 108.10.C.2 of the Standard Specifications for Construction.
2. No work will be performed or lane closures allowed on the first date listed starting at 3 p.m. for all Holidays. Work or lane closures may resume on the second date listed at 7 a.m., or as defined by the Engineer. The exact shutdown dates of each holiday period are listed in Table 1:

**Table 1: Holiday Shutdown Dates**

Memorial Day 2019 Shutdown	4 <sup>th</sup> of July 2019 Shutdown	Labor Day 2019 Shutdown
Fri. May 24, 2019 3pm to Tues. May 28, 2019 7am	Thurs. July 3, 2019 3pm to Fri. July 5, 2019 7am	Fri. Aug. 30, 2019 3pm to Tues. Sept 3, 2019 7am

3. Continuous access is to be provided to all properties on Brookside Dr., Starwick Dr., Barton dr., Traver St., and John A Woods except as shown on the Maintaining Traffic plans, unless temporary closure is approved by the property owner and the Engineer. Formal approval from the property owners to temporarily close a driveway will need to be provided to the Engineer before any closures are allowed. Notify property owners 7 days



in advance of any full or partial driveway closures. Driveways may be closed for a maximum of 7 calendar days.

4. Access for emergency vehicles (fire, ambulance, police) must be maintained at all times.
5. Notify the Engineer at least 24 hours in advance of erection or removal of overlays on existing signs.
6. Work requiring lane closures or traffic stoppages will be suspended as determined by the Engineer any time traffic is being unduly delayed by the Contractor's construction activities.
7. Restrict access between traveled lanes and work areas to specific locations for construction vehicles. The number of access points and their locations requires the approval of the Engineer. Submit a Work Zone Traffic Control Plan (WZTCP) to the Engineer, at the pre-construction meeting, in accordance with section 104 of the Standard Specifications for Construction. The Engineer will have 7 calendar days to review the plan for approval or provide comments for plan revisions required to obtain approval. At a minimum, the WZTCP will 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 plan. No work will begin prior to approval of the WZTCP. Additional time required to obtain an approved WZTCP will not be cause for delay or impact claims. All costs associated with obtaining an approved plan, providing and executing all parts of the approved plan including required traffic control devices, or resolving an incomplete or unacceptable plan will be borne by the Contractor.
8. Ensure undercuts or excavations immediately adjacent to active traffic lanes have a minimum 1 on 4 slopes from the edge of the roadway at the end of each workday, unless otherwise approved by the Engineer.
9. The location and duration of equipment and materials stored in the right-of-way, public or private property will be as approved by the Engineer.
10. Ensure sign covers are placed over existing regulatory, warning and construction signs that are not applicable during construction.
11. Changes or adjustments in the staging plans, temporary pavement markings, temporary signs and maintaining traffic typicals provided may be necessary to fit field conditions as determined by the Engineer.

**g. Stage Construction.** - The traffic control required by this Special Provision is based on the suggested temporary traffic control plan show on the plans. An alternate traffic control plan may be used by the Contractor, subject to review and approval by the Engineer. **Any proposed alternate plan will be submitted to the Engineer for review and approval at least 15 days prior to the possible implementation.**

## **h. Traffic Control Devices.-**

### **1. General.**

- A. Ensure all traffic control devices and their usage conforms to the MMUTCD, specifically part 6, which is available on the Traffic and Safety Support Area web site <https://mdotcf.state.mi.us/public/tands/plans.cfm>. Maintaining Traffic Typical for Lane Closures will be M0110 and M0140.
- B. During non-working periods, any work site with uncompleted work will have advance signs (W20-1 – “Road Work Ahead”) and plastic drums, at specific locations, as directed by the Engineer, at no additional cost to the Department.
- C. Drive through the CIA at a minimum at the beginning and end of each work day to ensure all traffic control devices remain properly installed. Routine maintenance includes, but is not limited to, maintaining proper placement of devices, replacing damaged devices and cleaning devices.
- D. All traffic control devices used for Maintaining Traffic, which include but are not limited to temporary signs, channelizing devices, and Type III barricades, will be as shown on attached Special Detail WZD-125-E and meet the “Acceptable” criteria as defined in the most current version of the American Traffic Safety Services Association’s (ATSSA’s) publication entitled “Quality Guidelines for Temporary Traffic Control Devices and Features” at the time of initial deployment and after each major stage change. All traffic control devices (except arrow boards and PCMS’s) used on this project will be NCHRP 350 or MASH (Manual for Assessing Safety Hardware) compliant. Copies of this publication are available from ATSSA at 15 Riverside Parkway, Suite 100, Fredericksburg, VA 22406.
- E. All traffic control devices moved to facilitate the Contractor’s operation will be reset by the end of the work day.

### **2. Temporary Signs.**

- A. Refer to the *Typical M0020a* for device spacing, taper/shift lengths, and buffer zones.
- B. Ensure advanced signing on Delafield Dr., Brookside Dr., Pontiac Trl., Barton Dr., Starwick Dr., Traver St., John A Woods, and Pear St. is as shown on the plans and on *Typical M0040a*. Omit the R5-18a “To Protect Highway Workers, Fines Doubled in Work Zones” sign as per *MDOT System Operations Advisory (SOA) 2015-00, dated November 2015*.
- C. Ensure that all diamond warning signs are 48 inch x 48 inch, unless otherwise noted.
- D. Ensure that all temporary signs are in place prior to the implementation of any lane closures, shoulder closures, or major traffic shifts.

- E. Ensure that all temporary signs are fabricated as per Section 922.02 of the 2012 Standard Specifications for Construction., with legends and symbols flush to the sign face and not extending beyond the signs and borders.
  - F. Ensure that temporary warning, regulatory, and guide signs on portable supports that are not required for that particular operation are removed. Temporary, regulatory, and guide signs on driven supports will be either removed or covered when no longer necessary. Sign covers used to cover temporary signs on driven supports will be paid for as "Sign Cover".
  - G. Ensure that no signs are attached to Type III Barricades. Signs used at Type III Barricades are to be mounted above and behind the barricade on their own support(s).
  - H. Place, as directed by the Engineer, W20-1 signs (Road Work Ahead) on all crossroads within the CIA where construction activities may be encountered.
  - I. Ensure ground driven sign supports for temporary signs are as shown on Special Detail WZD-100-A or are a NCHRP-350 compliant or MASH accepted design.
  - J. Ensure all temporary signs are mounted at a 7 foot minimum bottom height unless otherwise stated in the FHWA work zone acceptance letter for that particular sign system.
  - K. Ensure all temporary signs are faced with fluorescent prismatic retro-reflective sheeting and are free of wrinkles, tears, scuffs and sheeting failure.
  - L. Ensure all temporary signs that will be in place for more than 14 days are mounted on driven posts, unless otherwise approved by the Engineer.
3. Channelizing Devices.
- A. Required channelizing devices are *Plastic Drum, High Intensity, Furn* and *Oper* from MDOT's approved list. The maximum distance between channelizing devices is 25 feet in shifts and tapers and 50 feet in tangents, and 15 feet at driveways and other locations where closer spacing is deemed necessary, as directed by the Engineer.
  - B. Ensure that all channelizing devices on this project have sufficient ballast to prevent the channelizing device from moving or tipping. If moving or tipping occurs as the result of wind generated by traffic or occurring naturally, place additional ballast at no additional cost to the Department, as directed by the Engineer.
  - C. An additional quantity of channelizing devices are included in the MOT quantities to be used at the discretion of the Engineer. The use of these is not detailed on the plan sheets.
  - D. Ensure that channelizing devices are stored off the traveled way when work operations have ceased for the day or are no longer needed.

- E. Place Type III barricades as shown on the staging plans and as directed by the Engineer. Ensure stripes on barricade rails are oriented as prescribed in the MMUTCD.

**i. Measurement and Payment.** - The estimate of quantities for maintaining traffic is based on signing and related traffic control devices for shoulder closure, single lane closure, and the description in this special provision. Payment for these devices will be in accordance with the standard specifications unless otherwise specified.

1. Payment for temporary signs will be made on the maximum square foot of sign legends in use at any one time during the project.
2. Traffic control devices will be measured for the maximum number of units required by the Engineer at one time on the project.
3. Additional compensation will not be made for unused quantities of traffic control, signing and/or pavement marking items.
4. Sign covers required to cover entire non-applicable permanent existing signs or temporary construction signs mounted on driven posts shall be per Section 812 of the 2012 Standard Specifications for Construction and paid for as *Sign Cover*. The unit price bid for *Sign Cover* includes payment for furnishing, installing, removing, and relocating the covers on permanent existing signs or on temporary construction signs mounted on driven posts as many times as is required by the Engineer during the life of the construct.
5. Any additional quantities for traffic control devices not included in the estimate and utilized for the Contractor's convenience must be provided at the expense of the Contractor.

<b><u>Contract Item (Pay Item)</u></b>	<b><u>Pay Unit</u></b>
Barricade, Type III, High Intensity, Lighted, Furn .....	Each
Barricade, Type III, High Intensity, Lighter, Oper .....	Each
Pedestrian Type II Barricade, Temp .....	Each
Lighted arrow, Type C, Furn .....	Each
Lighted arrow, Type C, Oper.....	Each
Minor Traf Devices.....	LSUM
Pavt Mrkg, Longit, Water Blasting, 6 inch or less Width, Rem .....	Foot
Plastic Drum, High Intensity, Furn.....	Each
Plastic Drum, High Intensity, Oper .....	Each
Sign Cover .....	Each
Sign, Type B, Temp, Prismatic, Furn .....	Each
Sign, Type B, Temp, Prismatic, Oper.....	Each
Sign, Type B, Temp, Prismatic, Special, Furn.....	Each
Sign, Type B, Temp, Prismatic, Special, Oper .....	Each
Traf Regulator Control .....	LSUM
Temporary Pedestrian Ramp .....	Each
"No Parking" Signs.....	Each

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**DENSE-GRADED AGGREGATE**

CFS:MJE

1 of 6

APPR:DMG:SAB:05-16-18

**a. Description.** This work consists of furnishing and placing dense-graded aggregate in accordance with the details shown on the plans and sections 302, 306, 307 and 902 of the Standard Specifications for Construction, except as modified by this special provision.

**b. Definitions.**

**Pre-qualified Aggregate Supplier.** An aggregate producer or supplier who is currently participating in and in good standing with the Department's Aggregate Supplier Program.

**Test.** Each quality control or quality assurance test for any of the aggregate gradations this special provision covers, using the following individual tests:

1. *MTM 107 - Michigan Test Method for Sampling Aggregates*
2. *MTM 108 - Michigan Test Method for Materials Finer than No. 200 (75µm) Sieve in Mineral Aggregates by Washing*
3. *MTM 109 - Michigan Test Method for Sieve Analysis of Fine, Dense Graded, Open Graded and Coarse Aggregates in the Field*
4. *MTM 117 - Michigan Test Method for Determining Percentage of Crushed Particles in Aggregates*
5. *MTM 119 - Michigan Test Method for Sampling Open-Graded Drainage Course (OGDC) Compacted In Place*

**Lot.** A discrete quantity of material from which samples are taken for quality control or quality assurance testing.

**c. Materials.** Use materials meeting the following:

Dense-Graded Aggregate 21AA, 21A, 22A, 23A ..... 902  
(including any modifications of these gradations)

Make allowance for and accept sole responsibility for degradation and segregation during shipment, placement and compaction of the dense-graded material.

**d. Quality Control Plan.** Provide and maintain a quality control plan, including personnel, required certifications, equipment, supplies and facilities necessary to obtain samples, perform testing, and otherwise control the quality of the product to meet specified requirements. The quality control plan must specify handling and placement methods, and what actions will be taken

when test results identify aggregate that is not in compliance with the specifications, including communication with the aggregate supplier. Provide the Engineer the opportunity to witness all sampling and testing.

Maintain complete records of all quality control tests and inspections for this project. Submit all forms and charts in a format approved by the Engineer before aggregate shipment commences. Failure of the Contractor to provide properly documented quality control test results in a timely manner will be justification for withholding acceptance of the aggregate.

Submit the quality control plan for the appropriate items of work to the Engineer for approval a minimum of 10 work days prior to the start of related work. Do not start work on the subject items without an approved quality control plan.

**e. Contractor Quality Control Testing.**

1. Qualifications. Perform all sampling and testing for this project by a Michigan Certified Aggregate Technician.

2. Lot Size (Frequency of Testing). For each aggregate gradation covered by this special provision, the Contractor's minimum quality control testing frequency will be determined by which program is used.

A. Non-prequalified Aggregate. The lot size for non-prequalified aggregate must be 1,000 tons, or 1 test per project if the total project quantity is less than 1,000 tons. If there is less than 500 tons at the end of the project or production, it must be added to the previous lot. However, if there is more than 500 tons at the end of the project or production, it must be tested as a separate lot. When more than one aggregate source is used on a project, the material from each source must be accepted separately. A lot contains material from one source only.

B. Prequalified Aggregate. For aggregates supplied by a prequalified aggregate supplier, the Contractor can use the quality control plan, testing frequency, sample locations, and test results of the prequalified supplier shipping face load out tests. Quantities less than 2,000 tons at the end of the project or production must be considered part of the previous lot. If the Contractor elects to use aggregates from a prequalified aggregate supplier, documentation listing the prequalified aggregate supplier must be submitted a minimum of 10 work days prior to the start of related work. Notify the Engineer within 24 hours of a change in aggregate supplier.

3. Sampling Location. Sample from one of the following locations according to *MTM 107* or *MTM 119*:

- A. The shipping face of the stockpile using mini-stockpiles (*MTM 107*).
- B. Individual truck dumps or a composite sample made up of several truck dumps (*MTM 107*).
- C. From the project grade after material placement, but before compaction has started (*MTM 119*).

When sampling from the grade (subsection e.3.C of this special provision) and layer thickness

is greater than 6 inches, mechanical methods may be used to assist in obtaining the sample.

4. Reports. Submit, using an approved format, each test report along with all computations, to the Engineer within 24 hours of testing. These test results will become part of the permanent project record.

5. Contractor Failing Tests. If the initial test result for a lot does not meet the specifications of section 902 of the Standard Specifications for Construction, a second sample must be obtained and tested within 24 hours of the first test. Run all specification tests on the retest sample. Should the retest also not meet the specifications of section 902 of the Standard Specifications for Construction, stop aggregate placement until new material can be produced, or reprocessed, which meets specification. Failing lots from the sampling location in subsection e.3.A of this special provision require that shipments be stopped until passing tests are obtained from either a new stockpile or the failing stockpile after it has been reprocessed.

**f. MDOT Quality Assurance Testing.**

1. Qualifications. Perform all sampling and testing by a Michigan Certified Aggregate Technician.

2. Lot Size. The maximum lot size for non-prequalified aggregates will be 5,000 tons for each aggregate gradation covered by this special provision. For aggregates from prequalified suppliers, the Engineer will use the MDOT Quality Assurance Testing as presented in Chapter 3 of the *Procedures for Aggregate Inspection* to fulfill testing requirements, with the following exceptions. Quantities less than 2,000 tons at the end of the project or production will be considered part of the previous lot, regardless of prequalification status.

3. Sampling. MDOT Quality Assurance test locations will be from one of the locations stated in subsection e.3 of this special provision. The Engineer will state the preferred sampling location at the preconstruction meeting and at the Pre-Bid meeting, if applicable. The Engineer, however, may sample from any of the locations at any time.

The Department will sample each lot in one of two ways:

A. Take two random independent representative samples initially, one to be tested and the second as a backup for retesting.

B. Take one random representative sample initially. A second representative sample would be taken if the first one does not meet specifications.

4. Testing. One sample will be tested and results reported within 48 hours of sampling. If the test results do not meet the specifications of section 902 of the Standard Specifications for Construction, the second sample will be tested by the Engineer within 24 hours of the first failed test. If the second sample also does not meet the specifications, the Engineer will adjust the payment for the substandard lot in accordance with subsection i of this special provision. Averaging of the two test results is prohibited. The Contractor may request that the quantity of failing material be reduced through additional testing or make an appeal in accordance with subsection h of this special provision. The cost of this additional testing will be borne by the Contractor except as described in subsection h of this special provision. Do not cover the lot being reduced by any additional aggregate or other pavement layers until the additional

sampling has been completed.

For non-prequalified aggregates, another failing lot within 10,000 tons of the previous failing lot will double the pay adjustment factor applied to the second failing lot (or quantity determined to be failing as outlined in subsection f.4 of this special provision). For prequalified aggregates, another failing lot within 20,000 tons of the previous failing lot will double the pay adjustment factor applied to the second failing lot (or quantity determined to be failing as outlined in subsection f.4 of this special provision). The second failing lot does not have to fail on the same criteria as the previous failing lot, in order for the doubling to be applied. In addition, MDOT's quality assurance lot size may decrease. Failing lots from the sampling location in subsection e.3.A of this special provision requires that shipments be stopped until passing tests are obtained from either a new stockpile or the failing stockpile after it has been reprocessed.

Once a double pay adjustment factor has been applied, any subsequent failing lots will require the Contractor to remove and replace the substandard material identified by the Engineer, with passing material, at the Contractor's expense. However, if 30,000 consecutive tons after the last lot with double pay adjustment factor meet all specifications, pay adjustments for subsequent failing lots will start over at the amounts in subsection i of this special provision.

**g. Material Source Change.** If the Contractor switches aggregate suppliers or sources, pay adjustments on lots prior to the switch will not be counted toward the new material.

**h. Appeals Process.** The Contractor may elect to appeal the results of a lot within 48 hours of notification by the Engineer, of the results of that lot. The Contractor must do so in writing to the Engineer. Once the Engineer receives notification of the Contractor's desire for an appeal, the remaining sample materials from that lot will be sent to the Aggregate Quality Unit of the Construction Field Services Division for testing. The Aggregate Quality Unit will test the samples within 2 work days of receipt. The appeals test results will replace the Department's original Quality Assurance test results for that lot.

Appeals testing for a lot will not be conducted if samples have been taken for reducing the quantity of failing material. If an appeal has been requested on a lot, the Contractor cannot request that the quantity of failing material be reduced for that lot.

If the test results do not meet the specifications of section 902 of the Standard Specifications for Construction, the Engineer will apply an adjusted price for the entire lot or require removal and replacement if applicable, and all costs associated with the appeals testing will be borne by the Contractor. If the test results do meet the specifications of the section 902 of the Standard Specifications for Construction, no adjusted price will be applied, and the cost of the appeals testing will be borne by the Department. The cost of having to remove and replace the failed lot of aggregate, and any pavement layers placed over it, will be borne by the Contractor.

**i. Pay Adjustment Computation.** Pay adjustments are not cumulative; only the largest of the computed pay adjustments will be applied to a lot. All pay adjustments are negative. Pay adjustments are computed using the following formula:

Adjusted Price = (1 - Pay Adjustment Factor) X (Base Price)

Payment For Lot = (Adjusted Price) X (Quantity)



Where:

Pay Adjustment Factor = Value shown in Tables 1, 2 or 3, as applicable (expressed as a decimal percent). This may be subject to doubling in accordance with this special provision.

Quantity = Quantity subject to adjustment

Base Price = This will be the as-bid unit price or the minimum base price established in the Special Provision for Dense-Graded Aggregate Base Prices, whichever is larger.

**Table 1: Pay Adjustment Factor for Not Meeting Gradation Limits on Any Sieve**

Amount Outside Gradation Limit	Factor, %
1	0
2-3	10
4-6	30
≥ 6	Remove and Replace or Reject(a)
a. Remove and Replace material placed on project grade. Reject material not on project grade.	

**Table 2: Pay Adjustment Factor for Not Meeting Loss by Wash Limits**

Amount Outside Loss By Wash Limit	Factor, %
1	0
2	25
> 2	Remove and Replace or Reject(a)
a. Remove and Replace material placed on project grade. Reject material not on project grade.	

**Table 3: Pay Adjustment Factor for Not Meeting % Crushed Content Limits**

Amount Under % Crushed Content Limit	Factor, %
1	0
2-5	10
6-10	30
>10	Remove and Replace or Reject(a)
a. Remove and Replace material placed on project grade. Reject material not on project grade.	

**j. Measurement and Payment.** The completed work as described will be measured and paid for in accordance with the appropriate subsection in Division 3 of the Standard Specifications for Construction or appropriate special provisions found in the contract. These contract items are subject to the pay adjustments described in this special provision.

All costs associated with requirements to remove and replace failing material, will be borne by the Contractor.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**PREVAILING WAGE AND LABOR COMPLIANCE SYSTEM**

CFS:AS

1 of 2

APPR:RJC:MB:06-28-18  
FHWA:APPR:06-29-18

**a. Description.** This work consists of the required use of a prevailing wage and labor compliance (PWLC) system for all prevailing wage documentation as directed by the Engineer. Input all required certified payroll documentation into the PWLC system (LCPtracker) and update this documentation throughout the execution of the contract. Certified payroll information is to be submitted in the PWLC system per the time requirements in the 12SP-107G - Labor Compliance.

**b. Contractor Responsibility.** Coordinate all electronic document submittals including documentation supplied by other companies (e.g. subcontractors, suppliers, fabricators, etc.) as detailed in this special provision. All companies will directly submit their certified payroll information into the PWLC system.

**c. General Requirements.** Submit all certified payroll information as required in this special provision and the 12SP-107G - Labor Compliance. Provide employee zip codes as part of the certified payroll submission. This information will be redacted from any certified payroll reports to protect worker anonymity. Zip code information will be anonymized and used for federal, state, and legislative prevailing wage and labor reporting.

All data entry will be submitted through the following program and website:

Program: LCPtracker

Login Website: <http://www.lcptracker.net>

General Information website: [www.lcptracker.com](http://www.lcptracker.com)

A tutorial for this system can be found though the website provided.

**d. Condition of Payment.** Post all documents electronically into the PWLC system. Electronic posting and submittal of documents is a condition of payment for this contract. Documents submitted in any other manner, unless required otherwise in this special provision or directed by the Engineer, will not be accepted and will delay payment.

**e. Digitally Encrypted Electronic Signatures.** Ensure all documents that require signature authorizations are signed using a digitally encrypted electronic signature. Further information regarding how to obtain a digital signature can be found at the following website:

[www.michigan.gov/mdot-esign](http://www.michigan.gov/mdot-esign)

**f. Contractor Preparation for Tracking Software:**

1. Information about LCPtracker is available to the Contractor and other project companies (e.g. subcontractors, suppliers, etc.) at the following website:

[www.lcptracker.com](http://www.lcptracker.com).

2. Access to the PWLC system is provided at no cost to the Contractor. The project office will setup the project in LCPtracker and assign the Contractor. The Contractor will setup other project companies to submit certified payrolls and prevailing wage/labor compliance documents. Once setup in the system the Contractor and other project companies may access the software at the following website:

[www.lcptracker.net](http://www.lcptracker.net)

3. Use Internet Explorer to access the PWLC system. The Department has tested and will support Internet Explorer versions 8, 9, 10 and 11.

**g. Document Format.** The Engineer reserves the right to electronically reject documents that are deemed to be unsuitable. This may include documents submitted that are illegible or unreadable or contain inappropriate information. The submitting company must re-submit the corrected documents into the PWLC system. Failure to do so will be considered noncompliance and may delay progress payments.

**h. Training.** LCPtracker offers biweekly contractor training sessions, user support manuals, quick start guides, e-Training videos, and a software support staff available Monday thru Friday 8 am to 8 pm EST accessible through the online interface.

**i. File/Document Retention.** The electronic files submitted in the PWLC system are the official contract documents and must follow all Department document retention schedules.

**j. Technical Issue Resolution.** Upon discovery, the Contractor (designated subcontractors, suppliers, etc. must go through prime Contractor) must immediately contact the Engineer through documented correspondence concerning software issues.

**k. Measurement and Payment.** The work included in this special provision will not be paid for separately and is considered to be included in other items of work.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**TIMELY PROJECT COMPLETION AND CLOSEOUT**

DET:VJ

1 of 2

APPR:KB:DBP:05-29-07  
FHWA:APPR:06-01-11

**a. Description.** This special provision establishes the required procedures and schedule for the completion of “deficient” work and timely close out of the project. The Contractor and Engineer should coordinate the evaluation of completed work and correct any defects during the general progress of the work. This special provision does not revise any schedule constraints established in the contract documents.

**b. Procedure.**

1. The Contractor must submit the written notification that the work is complete in accordance with subsection 109.07 of the Standard Specifications for Construction. The Engineer and Contractor will conduct the final inspection within the project closures or as agreed with the Contractor to mitigate the Contractor costs to conduct the inspection(s). The Engineer will provide the Contractor the preliminary defects (punch) list within 15 days of receipt of the Contractor’s written notification that work is complete.

2. The Contractor must complete the preliminary defects list work and notify the Engineer in writing that all the work has been completed, within 30 days of receiving the preliminary defects list. The Engineer may grant an extension of this time period if the Contractor provides justification.

The Engineer will inspect the completed work and provide the Contractor the final defects list within 10 days of receipt of the written notification from the Contractor that all preliminary defects list work has been completed. Failure to complete all preliminary defects list work within the schedule described above will result in the Contractor being assessed 50 percent of the liquidated damages in accordance with the Schedule of Liquidated Damages for a maximum of 30 calendar days.

Failure to complete all incomplete preliminary defects list work within the maximum liquidated damage period of 30 calendar days may result in the Engineer placing the Contractor in default in accordance with subsection 108.11 of the Standard Specifications for Construction.

3. The Contractor must complete all final defects list work and notify the Engineer in writing that all the work has been completed, within 30 days of receiving the final defects list. The Engineer may grant an extension of this time period if justification is provided by the Contractor. The Engineer will provide written documentation of the status of the final defects list work within 10 days of receipt of the Contractor’s written notification of completion of the final defect list work.

Failure to complete all final defects list work within the schedule described above will result in the Contractor being assessed 50 percent of the liquidated damages in accordance with the

Schedule of Liquidated Damages and for a maximum of 30 calendar days. Failure to complete all incomplete final defects list work within the maximum liquidated damage period of 30 calendar days may result in the Engineer placing the Contractor in default in accordance with subsection 108.11 of the Standard Specifications for Construction.

4. After the work is accepted, the Engineer will have 30 days to meet with the Contractor and finalize quantities for all pay items. Within 30 days of the meeting, the Engineer will then provide a list of final quantities to the Contractor. The Contractor will have 30 days from receipt of the final quantities list to provide a written response to the agreement or disagreement to the final quantities. If the Contractor fails to provide the timely written response, the Engineer will proceed with preparing the final estimate in accordance with subsection 109.07 of the Standard Specifications for Construction.

The Liquidated Damage provisions in this special provision and any other applicable provisions of the contract are cumulative so multiple assessments may be made.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**AUDIO-VISUAL RECORDING**

AA:MGN:IVK:JKA

1 of 4

3/19/2019

**a. Description.-** This work shall include providing a recording of the physical, structural, and aesthetic conditions of the construction site and adjacent areas as provided herein.

The Audio-Visual recording shall be:

1. Of professional quality, providing a clear and accurate Audio and Visual record of existing conditions.
2. Prepared prior to the preconstruction meeting.
3. Furnished to the Engineer a minimum of two (2) days prior to bringing any materials or equipment within the areas described in this special provision.
4. Furnished to the Engineer either at, or prior to, the preconstruction meeting.
5. Carried-out under the supervision of the Engineer.

The Contractor shall furnish two (2) copies of the completed recording to the Engineer at, or prior to, the preconstruction meeting. An index of the recording, which will enable any area of the project to be easily found on the recording, shall be included. The Contractor shall retain a third copy of the recording for his/her own use.

Any portion of the recording determined by the Engineer to be unacceptable for the documentation of existing conditions shall be recorded again, at the Contractor's sole expense, and submitted to the Engineer prior to mobilizing onto the site.

**b. Production.-** The Audio-Visual recording shall be completed in accordance with the following minimum requirements:

1. DVD Format / No Editing.- The Audio-Visual recording shall be performed using equipment that allows Audio and Visual information to be recorded simultaneously and in color. The recording shall be provided on compact discs in DVD format. The quality of the recording shall be equal to or better than the standard in the industry. The recording shall not be edited.
2. Perspective / Speed / Pan / Zoom.- To ensure proper perspective, the distance from the ground to the camera lens shall not be less than 12 feet and the recording must proceed in the general direction of travel at a speed not to exceed 5 miles per hour. Pan and zoom rates shall be controlled sufficiently so that playback will ensure quality of the object viewed.

3. Display.- The recording equipment shall have transparent time, date stamp and digital annotation capabilities. The final copies of the recording shall continuously and simultaneously display the time (hours:minutes:seconds) and the date (month/date/year) in the upper left-hand corner of the frame. Accurate project stationing shall be included in the lower half of the frame in standard station format (i.e. 1+00). Below the stationing periodic information is to be shown, including project name, name of area shown, direction of travel, viewing direction, etc.

On streets or in areas where there is no project stationing, assumed stationing shall be used, starting with 0+00 and progressing from west to east or from south to north.

4. Audio Commentary / Visual Features. Locations relative to project limits and landmarks must be identified by both audio and video means at intervals no longer than 100 feet along the recording route. Additional audio commentary shall be provided as necessary during the recording to describe streets, buildings, landmarks, and other details, which will enhance the record of existing conditions.
5. Visibility / Ground Cover.- The recording shall be performed during a time of good visibility. The recording shall not be performed during periods of precipitation or when snow, leaves, or other natural debris obstruct the area being recorded.

**c. Coverage.-** The Audio-Visual recording coverage shall include the following:

1. General Criteria.- This general criteria shall apply to all recording and shall include all areas where construction activities will take place or where construction vehicles or equipment will be operated or parked and/or where materials will be stored or through which they will be transported. The recording shall extend an additional 50 feet outside of all areas. The recording shall include all significant, existing man-made and natural features such as driveways, sidewalks, utility covers, utility markers, utility poles, other utility features, traffic signal structures and features, public signs, private signs, fences, landscaping, trees, shrubs, other vegetation, and other similar or significant features.
2. Private Property.- Record all private property that may be utilized by the Contractor in conjunction with this project. These project areas must be disclosed by the Contractor prior to using them for the work of this project.
3. Road Construction Area.- The recording coverage shall:
  - a. Extend to 50 feet outside of the right-of-way and easements area as shown on the plans.
  - b. Extend 50 feet outside the construction limits on all streets, including side streets.

Both sides of each street shall be recorded separately.

4. Detour Route / Maintenance of Traffic Areas. The entire detour route and maintenance of traffic areas shall be recorded as indicated in this special provision



except as follows:

- a. The recording must proceed in the general direction of travel at a speed not exceeding 25 miles per hour.
  - b. The coverage area shall include the street and not go beyond the curb except in areas where there is a fair possibility that the detoured traffic will drive over the curb, such as at intersections.
  - c. The recording shall focus in particular at sidewalk ramps and other features likely to have been damaged or likely to be damaged as a result of existing traffic, temporary detoured traffic and or construction traffic. In these areas, recording may need to proceed much more slowly.  
Only the side of street with the detoured traffic must be recorded. However, the Contractor is advised that portions of the detour routes may operate in opposite directions at different times. In these cases, both sides of the street shall be recorded separately.
5. Private Property bordering the project limits or work areas. Record all areas bordering the project where work is scheduled to occur or where construction traffic could damage the private property. This is to including buildings, driveways, decks, landscaping, trees, and all other similar features.
  6. Other Areas. The Contractor shall record at his sole expense other areas where, in his/her opinion, the establishment of a record of existing conditions is warranted. The Contractor shall notify the Engineer in writing of such areas.

The Engineer may direct the recording of other minor areas not specified herein at the Contractor's sole expense.

**d. Audio-Visual Recording Services.-** The following companies are known to be capable of providing the recording services required by this special provision and shall be utilized, unless the Contractor receives prior written approval from the Engineer to utilize another company of comparable or superior qualifications.

Construction Video Media  
Midwest Company  
Topo Video, Inc.  
Video Media Corp.  
Paradigm 2000, Inc.  
Finishing Touch Photo and Video

**e. Measurement and Payment.-** The completed work shall be paid for at the contract unit price for the following contract item (pay item):

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Audio-Visual Recording .....	Lump Sum

Audio-Visual Recording shall include all labor, equipment, and materials required to perform the recording and to provide the finished recording the Engineer.

Payment will be made for Audio-Visual Recording following the review and acceptance of the recording by the Engineer. Within 21 days following the receipt of the recording, the Engineer will either accept it and authorize payment or require that any discrepancies in the recording be addressed prior to making payment.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**PROJECT SUPERVISION, MODIFIED**

AA:MGN:JKA

1 of 4

3/19/2019

**a. Description.-** The Contractor shall provide supervision in accordance with Subsection 104.07 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, the City of Ann Arbor Public Services Area Standard Specifications, and as described herein.

The Contractor shall designate a full-time Project Supervisor to act as the Contractor's agent/representative, and to be responsible for scheduling and coordination of all subcontractors, suppliers, other governmental agencies, and all public and private utility companies.

The Project Supervisor shall not be an active crew member of the Contractor, shall not be an active member or employee of any subcontractor's work force, and shall not perform general or specialized labor tasks. The Project Supervisor shall be a full-time employee of the General Contractor and shall have all needed authority to make binding decisions on behalf of the Contractor in all matters pertaining to performance and execution of the work of the project.

The Project Supervisor shall work exclusively on this project, and shall put forth his/her full effort into the organization and coordination of the work of this project.

One week prior to the pre-construction meeting, the Contractor shall designate a proposed Project Supervisor by name, and shall furnish the Engineer with a current, thorough, detailed summary of the proposed Project Supervisor's work history, outlining all previous supervisory experience on projects of a similar size and nature. The detailed work history shall include personal and professional references (names and phone numbers) of persons (previous owners or agents) who can attest to the qualifications and work history of the proposed Project Supervisor. Proposed candidates for Project Supervisor shall have a demonstrated ability to work harmoniously with the Engineer, the City, the public, subcontractors, and all other parties typically involved with work of this nature. The Engineer will have the authority to reject a proposed Project Supervisor whom he/she considers unqualified.

The Project Supervisor shall be available 24 hours-per-day to provide proper supervision, coordination and scheduling of the project for the duration of the Contract. The Contractor shall furnish the City with telephone numbers of the Project Supervisor in order to provide 24 hour-per-day access during business and non-business hours, including weekends and holidays.

The Project Supervisor shall be equipped by the Contractor with a “smart” mobile telephone with “data” and “text” capabilities to provide the City with 24 hour-per-day access to him/her during daily construction activities, during transit to and from the construction site, and during all non-business hours including weekends and holidays.

The Project Supervisor shall be equipped with assistants as necessary to provide project supervision as specified herein, and in accordance with the Contract.

**b. Duties and Responsibilities** - The Project Supervisor shall work harmoniously with the Engineer, the City, the public, subcontractors, and all other parties typically involved with work of this nature.

The Project Supervisor shall have a thorough, detailed understanding and working knowledge of all construction practices and methods specified elsewhere herein, as well as the handling, placement, testing and inspection of aggregates, aggregate products, bituminous concrete, portland cement concrete materials, and other such materials and products related to the work of this project.

The Project Supervisor shall be responsible for all of the work of all of the Contractor's, subcontractors' and suppliers' work forces.

The Project Supervisor shall be responsible for proper and adequate maintenance (emissions, safety, and general operation) of all of the Contractor's, subcontractors' and suppliers' equipment and vehicles. The Project Supervisor shall make all needed diligent and good-faith efforts to ensure that all equipment utilized in the performance of the work is properly maintained, safe, and complies with all legal and environmental requirements of the work as set forth in Section 107.15 of the 2012 MDOT Standard Specifications.

The Project Supervisor shall be responsible for the legal, proper and safe parking/storage of all of the Contractor's, subcontractors' and suppliers' equipment, work vehicles, and employee's vehicles.

The Project Supervisor shall schedule and coordinate the work of all parties involved in the project, including utility companies, testing agencies, governmental agencies, all City departments (such as Utilities and Transportation), and City inspectors.

The Project Supervisor shall coordinate and schedule the work of any independent survey crews that may be retained by the Engineer or City to witness and reset existing and new geographic/benchmark monuments. Failure to have existing monuments witnessed and reset may result in delays to the Contractor's work. Costs for such delays will be the Contractor's sole responsibility. The Project Supervisor shall also schedule and complete all needed survey request forms that are needed in order to schedule the services of survey personnel to properly layout all elements of the project work in accordance with the City of Ann Arbor Public Services Area Standard Specifications and

the Michigan Department of Transportation 2012 Standard Specifications for Construction.

The Project Supervisor shall coordinate and schedule inspection performed by the City and Consultants (including material testing firms) in a timely manner, to assure proper and timely testing and inspection of the work.

The Project Supervisor shall submit to the Engineer, an updated, detailed schedule of the proposed work on a weekly basis, and an update of all proposed changes on a daily basis.

The Project Supervisor and all subcontractors shall attend a weekly progress meeting chaired by the Engineer to discuss the work. Upon the completion of each meeting, the Engineer shall prepare and distribute, to all present, a written summary of the meeting's minutes. Those in attendance shall review the minutes and, if necessary, comment on any deficiencies or errors prior to or at the next scheduled progress meeting.

**c. Additional performance requirements** - If, in the sole opinion of the Engineer, the Project Supervisor is not adequately performing the duties as outlined in this Special Provision, the following system of notices will be given to the contractor with the associated penalties:

First Notice – A warning will be issued in writing to the Contractor detailing the deficiencies in the Project Supervision, Modified. The Contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a second notice.

Second Notice – A second warning will be issued in writing to the contractor further detailing the deficiencies in the Project Supervision, Modified. 10%, or \$10,000, whichever is greater, will be withheld from the original Project Supervision, Modified contract amount for the second notice. The Contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a third notice. At this time, the Engineer reserves the right to meet with personnel with the necessary authority within the Contractor's organization to discuss the deficiencies in the Project Supervision, Modified.

Third Notice – A third notice will be issued in writing to the Contractor further detailing the deficiencies in the Project Supervision, Modified. An additional 25%, or \$25,000, whichever is greater, will be withheld from the original Project Supervision, Modified contract amount for the third notice, and the Project Supervisor shall be removed from

the project, and replaced immediately with another individual to be approved by the Engineer.

Should, in the sole opinion of the Engineer, the Project Supervisor fail to perform his/her duties and responsibilities as described herein to such a degree that the successful completion of the project is put in jeopardy, the above system of notices may be foregone, and the Contractor shall immediately replace the Project Supervisor upon receipt of written notice. Failure to provide adequate project supervision, as determined by the Engineer, shall be considered basis for the Engineer to suspend work without extension of contract time or additional compensation.

If the original Project Supervision, Modified contract amount is insufficient to cover said withholdings, the Project Supervision, Modified contract amount will be reduced to zero and a contract modification will be written to assess a penalty to cover the difference between the Project Supervision, Modified contract amount and the total amount of the withholding(s). It is fully expected however that the Project Supervision, Modified contract amount will be sufficient to cover any withholdings.

**d. Measurement and payment.-** the completed work as measured for this item of work will be paid for at the contract unit price for the following contract (pay) item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Project Supervision, Modified .....	Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Special Provision, Modified.

Payment for this work will be made with each progress payment, on a pro rata basis, based on the percentage of construction completed. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 times the Lump Sum bid amount, minus any withholdings incurred for inadequate performance as described herein. This amount will not be increased for any reason, including extensions of time, extras, adjustments and/or additional work.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**TRIMMING TREES**

AA:JKA

1 of 2

3/19/2019

**a. Description.** This work consists of providing all labor, equipment and materials necessary to cut, remove, and dispose of tree branches and canopy overhanging the proposed sidewalk up to ten feet in height as shown on the plans and as directed by the Engineer. All work must be in accordance with sections 201 and 202 of the 2012 Standard Specifications for Construction

**b. Materials.** Provide all necessary materials required to perform described work.

**c. Construction.** The work must be conducted in accordance with subsection 201.03 of the 2012 Standard Specifications for Construction. Trimming should be performed without endangering traffic and the general public, injuring other trees, and damaging structures or property.

The Engineer will establish environmental limits. All trees, shrubs, plants, grasses, and other vegetative materials shall remain, except as designated by the Engineer. Vegetation that is not designated for removal by the Engineer shall be protected. Repair or replace trees or shrubs damaged by Contractor operations at no additional cost to the Department.

Prior to beginning construction, trimming and pruning of encroaching vegetation (as determined by the Engineer) shall be completed.

Once all directed trimming and pruning is completed and accepted, no additional clearing, trimming, cutting, or pruning will be allowed unless approved, in writing, by the Engineer.

This work shall be done by a Contractor or subcontractor who is a qualified tree surgeon and a member of the National Arborist Association. The firm's or individual's name and qualifications shall be submitted at the preconstruction meeting for the Engineer's approval. A list of references and other clients shall be included with the qualifications statement. A written description of work methods and time schedules shall be submitted and approved in writing by the Engineer prior to work commencing.

Strict limits of disturbance will be defined and shall be adhered to.

Branches on trees or shrubs shall be removed as directed by the Engineer. All trimming shall be done by skilled workmen. All work shall be done according to the following requirements:

(1) Pruning shall be done with proper, sharp, clean tools in such a manner as to preserve the natural character of the tree.

(2) All final cuts shall leave no projections on or off the branch and shall not be cut so close as to eliminate the branch collar.

(3) To avoid bark stripping, all branches 2 inches in diameter and larger shall be cut using the 3 cut method. These branches shall be lowered to the ground by proper ropes.

(4) Tools used on trees known or found to be diseased, shall be disinfected with alcohol before they are used on other trees.

(5) Structural weaknesses, decayed trunk or branches, or split crotches shall be reported to the Engineer.

(6) Climbing spikes shall not be used on trees.

All trimmed brush, branches, limbs, and foliage shall become the property of the Contractor and shall be immediately removed and properly disposed of off-site.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the respective contract unit prices for the following respective pay items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Trimming Tree .....	Each

**Trimming Tree** will be measured in place by the unit Each and paid for at the contract unit price per Each, which price shall be payment in full for all labor, equipment and materials necessary to accomplish this work for each tree trimmed.

Chipping, stockpiling mulch, and hauling and stockpiling limbs will not be paid for separately but shall be included in the work.



CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**REMOVING CONCRETE ITEMS**

AA:JKA

1 of 2

3/19/2019

**a. Description.-** This work shall consist of removing concrete curb, gutter, curb and gutter, integral curb, sidewalk, sidewalk ramps, pavement, drive openings, and drive approach pavements as shown on the plans, in accordance with section 204 2012 MDOT Standard Specifications for Construction, except as specified herein, and as directed by the Engineer.

**b. Materials.**

**c. Construction.-** Construction methods shall be as described in section 204 of the MDOT 2012 Standard Specifications for Construction, as described below, and as directed by the Engineer.

Pavement removed will include concrete and composite pavement.

Prior to the start of work, the Engineer and Contractor together shall identify and field measure all items to be removed. The Engineer shall approve of all removal limits prior to any removals being performed by the Contractor.

The Contractor shall perform full-depth saw cutting at removal limits, including those necessary to construct 2-foot wide MDOT Type M drive openings, as shown on the Plans, as directed by the Engineer, and as marked for removal.

The Contractor shall cut steel reinforcement bars as directed by the Engineer at all areas of removal.

All saw cutting shall be performed under wet conditions to prevent excessive airborne dust. All resulting slurry and debris shall be cleaned up the satisfaction of the Engineer.

**The Contractor shall coordinate with the Urban Forestry and Natural Resources Coordinator or their designee prior to the removal of any tree roots. Contact information will be provided prior to construction.**

Excavated/removal areas shall be adequately protected with barricades and/or fencing at all times.

Removed or excavated materials which are not incorporated into the work shall become the property of the Contractor and shall be immediately removed and properly disposed of off-site. Removed or excavated materials may not be stockpiled overnight on, or adjacent to, the site.

Base, subbase, or subgrade materials removed without authorization by the Engineer shall be replaced and compacted by the Contractor at the Contractor's expense, with materials specified by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the respective contract unit prices for the following respective pay items:

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Driveway Approach, Rem, Modified .....	Square Foot
Curb and Gutter, Rem, Modified.....	Foot
Sidewalk, Rem, Modified .....	Square Foot

Basis of payment shall be as described in subsection 205.04 of the Standard Specifications for Construction.

All sawcutting required for removals shall be included in the appropriate item of work, and will not be paid for separately.

Payment will be based on the area of pavement removed, regardless of thickness, or if it is composite.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**FLOWABLE FILL**

C&amp;T:JFS

1 of 2

C&amp;T:APPR:JAB:DBP:08-19-11

**a. Description.** This work consists of developing a mix design, producing a trial batch and placing flowable fill as indicated on the plans or as directed by the Engineer. All requirements for flowable fill and related work will be according to the standard specifications and this special provision. This specification is not intended to address non-structural flowable fill used for abandoning pipes and miscellaneous structures or other non-structural applications.

**b. Materials.** Provide flowable fill consisting of a mixture of Portland cement, granular material or fine aggregate, fly ash and water. The optional addition of ground granulated blast furnace slag, air entraining admixture and performance enhancing admixture is allowed.

Use either Type I or IA Portland cement conforming to section 901 of the Standard Specifications for Construction and Class F or C fly ash as specified by ASTM C 618 except that there is no limit on loss on ignition.

Use granular material Class II conforming to section 902 of the Standard Specifications for Construction except that 100 percent must pass the 1/2 inch sieve. Use 2NS material for the fine aggregate.

If a performance enhancing admixture is used it must be included in the mix design and trial batch, and must be used according to the manufacturer's recommendation.

**c. Mix Design.** Submit mix design documentation to the Engineer for review a minimum of 7 days prior to placement. The mix design must include source and type or class of materials and batch proportions.

**d. Strength Requirements.** The compressive strength of the flowable fill must be a minimum of 50 psi at 3 days, and 75 to 150 psi at 28 days. If an air entraining admixture or performance enhancing admixture is used, the air content of the flowable fill must not exceed 35 percent by volume.

**e. Trial Batch.** Produce a trial batch using the approved mix design and test to verify that the mixture is capable of obtaining the required compressive strength. Mold and cure four 6 by 12 inch cylinders. Test two cylinders at 3 days and test two cylinders at 28 days. Determine air content of the trial batch if an air entraining admixture or performance enhancing admixture is used. Submit all trial batch test results to the Engineer.

**f. Construction.** Provide for 24 hours from start to start of each flowable fill placement. Produce and deliver the flowable fill at a minimum temperature of 50 degrees F. Do not place flowable fill if ambient air temperature of 35 degrees F or less is anticipated in the 24 hour period following proposed placement.

Use batching equipment equipped to measure the quantities of each component material. Provide sufficient mixing to ensure uniform consistency of the mixture. Do not add water to the flowable fill mixture after batching. Maintain water content to achieve specified compressive strengths and a uniform, self-leveling mixture.

Secure all pipes and conduits within the backfill area to counteract the buoyant effect of flowable fill. Tightly seal pipes, manholes and other areas not intended to be filled. Place the material evenly around manholes and in utility trenches to avoid dislocating pipes and conduits.

For each day of production, mold two 6 by 12 inch cylinders and store at the job site for the first 24 hours. Store cylinders in a shaded area or keep covered. The Department will transport the cylinders to the laboratory designated by the Engineer. Testing for 28-day compressive strength will be according to ASTM C 39, except specimens will be air cured in their molds until they are to be tested.

**e. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Flowable Fill .....	Cubic Yard

**Flowable Fill** includes all producing and placing the trial batch, preliminary testing, furnishing the mix design, and all materials, equipment and labor necessary to complete the work as described.

CITY OF ANN ARBOR

SPECIAL PROVISION  
FOR  
**SIDEWALK GRADING**

CON:FTCH:AA:JKA

1 of 2

3/19/2019

**a. Description.-**Remove miscellaneous structures and materials and complete all earthwork required to construct the proposed cross sections within the limits shown on the plans or stated in this special provision. All lines and grades will be as shown on the plans and as directed by the Engineer. Complete this work according to the MDOT 2012 Standard Specifications for Construction and this special provision.

**b. Materials.-** Furnish and place required subbase and embankment material conforming to the MDOT 2012 Standard Specifications for Construction as necessary to achieve the required typical cross sections. Excavated material, if suitable, may be used as embankment material as approved by the Engineer.

**c. Construction Method.-** Complete this work according to applicable sections of the Standard Specifications for Construction. Sidewalk Grading includes, but is not limited to, the following work:

1. Strip and stockpile topsoil for use in turf establishment.
2. Furnish, place and compact additional material.
3. Removing trees and stumps less than 6 inches in diameter.
4. Removing brush and bushes less than 6 feet in height.
5. Remove rocks or boulders less than 0.5 cubic yards in volume.
6. Remove and relocate mailbox posts and mailboxes.
7. Sawcut existing pavement.
8. Match drive and approach grades to new pavement grades.
9. Remove miscellaneous structures and materials.
10. Dispose of excess and unsuitable material according to Section 205.
11. Place embankment and reshape to proposed grades.
12. Excavate material to a depth necessary for construction.

13. Place embankment to a thickness necessary for construction.

14. Excavate for subbase material.

**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:

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Sidewalk Grading .....	Station
Sidewalk Ramp Grading.....	Each

**Sidewalk Grading** includes all labor, equipment and materials necessary to complete the work as described and will be measured by length in feet along the sidewalk centerline.

**Sidewalk Ramp Grading** will apply separately to each quadrant of an intersection where sidewalk is to be removed and/or graded for construction. The limits are specified on the plans or as directed by the Engineer.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**SOIL EROSION CONTROL INLET FILTER**

AA:MGN:JKA

1 of 1

3/19/2019

**a. Description.-** This work consists of installing and maintaining inlet filters in accordance with Section 208 of the 2012 Michigan Department of Transportation Standard Specifications for Construction and as shown on the plans. Filters shall be installed in existing and proposed inlets in order to minimize the erosion of soil and the sedimentation of water courses. The related work includes the installation, maintenance and removal of the filter cloth, cleaning as required during the performance of the project work, removing and disposing of accumulated sediment, and replacement of filters if required by the Engineer so as to provide a properly working inlet filter and a well-drained site.

**b. Materials.-** The inlet filters shall be in accordance with the REGULAR FLOW SILTSACK® manufactured by ACF Environmental (800) 448-3636; FLEXSTORM® Style FX manufactured by Advanced Drainage Systems, Inc. (800) 821-6710; CATCH-ALL® manufactured by Price & Company (866) 960-4300, or Engineer approved equal.

The Contractor shall submit product data sheets and a sample of the filter material for inlet filters for Engineer approval prior to ordering materials.

**c. Methods of Construction.-** The Contractor shall install, maintain, clean, and re-install and/or replace inlet filters in accordance with the manufacturer's specifications and as directed by the Engineer. The Contractor shall dispose of debris off-site.

**d. Measurement and Payment.-** The completed work of Soil Erosion Control Inlet Filter will be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Erosion Control, Inlet Filter .....	Each

"Erosion Control, Inlet Filter" will be measured by the unit installed and will be paid for at the contract unit price per each, for which price shall be payment in full for all labor, equipment, and materials needed to furnish, install, maintain, clean and remove the inlet filter, and re-install and/or replace the inlet filter as needed.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**SUBBASE AND AGGREGATE BASE**

AA:MGN:JKA

1 of 2

3/19/2019

**a. Description.-** This work shall consist of constructing subbase and/or aggregate base courses, on either a prepared subgrade or subbase as indicated on the Plans or where directed by the Engineer. This work shall be performed in accordance with Sections 301, 302, and 307 of the 2012 MDOT Standard Specification for Construction except as specified herein.

**b. Materials.-** The material used for this work shall meet the requirements of Sections 301, 302, 307, and 902 of MDOT 2012 Standard Specification for Construction, except that the aggregate base shall be either 21-AA limestone (permanent applications) or 22-A (temporary pavement applications) with a maximum loss by washing of 8% and the subbase shall be either 2NS Sand or Class II Granular Material as shown on the plans. "Approach, CI II, 6A, CIP" shall use 6A course aggregate as specified in the MDOT 2012 Standard Specifications for Construction.

**c. Construction Method.-** Subbase, aggregate base courses, and approaches shall not be placed when there are indications that the mixture may become frozen before the maximum unit weight is obtained, and in no case shall they be placed on a frozen subbase or subgrade.

The subbase and subgrade shall be shaped to the crown and grade specified on the plans and maintained in a smooth condition. The top of the subbase shall be placed to within ½ inch below and ½ inch above plan grade. The top of the aggregate base shall be placed to within ½ inch below and ¼ inch above plan grade. Variations within this tolerance shall be gradual. If in the opinion of the Engineer, the Contractor's equipment is causing or will cause any ruts in or damage to the subbase or subgrade, the equipment shall not be permitted on the subbase or subgrade.

Should the subgrade, subbase or aggregate base become damaged due to the Contractor's equipment or by local traffic, the subgrade, subbase, or aggregate base course shall be restored to the condition required by the Specifications without additional compensation to the Contractor.

No pavement course, concrete curb and gutter, or concrete driveway opening shall be placed until the subbase has been compacted to not less than 95 percent, and aggregate base course to not less than 98 percent of their respective maximum dry densities and until a "Permit to Place" has been issued by the Engineer.

Base course aggregate shall be handled and/or stockpiled on-site in a manner that minimizes segregation. Base course aggregate shall be deposited from trucks or through a spreader in a manner that will minimize segregation of material and that is approved by the Engineer. The re-handling of base course aggregate by the Contractor will not be considered sufficient cause to allow the material to become segregated. The Contractor



may be required to wet the materials prior to and/or during placement to minimize segregation and to aid in compaction of the material should it be necessary.

All structures, including manholes, valve boxes, inlet structures and curbs shall be protected from damage and contamination by debris and construction materials. Structures shall be maintained clean of construction debris and properly covered at all times during the construction.

The Contractor may be charged for the cleaning by others of accumulated construction debris in the utility structures, and damages resulting from the uncleaned structures.

Approach, CI II, 6A, CIP shall be constructed as shown on the plans in accordance with Section 307 of the MDOT 2012 Standard Specification for Construction, except as noted, herein.

**d. Measurement and Payment.-** The completed work as measured will be paid for at the contract unit prices for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Subbase, CIP, 2NS, Modified .....	Cubic Yard
Subbase, CIP, Class II Granular Material, Modified .....	Cubic Yard
Aggregate Base, ___ inch, 21-AA, Modified.....	Square Yard
Aggregate Base, ___ inch, 22-A, Modified .....	Square Yard
Approach, CI II, 6A, CIP .....	Cubic Yard

“Subbase, CIP, \_\_\_\_, Modified”, “Subbase, CIP, Class II Granular Material, Modified”, and “Approach, CI II, 6A, CIP” will be measured by volume in cubic yards. “Aggregate Base, \_\_\_ inch, 21-AA, Modified” and “Aggregate Base, \_\_\_ inch, 22-A, Modified” will be measured by area in square yards. The items of work will be paid for at the contract unit prices, which shall be payment in full for all labor, material and equipment needed to accomplish this work.

The subbase and approach will be calculated using the nominal width and depth of the subbase and approach indicated on the plans. The aggregate base will be calculated using the nominal width of the aggregate base indicated on the plans.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**ACCEPTANCE OF HMA MIXTURES, CITY OF ANN ARBOR**

AA:MGN:JKA  
FHWA: 05/06/16

1 of 9

3/19/2019

**a. Description.-** This special provision establishes sampling and testing acceptance criteria for HMA Mixtures placed on City of Ann Arbor projects. The HMA mixtures shall meet all the requirements of Section 501 of the MDOT 2012 Standard Specifications for Construction, except as modified herein.

**b. Contractor Quality Control.-** The Contractor must have a quality control plan as required by Section 501.03.M and as stipulated herein. The Quality Control (QC) Plan shall be submitted to the Engineer within 30 days of contract award or 14 days before the placement of any HMA materials, whichever date comes first. The QC Plan shall cover all aspects of HMA production, transportation, placement, and compaction. The Contractor shall have a QC representative on-site at all times during the paving operations to monitor and direct all paving-related operations. The placement of HMA shall not commence until such time as the QC Plan has been accepted by the Engineer. The Engineer's acceptance of the QC Plan shall not be construed as a basis of acceptance of any HMA materials, HMA placement results, or a waiver of any requirement(s) of the project specifications.

**c. Materials.-** Aggregates, mineral filler (if required), and asphalt binder shall be combined as necessary to produce a mixture proportioned within the specification requirements including aggregate gradation; the mix design criteria including volumetric properties; the Superpave Gyratory (SGC) compaction criteria; and the uniformity tolerances listed in Table 1. Topsoil, clay, or loam shall not be added to aggregates which are to be used in plant mixed HMA mixtures.

**d. Mix Designs.-** The Contractor shall submit mix designs for evaluation in accordance with the Michigan Department of Transportation Hot Mix Asphalt Production Manual. All mix designs shall be submitted for review a minimum of 3 weeks prior to the anticipated placement of the HMA. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. The Contractor's production and paving schedules shall be considered to include the mix design review and approval process. Delays associated with the submittal, or re-submittal, of the required information shall not be a basis for an extension of contract time.

**e. Construction.-** Target air voids shall be 3.5% in leveling courses, top courses and shoulders paved in the same operation as the leveling and top courses. Target air voids shall be 3% in base courses and shoulders not paved in the same operation as the leveling and top courses. Pedestrian paths shall have a target air void content of 3%.

After the job-mix-formula (JMF) is established, the parameters identified in Table 1 shall be maintained within the Range 1 tolerance limits of Table 1. However, if deviations

are predominately either below, or above, the JMF, the Engineer may order alterations in the plant to bring the mixture into better conformance with the JMF.

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 6, 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 rejection per Section f. Rejected Mixtures or a price adjustment per Section g. Price Adjustments of this special provision as determined by the Engineer.

Contractor paving operations will be suspended when the mixture is determined to be out-of-specification. Contract time will continue during periods when paving operations are suspended or when dispute resolution testing and investigations are occurring. 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. The Contractor shall 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 shall be taken into consideration. Production and placement of HMA material shall not resume until receipt of the Engineer's approval to proceed.

For production/mainline-type paving, obtain the minimum number of samples as shown in Table 2, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample the HMA and maintain possession of each sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram halves with one half being used for initial testing and the other half 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.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are "Local Agency HMA Sampling Qualified" samplers. The Engineer shall obtain the QA samples from the hauling units in accordance with *MTM 313 (Sampling HMA Paving Mixtures.)* The samples shall be representative of the day's paving. Sample collection shall be spaced throughout the planned tonnage as directed by the Engineer. At a minimum, one sample will be obtained in the first half of the planned tonnage and, as a minimum, 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.

Samples shall be taken from separate loads as directed by the Engineer.

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified. Acceptance testing will be performed by the Engineer using the

testing method selected by the Engineer. Quality control measures to ensure job control are the sole responsibility of the Contractor.

The test method for measuring asphalt content (AC) shall be *MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures)*. Back calculations to determine AC content will not be allowed.

All labs performing local agency acceptance testing shall be qualified labs as defined in the *HMA Production Manual* and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory (AMRL)* accredited for *AASHTO T 30* or *T 27*, and *AASHTO T 164* or *T 308*. Independent testing labs must not have conflicts of interest with the Contractor or Local Agency. On non-National Highway System (NHS) routes, Contractor labs may be used, but they must be qualified labs as previously stated. The Contractor shall provide copies of this documentation to the Engineer for review a minimum of 21 calendar days prior to the performance of any paving operations on the project.

Contractor labs may not be used for acceptance testing on NHS routes.

Material acceptance testing will be completed by the Engineer within 5 calendar days, except holidays and Sundays, 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 Quality Assurance test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications. The Contractor's schedule shall be deemed to include these material testing timeframes.

For production/mainline-type paving, the mixture may be accepted by visual inspection up to a quantity of 250 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 crushed particle content of the aggregate used in the HMA mixture shall not be more than 10 percentage points above or below the crushed particle content used in the JMF, nor less than the minimum specified for the aggregates in the contract documents.

Pavement density will be measured by the Engineer with a nuclear density gauge using the  $G_{mm}$  from the JMF for the density control target. The required in-place density of the HMA shall be between 92.0 and 96.0 percent of the density control target. The Contractor is responsible for establishing a rolling pattern that will achieve the required in-place density. Should the specified target densities not be met, the material shall be considered to have a Range 2 failure and shall be rejected. If the Engineer determines that the material is suitable to remain in place, a 50% reduction to the base price of all material affected shall be enacted by the Engineer. Should the Engineer determine that

the material cannot remain in place, the affected material will be removed and replaced at the Contractor's sole expense as detailed in the Section f. "Rejected Mixtures."

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 followed and density has been achieved. The Engineer can stop the placement of HMA when the roller pattern is not followed and density is not obtained. Contract time shall continue during this period and the Contractor shall be responsible for any additional costs incurred due to this work stoppage.

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 the Contractor being allowed to pave subsequent lifts of HMA or the newly placed HMA being opened to traffic.

**HMA Acceptance Criteria**  
**Table 1 – Uniformity Tolerance Limits for HMA Mixtures**

Parameter		Top and Leveling Courses		Base Course	
		*Range 1	Range 2	*Range 1	Range 2
Number	Description				
1	Air Voids	± 0.60	± 1.00	± 0.60	± 1.00
2	VMA	± 0.60	± 1.00	± 0.60	± 1.00
3	G <sub>mm</sub> (maximum specific gravity of mixture)	± 0.013	± 0.020	± 0.013	± 0.020
4	Fines to Effective Binder Ratio (this parameter is independent of JMF)	0.6 to 1.2	0.6 to 1.4	0.6 to 1.2	0.6 to 1.4
5	Binder Content	± 0.30	± 0.40	± 0.30	± 0.40
6	Percent Passing No. 8 and Larger Sieves	± 5.0	± 8.0	± 7.0	± 9.0
	Percent Passing No. 30 Sieve	± 4.0	± 6.0	± 6.0	± 9.0
	Percent Passing No. 200 Sieve	± 1.0	± 2.0	± 2.0	± 3.0
7	Crushed Particle Content	Below 10%	Below 15%	Below 10%	Below 15%
*This range allows for normal mixture and testing variations. The mixture shall be proportioned to test as closely as possible to the Job-Mix-Formula.					

The tolerances specified in Table 1, with the exception of the Fines to Effective Binder Ratio, reflect variations from the approved job-mix formula.

Parameter Number 6 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, the sieve with the largest difference from the

JMF will be counted as the gradation parameter. The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1.

Extraction/gradation and volumetric tests will be performed by the Engineer to confirm conformance to the specifications and the tolerances identified in Table 1. The minimum number of samples to be obtained and tested shall be in accordance with Table 2.

**Table 2 – Minimum Number of Samples**

Quantity (tons) of Single Mixture Placed per Day	Minimum Number of Samples per Mixture per Day
<100	0
101 – 250	1
251 – 1,500	3
1,501 – 3,000	5
3,001 – 4,500	as directed by the Engineer

**f. Rejected Mixtures.-** If, for any one mixture, two consecutive tests per parameter (for Parameter 6, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits the mixture is considered out-of-specification and will be rejected. 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. If, for any one mixture, two consecutive tests do not meet the minimum requirements for crushed particle content specified in the project documents, the portion of the mixture with insufficient crushed particle content will be considered out-of-specification and will be rejected.

The quantity of material to be rejected 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.

If out-of-specification mixtures are placed in a pavement, 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 Contractor's 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 MDOT Central Laboratory once dispute resolution testing is requested. The remaining 10,000 gram portion of the field samples (split samples) will be sent to the Central Laboratory to 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. The Contractor may only take pavement cores if approved in writing by the Engineer. If the Central Laboratory test results do not confirm the original field test results, then no price adjustments will be made for the mixture involved.

If the Central Laboratory test results confirm the original test results and, if in the Engineer's judgment, the mixture warrants removal, the Contractor shall remove and replace the rejected (out-of-specification) mixture, at the Contractor's expense, with a mixture meeting the specification requirements. These costs shall be deemed to include all costs associated with the material removal and replacement including, but not limited to; costs associated with re-mobilization of labor and equipment; traffic control; removal and disposal of the rejected material; transportation costs to provide material meeting the requirements of the specification; and, any other cost associated with the work. Contract time shall continue during the period of time that the rejected material is investigated and re-tested, as well as, during the removal and replacement operations.

If the Central Laboratory test results confirm the original test results and, if in the Engineer's judgment, the mixture can remain in place, the base and/or unit price for the rejected (out-of-specification) mixture will be decreased as described in the Section g., "Price Adjustments."

If no field extractions are performed on a given day because the quantity being placed is less than 100 tons, and if there is reason to believe that the mixture contains material parameters that exceed Range 2 tolerances, or if the crushed particle content is less than the established criteria, a price adjustment may also be applied, or removal may be required, based on extraction, gradation, and volumetric tests performed by the Engineer from pavement cores following the procedures outlined herein.

**g. Price Adjustments.-** Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

Price adjustments for either Range 1 and/or Range 2 failures shall be made to the base and/or unit price of HMA material in accordance with the procedures outlined in the Special Provision 12TM501(A335) entitled "Hot Mix Asphalt Prices for Adjustments" for mixtures with failing test parameters.

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.

The price adjustments will be determined by the Engineer from the combination of sample test result parameters of the out-of-specification (rejected) material that create the largest total price adjustment for the material. The price adjustments shall be determined based on Tables 3 and 4. The Engineer is not obligated to accept a price adjustment for out-of-specification (rejected) material that exceeds Range 2 limits in lieu of requiring the material to be removed and replaced at the Contractor's expense in accordance with Section f., Rejected Mixtures.

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%

**Table 4  
 Calculating Total Price Adjustment**

Cost Adjustment as a Sum of the Highest Parameter Penalties		
Number of Samples with 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 & Range 1	20%
	Range 1 & Range 2	35%
	Range 2 & Range 2	50%
Three or more	Range 1, Range 1 & Range 1	20%
	Range 1, Range 1 & Range 2	35%
	Range 1, Range 2 & Range 2	50%
	Range 2, Range 2 & Range 2	50%

Each parameter of Table 1 is evaluated with the total price adjustment applied to the base and/or unit price based on a sum of the two parameter penalties resulting in the highest total price adjustment in accordance with 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.

If acceptance tests, as described in Section e. 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 Contractor's 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 MDOT Central Laboratory and the resultant dispute test results will be used to determine the penalty per parameter, if any. 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 unit and/or 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 e. 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 unit and/or 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.

**h. Measurement and Payment.-** The completed work, as described herein, 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 in Section g. Price Adjustments.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**HMA APPLICATION ESTIMATE**

AA:JKA

1 of 1

3/19/2019

**a. Description.-** This work shall consist of furnishing and placing (HMA) hot mix asphalt on the prepared surfaces in accordance with the details shown on the plans and as specified in Section 501 of the Michigan Department of Transportation Standard Specifications for Construction, 2012 Edition with the exceptions and additions specified herein.

**b. Materials.-**

Hand Patching:

The HMA, LVSP used for hand patching shall have a yield of 250 pounds per square yard with a PG 58-28 binder. The HMA, LVSP used for hand patching shall have an AWI = 260 minimum.

**c. Construction.-** A bond coat shall be applied before each lift of HMA mixture is placed. The rate of application shall be 0.05 to 0.15 gallons per square yard.

**d. Measurement and Payment.-** Measurement shall be based on load weight tickets (in Tons) from a certified scale and accepted at the job site by a City agent.

Payment for Hand Patching shall include all labor, equipment and materials to complete this work.

**Contract Item (Pay Item)**

**Pay Unit**

Hand Patching ..... Ton

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**CONCRETE CURB AND DRIVEWAY OPENINGS**

AA:MGN:JKA

1 of 2

3/19/2019

**a. Description.-** This work shall consist of constructing concrete curb and gutter, and concrete curb openings in accordance with Section 802 of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

**b. Materials.-** The materials shall meet the requirements as specified in Section 802.02 of the 2012 MDOT Standard Specifications and as specified herein:

Driveway Opening, Conc., Detail M, P-NC shall be Grade P-NC Concrete (658 lbs/cyd cement content). Driveway Opening, Conc, Detail L, P1 shall be Grade P1 Concrete (526 lbs/cyd cement content.). All concrete mixtures shall be made with 6AA coarse aggregate.

All other concrete curb and gutter specified herein shall be grade P1 with 6AA coarse aggregate. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902.

It shall be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision and the contract documents.

**c. Construction Methods.-** Curb and Gutter, Conc, Det F4, Special and Curb and Gutter, Conc, Det F6, Special shall be constructed as shown in the MDOT Standard Plans R-30 series, as detailed in this specification, and as shown in the plans.

All driveway openings shall be constructed in accordance with MDOT Standard Detail R-29-H for Concrete Driveway Openings, Details "L" and "M."

Expansion joints of the thickness shown on the details shall be placed as directed by the Engineer.

The preparation of the aggregate base course upon which the curb and gutter and drive openings are to be constructed shall be performed in accordance with the Special Provision entitled "Aggregate Base, 6 inch, 21-AA, Modified".

The concrete curb and gutter and/or driveway openings shall not be constructed on a pedestal or a mound. The aggregate base course shall be constructed the full width of

the stage or phase in which concrete curb and gutter or driveway opening is to be constructed.

The concrete items being placed shall not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor shall cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic determinations shall be cured in the same manner and environment as the concrete items which they represent.

Flexural strength beams shall be tested (broken) with a device meeting the approval of the Engineer and be in a state of good repair and shall be calibrated by an accredited testing laboratory or engineering company within a period of two years from the date of the test being performed.

**d. Measurement and Payment.-** The completed work as measured shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Curb and Gutter, Conc, Det F4, Special.....	Foot
Curb and Gutter, Conc, Det F6, Special.....	Foot
Driveway Opening, Conc, Detail M, P-NC.....	Foot

The pay items will be measured in length by the foot and will be payment in full for all labor, equipment and material needed to properly complete this work.

At curb openings for sidewalk ramps, the concrete curb and gutter (without the curb face) will be measured and paid for at the contact unit price for curb and gutter.

Driveway Opening, Conc, Detail L, P 1 shall not be paid for separately, but shall be included in the concrete curb and gutter.

Where the Engineer directs the use of high early strength concrete for pay items that are not designated as "P-NC," the additional cement shall be paid for separately. No additional payment will be made for cement for pay items that are designated "P-NC."

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**INTEGRAL SIDEWALK RETAINING WALL**

AA:JN:JKA

1 of 1

3/19/2019

**a. Description.-** This work shall consist of constructing concrete retaining walls adjacent to sidewalks, in accordance with Section 802 of the 2012 edition of the MDOT Standard Specifications for Construction, except as specified herein, as described in this Detailed Specification, as shown in the typical section, and as directed by the Engineer.

**b. Materials.-** Concrete mixtures shall be Grade P1 or S2 concrete, or as directed by the Engineer, meeting the requirements specified in Section 803 of the MDOT Standard Specifications. Course Aggregate 6A meeting the requirements specified in Section 902 of the MDOT Standard Specifications, Geotextile Liner meeting the requirements specified in Section 910 of the MDOT Standard Specifications, and Conduit meeting the requirements specified in Section 918 of the MDOT Standard Specifications shall be included in “Integral Sidewalk Retaining Wall, 6 inch to 18 inch” and “Integral Sidewalk Retaining Wall, 19 inch to 36 inch” and not paid for separately. Epoxy Coated Reinforcement Steel shall be paid for separately.

**c. Construction Method.-** The Contractor shall construct the Integral Sidewalk Retaining Walls as shown in accordance with the detail contained in the Contract Documents. Construction shall be in accordance with Section 802 of the 2012 MDOT Standard Specifications for Construction. The construction of the Keyway Construction Joint shall be included in “Integral Sidewalk Retaining Wall, 6 inch to 18 inch” and “Integral Sidewalk Retaining Wall, 19 inch to 36 inch” and not paid for separately.

**d. Measurement and Payment.-** Payment shall be measured by the exposed face area of the retaining wall in square feet. The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

<b><u>Contract Item (Pay Item)</u></b>	<b><u>Pay Unit</u></b>
Integral Sidewalk Retaining Wall, 6 inch to 18 inch	Square Foot
Integral Sidewalk Retaining Wall, 19 inch to 36 inch	Square Foot

Payment for Integral Sidewalk and Retaining Wall for the respective height shall include all labor, equipment and materials to complete this work.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**CONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES**

AA:MGN:JKA

1 of 3

3/19/2019

**a. Description.-** This work shall consist of constructing concrete sidewalk, ramp, or drive approaches of the types as indicated on the plan sheets, as detailed in the specifications, or as directed by the Engineer. It shall also include constructing concrete drive approaches of the types as indicated on the plan sheets, as detailed in the specifications, or as directed by the Engineer. All work shall be in accordance with Section 801 and 803 of the 2012 MDOT Standard Specifications for Construction and as specified herein.

All ADA ramps shall be installed with detectable warning units. Reference the Special Provision entitled "Detectable Warning Tiles" for additional requirements.

**b. Materials.-** The materials shall meet the requirements as specified in the 2012 MDOT Standard Specifications and as required herein. The grade of concrete for items designated as "P-NC" shall be Grade P-NC concrete (658 lbs/yd<sup>3</sup> cement content) as specified in Section 601 of the 2012 MDOT Standard Specifications.

The grade of concrete for all remaining items covered by this Special Provision shall be grade P1 as specified in Section 601 of the 2012 MDOT Standard Specifications for Construction. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

It shall be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision.

**c. Construction Methods.-** The Contractor is responsible to construct all sidewalk, sidewalk ramps, curbs, and all other concrete items within ADAAG compliance. All sidewalk and curb ramps must be constructed in accordance with MDOT Standard Detail R-28-I (or the version in effect at the time of Bid Letting.)

Where concrete sidewalk and/or ADA compliant ramps are to be placed, they shall be placed on a minimum of 4 inches of Granular Material, Class II, compacted to 95% of its maximum dry density.

Concrete drive approaches shall be placed on either aggregate base course or a sand sub-base as shown on the plans or as directed by the Engineer. The required density of the material underlying the concrete drive approach shall be that of the material on which it is placed and required by those specifications.

Prior to placing any concrete, the subgrade shall be completed and trimmed to final elevation. If a cold joint is required, the existing concrete is to be cleaned with compressed air to expose the aggregate in the concrete.

Where indicated on the plans to be performed, the Contractor shall also sawcut curbs to provide openings for sidewalk ramps as indicated. The Engineer shall define the extent of sawcutting. This work will not be paid for separately, but shall be included in the corresponding price of the ADA ramp to be placed.

The concrete items being placed shall not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor shall cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic determinations shall be cured in the same manner and environment as the concrete items which they represent.

Flexural strength beams shall be tested (broken) with a device meeting the approval of the Engineer and be in a state of good repair and shall be calibrated by an accredited testing laboratory or engineering company within a period of two years from the date of the test being performed.

All ADA ramps shall be installed with detectable warning units. Reference the Special Provision entitled "Detectable Warning Tiles" for additional requirements.

**d. Measurement and Payment.-** The completed work as measured for the following pay items will be paid for at the contract unit prices for the following contract items (pay items):

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Sidewalk, Concrete, ___ inch, Special .....	Square Foot
Sidewalk Ramp, Concrete, ___ inch, P-NC, ADA, Modified...	Square Foot
Sidewalk Ramp, Concrete, ___ inch, ADA, Modified .....	Square Foot
Concrete Drive Approach, Non-Reinforced, P-NC, ___ inch..	Square Foot

The above items will be measured by area in square feet and be paid for at their respective contract unit price, which price shall be payment in full for all labor, equipment and material needed to accomplish this work. The unit price shall also include all costs associated with sawcutting curbs to provide openings for ADA sidewalk ramps as indicated on the plans.

Where the Engineer directs the use of high early concrete for pay items that are not designated as "P-NC," the additional cement shall be paid for separately. No additional payment will be made for cement for pay items that are designated "P-NC."



Excavation for placement of Granular Material, Class II, bedding material shall be included in the item of work "Sidewalk Grading" and "Sidewalk Ramp Grading" and shall not be paid for separately.

Detectable warning units cast in place, shall be paid for in accordance with the Special Provision for Detectable Warning Tiles.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
**DETECTABLE WARNING TILES**

AA:MGN:JKA

1 of 3

3/19/2019

**a. Description.-** This work shall consist of furnishing and installing cast in place detectable warning units in compliance to the Americans with Disability Act (ADA). All work shall be in accordance with the Special Provision for “Concrete Sidewalk, ADA Ramps, and Driveway Approaches,” Section 803 of the MDOT 2012 Standard Specifications for Construction, MDOT Standard Detail R-28-H (or most current version in effect at the time of bidding), as indicated on the plans, and as modified herein.

**b. Related Documents.-** Americans with Disabilities Act (ADA) Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on Walking Surfaces

American Society for Testing and Materials (ASTM) Test Methods B117, C1028, D543, D570, D638, D695, D790, D2486, D2565, D5420, and E84.

**c. Submittals.-** Submit manufacturer’s literature describing products, installation procedures and maintenance instructions. Provide cast-in-place detectable surface tiles and accessories as produced by a single manufacturer.

Samples for Verification Purposes: Submit two (2) tile samples minimum 6” x 8” of the kind proposed for use. Samples shall be properly labeled and shall contain the following information: Name of Project; Submitted by; Date of Submittal; Manufacture’s Name; Catalog No.; and Date of Fabrication.

Material Test Reports: Submit current test reports from a qualified, independent, testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. The required tests listed elsewhere in this Special Provision shall be performed by a certified and qualified independent testing laboratory on a cast-in-place tactile warning system. All test reports submitted shall be certified by the testing laboratory and shall clearly state that all tests were completed within 5 years of the date of the submittal. The manufacturer shall certify in writing that the materials provided to the project are manufactured with the same materials and manufacturing procedures as those used in the materials on which the test were performed.

**c. Materials.-** The detectable warning tiles shall be colored as Federal Number 22144 (frequently referred to as “Colonial Red” or “Brick Red”). The detectable warning tiles shall meet the following material properties, dimensions, and tolerances using the most current test methods:

1. Water Absorption: Not to exceed 0.35% when tested in accordance with ASTM-D570
2. Slip Resistance: 0.80 minimum combined wet/ dry static coefficient of friction on top domes and field area, when tested in accordance with ASTM C1028.
3. Compressive Strength: 18,000 psi minimum, when tested in accordance with ASTM D695.
4. Tensile Strength: 10,000 psi minimum, when tested in accordance with ASTM D638.
5. Flexural Strength: 24,000 psi minimum, when tested in accordance with ASTM D790.
6. Chemical Stain Resistance: No reaction to 1% hydrochloric acid, urine, chewing gum, soap solution, motor oil, bleach, calcium chloride, when tested in accordance with  
with                      ASTM                      D543                      or                      D1308.
7. Wear Depth: 300 minimum, when tested in accordance with ASTM C501.
8. Flame Spread: 25 maximum, when tested in accordance with ASTM E84.
9. Gardner Impact: 50 in.-lbs. minimum, when tested in accordance with Geometry "GE" of ASTM D5420.
10. Accelerated Weathering of Tile when tested by ASTM-G155 or ASTM G151 shall exhibit the following result- $\Delta E < 6.0$  as well as no deterioration, fading or chalking of surface when exposed to 3000 hours minimum exposure.
11. Wheel Loading: The cast in place tile shall be mounted on a concrete platform with a 1/2" airspace at the underside of the tile top plate then subjected to the specified maximum load of 10,400 lbs., corresponding to an 8,000 lb individual wheel load and a 30% impact factor. The tile shall exhibit no visible damage at the maximum load of 10,400 lbs using AASHTO-HB17 single sheet HS20-44 loading "Standard Specifications for Highways and Bridges."
12. Salt and Spray Performance of Tile and Adhesive System when tested to ASTM-B117 not to show any deterioration or other defects after 100 hours of exposure

**d. Construction Methods.-** Installer's Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for this Project.

The contractor shall follow manufacturer specifications for installation, except where they conflict with MDOT Standard Detail R-28-H (or most current edition in effect at the time of bidding), or other project requirements.

**e. Measurement and Payment.**- The completed work as measured for the following pay items will be paid for at the contract unit prices for the following contract items (pay items):

<u><b>Contract Item (Pay Item)</b></u>	<u><b>Pay Unit</b></u>
Detectable Warning Tiles .....	Square Foot

The unit price for this item shall include all labor, material, and equipment costs required to complete the work.

CITY OF ANN ARBOR  
SPECIAL PROVISION  
FOR  
“NO PARKING” SIGNS

AA:JKA

1 of 2

3/19/2019

**a. Description.-**This work shall consist of installing, maintaining and removing of "No Parking" signs and posts, as outlined herein and as referenced on the plans. "No Parking" signs shall be installed in accordance with the most recent version of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

**b. Materials.-** All materials for this work shall conform to the requirements of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), MDOT 2012 Standard Specifications for Construction, and as described in this Special Provision.

**c. Construction Method.-** Prior to the commencement of any construction activity, the Contractor will be required to place "No Parking" signs where directed by the Engineer. The Contractor shall obtain a form for "Temporary Permission to Reserve Parking Lane for Work-Related Purposes" for each street from the City of Ann Arbor Engineering Unit. This form shall be submitted a minimum of five (5) days prior to the posting of "No Parking" signs. The issued permit must be printed and displayed on site at all times.

The City will furnish "No Parking" signs to the Contractor at no cost. The Contractor shall furnish the signposts and shall securely bolt the signs to the signposts as directed by the Engineer. After MISS DIG Clearance, the Contractor shall install the signposts at least two feet deep into the ground, and there shall be a minimum 6-foot and maximum 7-foot clearance maintained between the bottom of the sign and the ground. The signs are to be placed at 150-foot intervals (or as necessary) to eliminate parking in the construction area.

The installation of "No Parking" signs shall be in accordance with the permit. "No Parking" signs shall be installed by the Contractor, as directed by the Engineer, at least 48 hours prior to the proposed start-of-work/enforcement date. "No Parking" signs shall be returned to the City at the completion of the work. The cost of unreturned signs will be back-charged to the Contractor. "No Parking" signs shall be covered by the Contractor, thereby allowing on-street parking, whenever there is no work being performed for a period of time longer than 72 hours.

**d. Measurement and Payment.-** The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

"No Parking" signs will be measured as the maximum number installed on each street at any one time. The unit price includes the removal and return of "No Parking" signs to the City upon completion of the project. The Contractor shall be back-charged for the replacement costs for damaged or unreturned signs.

**Contract Item (Pay Item)**

"No Parking" Signs

**Pay Unit**

Each

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**TEMPORARY PEDESTRIAN RAMP**

OFS:RAL

1 of 2

APPR:DMG:CAL:10-30-15

**a. Description.** This work consists of furnishing, installing, maintaining, relocating, and removing a temporary pedestrian ramp as identified in the proposal or on the plans. Use temporary pedestrian ramps to facilitate pedestrian travel on accessible facilities over curbs or other uneven terrain features with a vertical difference of 1/2 inch or greater. Damaged pedestrian ramps will be replaced as directed by the Engineer.

**b. Materials.** Provide materials to construct a temporary pedestrian ramp in accordance with the *Americans with Disabilities Act (ADA)*, the standard specifications, and the following:

1. Ensure the material used to construct the temporary pedestrian ramp is firm, stable, skid resistant, and forms a continuous hard surface. Ensure the surface does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials to construct the surface of the ramp include asphalt materials, Oriented Strand Board (OSB) or plywood, dimensional lumber, certain reclaimed or other materials as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.

2. Provide a handrail on both sides of the ramp if the ramp is not exposed to vehicle traffic and has a total rise greater than 6 inches, and a length greater than 72 inches. Ensure the handrail is between 1.25 and 1.5 inches wide and configured to be a "graspable" cross-section. See construction subsection 2.A for additional details. When the ramp is exposed to traffic, in lieu of handrails, use a protective edge 2.5 inches minimum height above the ramp surface or 1:10 flare on both sides of the ramp.

3. Ensure the surface of the ramp is free draining; in addition provide features that allow drainage to move past the ramp installation (i.e. along the gutter pan underneath the ramp if the ramp is installed on a curb).

4. Provide materials to construct detectable edging along open sides of the ramp if required.

5. If asphalt materials are not used to construct the surface of the ramp, provide an antiskid coating or surface treatment approved by the Engineer.

**c. Construction.** Construct the temporary pedestrian ramp in accordance with the manufacturer's recommendations (if applicable), *ADA*, the plans, and the following:

1. Ensure the useable surface of the ramp is 48 inches wide and does not deflect due to pedestrian traffic. Ensure an anti-skid surface treatment is applied to the useable area of the ramp if it is not made from asphalt materials. The maximum cross slope of the ramp is 2

percent. Ensure both ends of the ramp smoothly transitions to the adjacent surface, with 1/4 inch or less vertical difference.

Construct the ramp to maintain a longitudinal slope from 1:10 to 1:12 where possible. Otherwise, a longitudinal slope from 1:8 to 1:10 may be used for a maximum rise of 3 inches. Temporary pedestrian ramps with longitudinal slopes greater than 1:8 are prohibited.

A. Provide a handrail on both sides of the ramp if required as stated herein. Ensure the top of the handrail is between 34 and 38 inches above the surface of the ramp. Ensure a minimum width of 36 inches is maintained between the handrails, with a minimum clearance of 1.5 inches behind and 18 inches above.

Construct the handrail such that the bending stress applied by a bending moment created by a 250 pound force is less than the allowable stress for the materials and the construction of the handrail. Construct the handrail to withstand the shear stress induced by a 250 pound force. Ensure all fasteners, mounting devices and support structures are also able to withstand shear stress induced by a 250 pound force.

2. Construct a detectable edging anytime a handrail is required, and anytime the path changes direction. This includes a turn onto the ramp from the path. Detectable edging must begin a maximum of 2.5 inches above the ramp surface, and extend at least 6 inches above the ramp surface.

3. Ensure a clear space (minimum 48 inches by 48 inches) is provided above and below the ramp.

4. Avoid locating ramps in areas of drainage collection, ponding or running water, which can produce slippery or unsafe conditions. If the ramp is located over a gutter pan or other drainage structure, provide features to facilitate water movement around or under the ramp as approved by the Engineer.

5. Ensure all debris and construction material is cleared from the surface of the ramp throughout its use. Ensure snow and ice is removed; the use of an approved de-icing agent may be required. Repair or replace the ramp if it becomes uneven, unstable, or displaces due to weather events, construction activities, or other causes as directed 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:

<b>Pay Item</b>	<b>Pay Unit</b>
Pedestrian Ramp, Temp .....	Each

**Pedestrian Ramp, Temp** includes all labor, equipment, and materials to furnish, install and remove a temporary pedestrian ramp at the locations shown on the plans, as well as all costs for maintaining, clearing debris, deicing, reconfiguring, and relocating the temporary pedestrian ramp throughout the life of the contract.